

**ベトナム社会主義共和国
省エネルギー研修センター
設立支援プロジェクト
詳細計画策定調査報告書**

平成 25 年 4 月
(2013 年)

**独立行政法人国際協力機構
産業開発・公共政策部**

産 公
J R
13-080

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地圖



出所：CIA The World Factbook



ホーチミン省エネルギーセンター（ECC-HCMC）との打合せ



ホーチミン商工局（DOIT-HCMC）及び
プラスチック・ゴム技術・省エネルギー研修センター（PRET）との打合せ



プラスチック・ゴム技術・省エネルギー研修センター（PRET）研究所外観



プラスチック・ゴム技術・省エネルギー研修センター（PRET）研究所内部
（ホーチミン省エネルギー研修センター・実習機材納入予定地）



ハノイ商工局（DOIT-HN）及び
ハノイ省エネルギーセンター（ECC-HN）との打合せ



ホアラックハイテクパーク教育研修ゾーン
（ハノイ省エネルギー研修センター候補地）



商工省（MOIT）とのミニッツ署名式（１）



商工省（MOIT）とのミニッツ署名式（２）

略 語 表

略 語	正式名称	日本語
ADB	Asian Development Bank	アジア開発銀行
AFD	L'Agence Française de Développement	フランス開発庁
AusAID	Australian Agency for International Development	オーストラリア開発庁
BAU	Business as Usual	特段の対策のない自然体ケース（BAU） に較べての効果
BOCM	Bilateral Offset Credit Mechanism	二国間オフセットクレジット制度
CDM	Clean Development Mechanism	クリーン開発メカニズム
C/P	Counter part	カウンターパート
CFL	Compact Fluorescent Lamp	電球型蛍光灯
CIDA	Canadian International Development Agency	カナダ開発庁
DANIDA	Danish International Development Agency	デンマーク開発庁
DOIT-HCMC	Department of Industry and Trade, Ho Chi Minh City	ホーチミン市商工局
DOIT-HN	Department of Industry and Trade, Hanoi	ハノイ商工局
ECC	Energy Conservation Center	省エネルギーセンター
ECC-HCMC	Energy Conservation Center, Ho Chi Minh City	ホーチミン省エネルギーセンター
ECC-HN	Energy Conservation Center, Hanoi	ハノイ省エネルギーセンター
ECCJ	Energy Conservation Center, Japan	省エネルギーセンター
EEO	Energy Efficiency Office	（MOITエネルギー総局科学技術省エ ネルギー局の旧称）
EEREPP （TSL）	Energy Efficiency and Renewable Energy Promoting Project	省エネルギー・再生可能エネルギー促進 事業 （略称：省エネツワ・ステップ・ローン）
ENERTEAM	Energy Conservation Research Development Center	エネチーム
EPU	Electric Power University	電力大学
F/S	Feasibility Study	フィージビリティ・スタディ
FTL	Fluorescent Tube Lamp	直管型蛍光灯
GEF	Global Environment Facility	地球環境ファシリティ
HCMUT	Ho Chi Minh University of Technology	ホーチミン工科大学
HEPC	Ho Chi Minh Electric Power College	ホーチミン電力大学
HEPS	High Energy Performance Standards	最高エネルギー効率基準

略 語	正式名称	日本語
HUST	Hanoi University of Science and Technology	ハノイ工科大学
IE	Institute of Energy	エネルギー研究所
IEEJ	Institute of Energy Economics Japan	日本エネルギー経済研究所
IFC	International Finance Corporation	国際金融公社
IS-INOTEK	International Standard Innovation Technology Research Association	基準認証イノベーション技術研究組合
ISO	International Organization for Standardization	国際標準化機構
JASE-W	Japanese Business Alliance for Smart Energy Worldwide	世界省エネルギー等ビジネス推進協議会
JCC	Joint Coordination Committee	合同調整委員会
JBAH	Japan Business Association Ho Chi Minh City	ホーチミン日本商工会
JETRO	Japan External Trade Organization	日本貿易振興機構
JICA	Japan International Cooperation Agency	国際協力機構
L/A	Loan Agreement	借款契約
M/D	Minutes of Discussion	協議議事録
MEPS	Minimum Energy Performance Standard	最低エネルギー効率基準
METI	Ministry of Economy Trade and Industry	経済産業省
MOU	Memorandum of Understanding	覚書
MOIT	Ministry of Industry and Trade	商工省
MOIT-WG	Ministry of Industry and Trade Working Group	商工省ワーキンググループ
MONRE	Ministry of Natural Resources and Environment	天然資源環境省
MOST	Ministry of Science and Technology	科学技術省
MOT	Ministry of Transportation	交通省
MPI	Ministry of Planning and Investment	投資計画省
NTP-RCC	Target Program to Respond to Climate Change	国家気候対策プログラム
PC	People's Committee	人民委員会
PDM	Project Design Matrix	プロジェクト・デザイン・マトリックス
PDP	Power Development Plan	電力開発計画
PRET	Plastic Rubber Technology and Energy Conservation Training Center	プラスチック・ゴム技術・省エネルギー研修センター
SAPI	Special Assistance for Project Implementation	案件実施支援調査

略 語	正式名称	日本語
SAPROF	Special Assistance for Project Formation	案件形成促進調査
SPRCC	Support Program to Respond to Climate Change	気候変動対策プログラムローン
TOE	Tons of Oil Equivalent	原油換算トン
UNDP	United Nations Development Programme	国連開発計画
UNIDO	United Nations Industrial Development Organization	国連工業開発機関
VDB	Vietnam Development Bank	ベトナム開発銀行
VNEEP	Vietnam Energy Efficiency Program	国家省エネルギープログラム
WB	World Bank	世界銀行

事業事前評価表

国際協力機構 産業開発・公共政策部
資源・エネルギー第二課

1. 案件名

国名：ベトナム社会主義共和国

案件名：(和名) 省エネルギー研修センター設立支援プロジェクト

(英名) Project for the Establishment of Energy Management Training Center

2. 事業の背景と必要性

(1) 当該国における省エネルギーセクターの現状と課題

ベトナム社会主義共和国（以下、「ベトナム」と記す）は、近年、年率6～7%程度の急激な経済成長を遂げている一方、経済成長を上回る年率10%以上の水準でエネルギー消費量が伸びており、2015年にはエネルギー純輸出国から輸入国へと転換を迫られると懸念されている。また、近年は乾季の水不足等の影響で電力需給も逼迫しており、今後も順調な経済成長を続けるためには、エネルギーを効率的に運用する社会経済構造を形成する必要がある。

このようななか、JICAは2008年から2009年まで「省エネルギー促進マスタープラン調査」を実施し、省エネルギー普及促進のためのロードマップを策定した。この調査結果を受けて、ベトナム政府は、指定事業者¹のエネルギー消費効率を管理・促進していくためのエネルギー管理制度²及びエネルギー診断制度³を含めた省エネ関連諸制度を確立するため、「省エネ及びエネルギーの効率的利用に関する法律（省エネ法）⁴」を2011年1月に施行している。これにより、ベトナムで省エネルギー行政を所管する商工省（Ministry of Industry and Trade : MOIT）では、エネルギー管理士⁵及びエネルギー診断士⁶の人材育成のための研修センター設立に向けた組織や用地の検討、研修及びその資格制度を規定する省令の制定などを進めている。また、デンマーク政府援助機関（Danish International Development Agency : DANIDA）の支援を受けながら、人材育成カリキュラム及びテキスト（理論研修のみ）の作成等も行っている。しかしながら、エネルギー管理士及びエネルギー診断士が実務を身に着けるための効果的な体制構築が課題となっていることから、実技研修を伴う人材育成・資格制度の導入のために、ベ

¹ 指定事業者：毎年のエネルギー消費量が原油換算1,000t以上の製造所、もしくは500t以上の事業所。2011年度は1,192社が対象となっている。

² エネルギー管理制度：指定事業者が自社のエネルギー管理士を選任し、毎年及び5年毎のエネルギー管理計画と報告を政府に提出する義務制度。

³ エネルギー診断制度：指定事業者が外部のエネルギー診断士に外注し、3年毎のエネルギー診断を受診する義務制度。

⁴ 省エネ法（No. 50/2010/QH12）：重点施策には、エネルギー管理制度及びエネルギー診断制度、並びに省エネルギーラベリング制度がある。傘下の関連法令には、実施細則や罰則規定を設けた政令（閣議決定）、省庁間の役割分担を明記した首相令（首相決定）、指定事業者の報告方法やエネルギー管理士・診断士の資格要件等を規定した省令（省庁決定）がある。これらは2010年7月から2012年6月にかけて制定・施行されており、2011年9月時点で10個の関連法令で構成されている。

⁵ エネルギー管理士：指定企業において選任され、エネルギーを消費する設備の維持、エネルギーの使用法の改善及び監視を行い、毎年及び5年毎のエネルギー管理計画書と報告書の作成に係る業務を行う。

⁶ エネルギー診断士：指定事業者におけるエネルギー使用量の計測と分析を行い、エネルギー削減ポテンシャルを確認し、対策を提案する。

トナム国政府は日本政府に対し、2010年7月に「省エネルギー研修センター設立支援プロジェクト」を要請した。

本事業の前提条件として、省エネルギー研修センターの活用に係る法的位置づけと研修センターのサイト選定が重要であったため、JICAではこれらを促進するために、同一プロジェクトを2つのステージに分け、研修センターのサイト選定までの準備段階として2011年9月から2012年9月まで「省エネルギー研修センター設立支援プロジェクト（ステージ1）⁷」を実施した。ステージ1の協力を通じて、実技研修を含む研修センターの資格基準が省令に反映され、2012年7月に対象サイトがホーチミン市商工局（Department of Industry and Trade, Ho Chi Minh City : DOIT-HCMC）傘下のプラスチック・ゴム技術・省エネルギー研修センター（Plastic-Rubber Technology and Energy Conservation Training Center : PRET）に決定した。これらの前提条件が整ったことから、エネルギー管理士及びエネルギー診断士育成のための研修カリキュラム、研修テキスト、実習機材の整備及び、研修講師を育成するために「省エネルギー研修センター設立支援プロジェクト（ステージ2）」を実施することとした。本事前評価表は、ステージ2の技術協力プロジェクトについて規定する。

(2) 当該国における省エネルギーセクターの開発政策と本事業の位置づけ

ベトナム政府は2006年4月14日に国家省エネルギープログラム（Vietnam Energy Efficiency Program : VNEEP）（2006～2015年）を制定し、省エネルギーの促進に努めてきた。省エネルギー目標値として、BAU（Business as Usual）のベースラインと比較し、2006年から2010年で毎年3～5%の削減、2011年から2015年では5～8%の削減とすることが決定されている。さらに、2011年1月に省エネ法を施行し、エネルギー管理制度及びエネルギー診断制度を通じた指定事業者のエネルギー消費効率の管理・促進をめざしている。エネルギー管理士及びエネルギー診断士の研修体制整備のため、MOITではホーチミン市で先行して省エネルギー研修センターを設立することを決定している。本事業によるホーチミン市省エネルギー研修センターの設立及び体制整備は、省エネ法の実施体制整備に位置づけられるものである。

(3) 省エネルギーセクターに対するわが国及びJICAの援助方針と実績

わが国のベトナム国別援助計画における4つの援助重点分野の内、「経済成長促進・国際競争力強化」において、開発課題として「資源・エネルギー安定供給」が挙げられており、省エネルギー分野における技術支援、人材育成を行う本事業はこれに位置づけられる。

また、省エネルギーの推進によるCO₂排出削減を通じて、都市環境管理、自然環境保全につ

⁷ 省エネルギー研修センター設立支援プロジェクト（ステージ1）では、MOIT政策決定者の省エネルギー実技研修（C/P研修）の受講を通じて、実技研修の重要性が確認され、省エネ法下の「エネルギー管理士・エネルギー診断士の研修及び資格の発行に係る省令（No. 39/2011/TT-BCT）」に実技研修を反映させることに寄与。引き続き、資格試験制度の詳細を定める関連法令（大臣通達）が制定される見通しであるため、ステージ2では右制定を支援する予定。またステージ1では、本事業の前提条件であるサイト選定にも寄与。これらの成果に加え、指定企業から提出されるエネルギー消費データを管理・分析するために必要なC/Pのエネルギーデータ管理能力と統計分析能力強化のため、短期専門家派遣及びC/P研修を通じて、技術移転を実施。ベトナム側は、今後のエネルギーデータ管理・分析については自主的に対応するため、ステージ2では取り扱わない事項として整理。さらに、日本の省エネルギー政策・技術を紹介するためのセミナーを実施し、関連ステークホルダーの能力強化にも努めた。また、気候変動対策プログラムローンの政策対話における連携も実現。

<http://gwwweb.jica.go.jp/km/ProjectView.nsf/VIEWParentSearch/A424F409F614669D492578A30079EA0A?OpenDocument&pv=VW02040104>

ながることから、援助重点分野「環境保全」にも合致する。

同援助方針に係る援助実績は以下のとおり。

- 1) 開発計画調査型技術協力：「省エネルギー促進マスタープラン調査」（2008～2009年）
- 2) 有償資金協力：「気候変動対策プログラムローン」（2009～2015年）
- 3) 有償資金協力：「省エネルギー・再生可能エネルギー促進事業」（2009～2014年）
- 4) 技術協力プロジェクト：「ベトナム開発銀行機能強化プロジェクト」（2008～2012年）
- 5) 技術協力プロジェクト：「省エネルギー研修センター設立支援プロジェクト（ステージ1）」（2011～2012年）

(4) 他の援助機関の対応

DANIDAは2006年から2011年まで VNEEP（Phase 1）を支援し、エネルギー管理士・診断士に関し、理論研修（座学）のカリキュラム及びテキストの整備を実施している。また、国連開発計画（United Nations Development Programme：UNDP）と国連工業開発機関（United Nations Industrial Development Organization：UNIDO）は、エネルギー効率等の改善を目的としたエネルギーマネジメントシステムISO50001⁸の導入に係る支援を実施している。

産業セクターごとの省エネ戦略やロードマップの策定支援は各ドナーが実施しており、フランス開発庁（L'Agence Française de Développement：AFD）が鉄鋼分野、アジア開発銀行（Asian Development Bank：ADB）が鉄鋼・セメント分野、世界銀行（World Bank：WB）が化学・製紙・食品加工・繊維産業を支援している。また、WBとDANIDAは省エネ政策の実施に係るモニタリング・評価に対する支援を行っているほか、WBと国際金融公社（International Finance Corporation：IFC）はESCO⁹事業者に対する支援を実施している。

3．事業概要

(1) 事業目的（協力プログラムにおける位置づけを含む）

本事業は、ベトナムにおいて、エネルギー管理士及びエネルギー診断士育成のための研修カリキュラム、研修テキスト、実習機材を整備し、研修講師を育成することにより、エネルギー管理士及びエネルギー診断士の育成に必要な能力を有する研修センターが設立され運用できるようになることを図り、指定事業者の省エネルギー活動の推進に寄与するものである。

(2) プロジェクトサイト/対象地域名

- ・ハノイ（国家資格制度構築支援）
- ・ホーチミン（研修センター設立支援）

(3) 本事業の受益者（ターゲットグループ）

- ・商工省（MOIT）エネルギー総局科学技術省エネルギー局担当スタッフ
- ・ホーチミン市商工局（DOIT-HCMC）エネルギー管理局担当スタッフ
- ・プラスチック・ゴム技術・省エネルギー研修センター（PRET）担当スタッフ・講師

⁸ ISO50001：エネルギー管理制度に係る民間資格。ベトナムでは省エネ法には位置づけられていない。

⁹ ESCO（Energy Service Company）：民間の企業活動として、省エネルギーサービスを包括的に提供する事業者。

- ・ 試行エネルギー管理・診断研修受講者、試行エネルギー診断対象企業

(4) 事業スケジュール（協力期間）

- ・ 2013年4月～2015年9月（30カ月）

(5) 総事業費（日本側）

- ・ 3億円

(6) 相手国側実施機関

- ・ MOIT
- ・ DOIT-HCMC

(7) 投入（インプット）

1) 日本側

- ・ 長期専門家（省エネルギー制度/業務調整）
- ・ 短期専門家（省エネルギー（熱・電気）、省エネルギー実習機材、省エネルギー研修カリキュラム・テキスト（熱・電気）、エネルギー診断（熱・電気）、エネルギー管理・診断制度（試験・資格・法令支援））
- ・ 本邦研修（エネルギー管理士研修、エネルギー診断士研修）
- ・ 供与機材（実習用機材）
- ・ 在外事業強化費

2) ベトナム側

- ・ カウンターパートの配置
- ・ プロジェクトの実施に必要な施設・機材の提供
- ・ その他必要な予算、土地、建物

(8) 環境社会配慮・貧困削減・社会開発

1) 環境に対する影響/用地取得・住民移転

①カテゴリ分類：C

②カテゴリ分類の根拠：

本事業は、「国際協力機構環境社会配慮ガイドライン」（2010年公布）に掲げる影響を及ぼしやすいセクター・特性及び影響を受けやすい地域に該当せず、環境への望ましくない影響は最小限であると判断されるため。

2) ジェンダー・平等推進/平和構築・貧困削減

- ・ 特になし。

3) 気候変動対策との関連

ベトナムでは、2011年12月に「国家気候変動戦略（NCCS）」が、また2012年9月には「国

家グリーン成長戦略（GGS）」が首相承認され、国家として気候変動対策（適応策・緩和策）を推進している。本事業は、2011年1月に施行された省エネ法の実施体制整備としての人材育成を行うものであり、これらの気候変動対策政策の内、緩和策に資するものである。

(9) 関連する援助活動

1) わが国の援助活動

JICAの援助活動は以下のとおりである。

- ・ 開発計画調査型技術協力：

「省エネルギー促進マスタープラン調査（2008～2009年）」を実施し、そのなかで省エネルギー普及促進のためのロードマップを策定した。

- ・ 有償資金協力：

「気候変動対策プログラムローン（Support Program to Respond to Climate Change : SPRCC）（2009～2015年）」（2010年第一期円借款貸付契約調印）により実施支援を行う政策アクションの1つとして、エネルギー管理制度の構築を位置づけている。

- ・ 有償資金協力：

「省エネルギー・再生可能エネルギー促進事業（Energy Efficiency and Renewable Energy Promoting Project : EEREPP）（2009～2014年）」（2009年円借款貸付契約調印）を実施しており、省エネツー・ステップ・ローン（TSL）により企業レベルでのエネルギー利用効率化を促進している。

本事業は、SPRCCの政策対話へのフィードバックや、試行エネルギー診断やワークショップを通じたEEREPPのサブプロジェクト発掘等、省エネルギーに係る円借款案件との連携による相乗効果が期待される。

また、主な経済産業省（Ministry of Economy Trade and Industry : METI）の委託事業として以下の実績がある。

- ・ 省エネルギーセンター「エネルギー診断支援事業」（2010～2013年）

- ・ 日本エネルギー経済研究所「省エネルギーラベリング試験所支援事業」（2007～2011年）

- ・ 三菱商事

「(二国間オフセットクレジットメカニズム) 高効率エアコンの普及のFS調査」(2011～2012年)

- ・ 三菱UFJモルガンスタンレー証券

「(二国間オフセットクレジットメカニズム) 高効率電化機器普及促進発掘調査」(2011～2012年)

- ・ 日立金属

「(二国間オフセットクレジットメカニズム) 高効率変圧器導入にかかるFS調査」(2011年)

2) 他ドナー等の援助活動

DANIDAはエネルギー管理士・診断士の理論研修（座学）のカリキュラム、及びテキストの整備を実施しているため、同研修内容との整合性に留意したうえで、本事業では実技研

修の整備を支援する。

またUNDP及びUNIDOは、ISO50001の普及を目的とした技術協力を展開しており、ベトナムの上位政策に位置づける活動も実施してきた。ベトナム側はISO50001と連動する省エネ活動の支援を重要視していることから、PRETにおける研修との相乗効果が見込まれる協業が必要と思われる。

4．協力の枠組み

(1) 協力概要

1) 上位目標：

省エネ法下の指定事業者における省エネルギー活動が推進される。

<指標>

- ・指定事業者のエネルギー原単位¹⁰が○○%改善される。

2) プロジェクト目標：

エネルギー管理士、及びエネルギー診断士の育成に必要な能力を有する研修センターが設立され運用できるようになる。

<指標>

- ・エネルギー管理士とエネルギー診断士の研修、資格制度が確立される。
- ・カリキュラムとテキストが大臣通達（Guiding Document of the Minister）による指定を受ける。

3) 成果及び活動

成果1：エネルギー管理士及びエネルギー診断士育成のための、研修カリキュラム、テキスト、実習機材が整備される。

<指標>

- ・実習カリキュラム及びプログラムが策定される。
- ・実習テキスト及び教材が作成される。
- ・実習機材が納入され、使用可能となる。

<活動>

- 1-1 ベースライン調査を実施する。
- 1-2 研修センターに常勤の熱・電気分野講師、運営スタッフが配置される。
- 1-3 カリキュラム、テキスト、試験制度に関するワーキンググループを設置する。
- 1-4 DANIDA版、MOIT版カリキュラム・テキストのレビューを行う¹¹。
- 1-5 実習カリキュラム・プログラムを整備する。
- 1-6 実習機材を整備する。

¹⁰ エネルギー原単位：単位生産量当たり使用するエネルギー量であり、エネルギー使用効率を示す。数値が低いほど、エネルギー効率が良い。

¹¹ カリキュラム・テキストにはDANIDA版、MOIT版が個別に存在し、MOIT主導により統合作業を予定している。本事業で支援する実習テキスト・カリキュラムとの整合性を取るため、双方のレビューを行う。

- 1-7 スペアパーツリストを含む機材運転・維持管理マニュアルを整備する。
- 1-8 実習テキストを整備する。
- 1-9 試験・資格制度を整備する。
- 1-10 必要な法令への反映を行う。

成果2：C/Pが、エネルギー管理士育成のための実技研修を実施できるようになる。

<指標>

- ・研修講師が配置される。
- ・C/Pが実習機材を利用した研修を実施できるようになる。
- ・C/Pが実習機材を維持管理できるようになる。

<活動>

- 2-1 ホーチミンの研修センターに、エネルギー管理士研修の講師が配置される。
- 2-2 実習機材の運転・維持管理の指導を行う。
- 2-3 実習機材による研修実施の指導を行う。
- 2-4 エネルギー管理士の試行研修を実施する。

成果3：C/Pが、エネルギー診断士育成のための実技研修を実施できるようになる。

<指標>

- ・研修講師が配置される。
- ・C/Pが法令に則したエネルギー診断レポートの作成について、指導できるようになる。
- ・C/Pが研修を実施できるようになる。

<活動>

- 3-1 ホーチミンの研修センターにエネルギー診断士研修の講師が配置される。
- 3-2 実習機材の運転・維持管理の指導を行う。
- 3-3 実習機材による研修実施の指導を行う。
- 3-4 エネルギー診断士の試行研修を実施する。
- 3-5 工場・ビルにおける試行エネルギー診断を実施する。

成果4：C/Pの企業に対する省エネルギー活動の普及啓発能力が、強化される。

<指標>

- ・C/Pが企業に対する省エネ技術、及びベトナムにおける事例について、情報発信を行う。
- ・MOIT、DOIT、関係諸大学とエネルギー管理を行う企業・工場と省エネルギー推進のためのネットワークが構築される。

<活動>

- 4-1 企業に対する省エネルギー技術・制度に関するワークショップを実施する。
- 4-2 MOIT、DOIT、大学など省エネルギー関係機関間の省エネルギー推進のためのネットワークを構築する。

4) プロジェクト実施上の留意点

- ・現時点で特定していない基準値と目標値（指標）は、プロジェクト開始後のベースライ

ン調査に基づいて設定し、プロジェクト開始から半年後を目処に開催する合同調整委員会（Joint Coordination Committee：JCC）で承認する予定。

- ・DOIT-HCMC、PRETの活動において政策上はMOITの指導下にあるが、予算措置については地方政府である市人民委員会の承認が必要であることから、支出を伴う意思決定には一定の時間を要する体制となっている。プロジェクト実施においては、この点に留意するとともに、ベトナム側の円滑な活動実施に必要な事項についてはプロジェクトからの側面支援を行う。
- ・プロジェクトの直接の協力事項ではないが、上位目標の達成には指定企業から提出される計画・報告を、ベトナム政府が適切に管理・指導するためのデータベース、及び体制の整備、また政府としての省エネ目標値の設定が重要であることから、本事業ではその動向にも留意して実施する。

5．前提条件・外部条件（リスク・コントロール）

(1) 事業実施のための前提

- ・ベトナム側負担事項について、必要な予算措置が取られる。

(2) 成果達成のための外部条件

- ・ベトナム省エネルギー関係機関の協力が得られる。

(3) プロジェクト目標達成のための外部条件

- ・プロジェクトにより育成された講師が異動しない。

(4) 上位目標達成のための外部条件

- ・ベトナム政府において、エネルギーデータ管理体制が整備・運用される。
- ・省エネ法下の指定企業が、法令に規定された資格者の配置・報告の義務を適切に履行する。
- ・ベトナムの省エネルギー政策が大幅に変更されない。

6．評価結果

本事業は、ベトナムの開発政策、開発ニーズ、日本の援助政策と十分に合致しており、また計画の適切性が認められることから、実施の意義は高い。

7．過去の類似案件の教訓と本事業への活用

類似プロジェクトとして、タイ「エネルギー管理者訓練センタープロジェクト」（2002～2005年）、イラン「省エネルギー推進プロジェクト」（2003～2007年）、ポーランド「省エネルギー技術センタープロジェクト」（2004～2008年）がある。タイとポーランドの経験から、研修センターが有効活用されるためには、実技研修が相手国の上位政策に組み込まれることの重要性が教訓となっている。また、イランにおけるプロジェクトでは、供与機材設置の遅れ・機材の不具合による技術移転の遅れ等の問題が生じ、また円滑な技術移転のために供与機材と研修コンポーネントの連動性の確保が重要であることが指摘された。

本事業においては、ベトナム法令への反映により、当該国での制度化を行う。機材調達に係る問題については、ベトナム側ニーズの把握と研修機材の選定・調達方法に留意し、効率的な技術移転の妨げとならないよう十分な準備を行う。

8 . 今後の評価計画

(1) 今後の評価に用いる主な指標

4. (1) のとおり。

(2) 今後の評価計画

- ・ 事業開始6カ月以内 ベースライン調査
- ・ 事業終了6カ月前 終了時評価
- ・ 事業終了3年後 事後評価

以上

第1章 調査の概要

1-1 調査の背景

ベトナム社会主義共和国（以下、「ベトナム」と記す）は、近年、年率6～7%程度の急激な経済成長を遂げている一方、経済成長を上回る年率10%以上の水準でエネルギー消費量が伸びており、2015年にはエネルギー純輸出国から輸入国へと転換を迫られると懸念されている。また、近年は乾季の水不足等の影響で電力需給も逼迫しており、今後も順調な経済成長を続けるためには、エネルギーを効率的に運用する社会経済構造を形成する必要がある。

そのようななか、JICAは2008年から2009年まで「省エネルギー促進マスタープラン調査」を実施し、省エネルギー普及促進のためのロードマップを策定した。この調査結果を受けて、ベトナム政府は、指定事業者のエネルギー消費効率を管理・促進していくためのエネルギー管理制度及びエネルギー診断制度を含めた省エネ関連諸制度を確立するため、「省エネルギー及びエネルギーの効率的利用に関する法律（省エネルギー法）」を2011年1月に施行している。これにより、ベトナムで省エネルギー行政を所管する商工省（Ministry of Industry and Trade : MOIT）では、エネルギー管理士及びエネルギー診断士を育成するための研修センター設立に向けた組織や用地の検討、研修及びその資格制度を規定する省令の制定などを進めている。また、デンマーク政府援助機関であるデンマーク開発庁（Danish International Development Agency : DANIDA）の支援を受けながら、人材育成カリキュラム及びテキスト（理論研修のみ）の作成等も行っている。しかしながら、エネルギー管理士、及びエネルギー診断士が実務を身に着けるための効果的な体制構築が課題となっていることから、実技研修を伴う人材育成・資格制度の導入のためにベトナム政府は日本政府に対し、2010年7月に「省エネルギー研修センター設立支援プロジェクト」を要請した。

本事業で支援予定であるエネルギー管理・診断制度の構築は、有償資金協力「気候変動対策プログラムローン」のポリシーアクションとして位置づけられ、ベトナム政府及び関連ドナーの関心は高い。また、同制度の導入に伴い、省エネ機器や設備に対する優遇税制、補助金制度、低利融資などが求められており、有償「省エネルギー・再生可能エネルギー促進事業」のツー・ステップ・ローンやリボルビングファンドの案件発掘やエネルギー診断において、本プロジェクトとの連携が期待されている。

本事業の前提条件として、省エネルギー研修センターの活用に係る法的位置づけ及び研修センターのサイト選定が重要であったため、JICAではこれらを促進するために、同一プロジェクトを2つのステージに分け、研修センターのサイト選定までの準備段階として2011年9月から2012年9月まで「省エネルギー研修センター設立支援プロジェクト（ステージ1）」を実施した。ステージ1の協力を通じて、実技研修を含む研修センターの資格基準が省令に反映され、2012年7月に対象サイトがホーチミン市商工局（Department of Industry and Trade, Ho Chi Minh City : DOIT-HCMC）傘下のプラスチック・ゴム技術・省エネルギー研修センター（Plastic-Rubber Technology and Energy Conservation Training Center : PRET）に決定した。これらの前提条件が整ったことから、エネルギー管理士及びエネルギー診断士育成のための研修カリキュラム、研修テキスト、実習機材の整備及び、研修講師を育成するために「省エネルギー研修センター設立支援プロジェクト（ステージ2）」を実施することとし、2012年9月に詳細計画策定調査を実施した。

1 - 2 調査の目的

本調査は、ステージ2に係る要請、内容を確認し、事前評価を行うとともに、実施計画策定に必要な情報・資料を分析し、関係機関と実技研修カリキュラム及び機材の策定・検討を行い、合意文書の協議・署名を行うことを目的として実施した。

1 - 3 調査団構成

担当分野	氏名	所属
総括	千原 大海	独立行政法人国際協力機構 産業開発部資源・エネルギーグループ 資源・エネルギー第二課
計画管理	坂元 芳匡	独立行政法人国際協力機構 産業開発部資源・エネルギーグループ 資源・エネルギー第二課
省エネルギー研修	山口 俊太	独立行政法人国際協力機構 産業開発部資源・エネルギーグループ 資源・エネルギー第二課
省エネルギー技術	福島 演雄	有限会社エネテック千葉
評価分析	長山 浩章	個人コンサルタント

1 - 4 調査日程

2012年8月26日（日）～ 9月14日（金）

No	Date	Day	Activities				Accommodation
			Mr. Chihara (Team Leader) Mr. Sakamoto (TCP Planning 1)	Mr. Yamaguchi (TCP Planning 2)	Mr. Fukushima (EE technology)	Mr. Nagayama (Evaluation Analysis)	
1	Aug 26 th	Sun			Move to Vietnam NARITA 17:55 - HANOI 21:40 (JL751)		Hanoi
2	Aug 27 th	Mon	/	/	• Meeting with JICA Expert (Mr. Yamaguchi) (9:00-10:00)	/	/
3	Aug 28 th	Tue			• Meeting with JICA Vietnam Office (10:30-11:30)		
4	Aug 29 th	Wed			• Meeting with MOIT (14:00-16:00)		
5	Aug 30 th	Thu			• Meeting with MOIT WG (9:00-11:00)		
6	Aug 31 st	Fri			• Meeting with DOIT Hanoi and ECC Hanoi (13:30-14:30)		
7	Sep 1 st	Sat			• Site visit to Hoa Lac High Tech Park (15:30-17:00)		
8	Sep 2 nd	Sun		Move to Ho Chi Minh City HANOI 09:00-HCMC 11:00 (VN1177)		Hanoi	
9	Sep 3 rd	Mon		• Meeting with ECC HCMC (14:00-16:00)		Hanoi	
10	Sep 4 th	Tue		• Meeting with DOIT HCMC, PRET (9:00-11:00)		Hanoi	
11	Sep 5 th	Wed		• Site Visit: PRET (Hiep Phuoc Industrial Park) (14:00-17:00)		Hanoi	
12	Sep 6 th	Thu		• Meeting with HCMUT (8:30-10:00)		Hanoi	
13	Sep 7 th	Fri		• Meeting with ENERTEAM (10:30-11:30)		Hanoi	
14	Sep 8 th	Sat		• Meeting with Electric Power College (14:00-15:00)		Hanoi	
15	Sep 9 th	Sun		Move to Hanoi HCMC 08:30-HANOI 10:30 (VN1176)		Hanoi	
16	Sep 10 th	Mon		Move to Japan HANOI 23:30-NARITA 06:55+1 (JL751)		Hanoi	
17	Sep 11 th	Tue		Documentation		Hanoi	
18	Sep 12 th	Wed		Arrival in Japan (06:55) HANOI 23:30-NARITA 06:55+1 (JL751)	Move to Vietnam NARITA 17:55 - HANOI 21:40 (JL751)	Hanoi	
19	Sep 13 th	Thu		• Meeting with HUST (9:00-11:00)		Hanoi	
20	Sep 14 th	Fri		• Meeting with EPU (14:00-15:00)		Hanoi	
				• Meeting with DANIDA (16:00-17:00)		Hanoi	
				• Meeting with UNIDO (9:00-10:00)		Hanoi	
				• Meeting with ADB (10:30-11:30)		Hanoi	
				• Meeting with VDB (14:00-15:30)		Hanoi	
				• Meeting with MOIT (Explanation of PDM & Evaluation) (9:00-11:00)		Hanoi	
				Move to Ho Chi Minh City HANOI 16:00-HCMC 18:00 (VN773)		Hanoi	
				• Meeting with ECC HCMC (9:00-11:00)		Hanoi	
				• Discussion with DOIT HCMC, PRET (13:30-14:30)		Hanoi	
				• Site Visit: PRET (Hiep Phuoc Industrial Park) (15:30-17:00)		Hanoi	
				Move to Hanoi HCMC 10:30-HANOI 12:30 (VN1178)		Hanoi	
				Documentation		Hanoi	
				• Meeting with DOIT Hanoi and ECC Hanoi (8:30-9:30)		Hanoi	
				• Site Visit to Hoa Lac High Tech Park (10:30-11:30)		Hanoi	
				• Report to JICA Vietnam Office (13:30-14:30)		Hanoi	
				• Meeting with MOIT (Discussion on PDM, PO, MOU) (15:00-17:00)		Hanoi	
				• Meeting with MOIT WG (Discussion on Curriculum and Equipment) (9:00-11:30)		Hanoi	
				• Meeting with SPRCC Expert (14:00-15:00)		Hanoi	
				• Documentation		Hanoi	
				• Meeting with MOIT (Discussion on MOU, MD) (9:00-11:30)		Hanoi	
				• Documentation		Hanoi	
				• Meeting with MOIT (Agreement and Signing of MOU, MD) (9:00-11:30)		Hanoi	
				• Report to JICA Vietnam Office (15:00-16:00)		Hanoi	
				Move to Japan HANOI 23:30-NARITA 06:55+1 (JL752)		Hanoi	
				Arrival in Japan (06:55)		Hanoi	

1 - 5 主要面談者

(1) Ministry of Industry and Trade (MOIT)

- Mr. Phuong Hoang Kim Director, Science Technology & Energy Efficiency Department, General Directorate of Energy
- Mr. Cu Huy Quang Science Technology & Energy Efficiency Department, General Directorate of Energy
- Mr. Nguyen Kinh Luan Energy Expert (In-House Consultant) , Science Technology & Energy Efficiency Department, General Directorate of Energy

(2) Department of Industry and Trade, Ho Chi Minh City (DOIT-HCMC)

- Ms. Quach To Dung Permanent Vice Director
- Mr. Tran Anh Hao Head of Energy Management Division
- Ms. Luong Xuan Nhung Deputy Head of Energy Management Division

(3) Plastic Rubber Technology and Energy Conservation Training Center (PRET)

- Mr. Trong Van Long Director

- Mr. Dang Tan Tai Vice Director
 - Ms. Le Thi Mung Vice Director
 - Mr. Huynh Van Hung Head of Training
 - Dr. Nguyen Van Tuyen Expert, Heat & Refrigeration Technology
- (4) Department of Industry and Trade, Hanoi (DOIT-HN)
- Mr. Pham Duc Tien Deputy Director
- (5) Energy Conservation Center, Hanoi (ECC-HN)
- Mr. Dao Hong Thai Director
 - Mr. Nguyen Minh An Vice Director
 - Mr. Hoang Minh Lam Head of Electricity Energy Division
 - Mr. Hoang Duc Huynh Assistant Head of Training and Propaganda
- (6) Energy Conservation Center, Ho Chi Minh City (ECC-HCMC)
- Mr. Huynh Kim Tuoc Director
 - Ms. Nguyen Thi Ngoc Tho Manager of Technical Department
 - Mr. Huynh Quoc Huy Manager of Renewable Energy Department, ESCO Project Manager
 - Mr. Le Kim Anh Senior Policy Advisor
- (7) Hanoi University of Science and Technology (HUST)
- Prof. Hoang Luong Pham Vice President
 - Dr. Nguyen Viet Dzung Deputy Director, Head of Department of Refrigeration Engineering and Air Conditioning
 - Msc. Bui Thanh Hung Deputy Director, Institute of Heat Engineering & Refrigeration
 - Dr. Mai Thanh Tung Deputy Director, International Cooperation Department
 - Ms. Nguyen Mai Chi International Cooperation Department
- (8) Electric Power University (EPU - Hanoi)
- Dr. Truong Huy Hoang Vice Rector in Scientific Research and International Cooperation
 - Dr. Le Anh Tuan Dean of Faculty of Management
 - Mr. Duong Trung Kien Vice Dean, Energy Management Faculty
- (9) Ho Chi Minh University of Technology (HCMUT)
- Mr. Tran Anh Dung Consultant of lighting,
 - Mr. Nguyen Hoang Minh Tuan Electricity system
 - Dr. Le Chi Hiep Head, Dept. of Heat & refrigeration

- (10) Ho Chi Minh Electric Power College (HEPC)
- Mr. Phan Thang Duc, MBA Vice Rector
 - Mr. Hoang Thien Kim, Consulting Expert
- (11) Energy Conservation Research & Development Center (ENERTEAM) – Ho Chi Minh City
- Mr. Le Hoang Viet Director
 - Mr. Ma Khai Hien Vice Director
 - Mr. Dang Quang Vinh Technical & Service Manager
 - Mr. Le Tuan Loc Energy Engineer
- (12) Embassy of Denmark (DANIDA)
- Ms. Tran Hong Viet Climate Change Programme Manager
- (13) United Nations Industrial Development Organization (UNIDO)
- Dr. Pham Thi Nga National Project Coordinator
- (14) Asian Development Bank (ADB)
- Ms. Lauren Nicole Sorkin Country Representative, Vietnam Resident Mission
- (15) Vietnam Development Bank (VDB)
- Ms. Lauren Nicole Sorkin Country Representative, Vietnam Resident Mission
- (16) Japan International Cooperation Agency
- Mr. Yoshitomo Kubo Representative, Vietnam Office
 - Ms. Michiyo Kakegawa Senior Project Formulation Advisor, Vietnam Office
 - Mr. Naoki Mori JICA Expert, Climate Change Program Advisor, SPRCC, MONRE, Vietnam
 - Mr. Masatomo Toyoda Senior Project Formulation Advisor, JICA Liaison Office in HCMC

第2章 ベトナム国における省エネルギー政策・制度

2-1 エネルギー消費動向

ベトナム国は、近年、年率6~7%程度の急激な経済成長を遂げている一方、経済成長を上回る年率10%以上の水準でエネルギー消費量が伸びており、2015年にはエネルギー純輸出国から輸入国へと転換を迫られると懸念されている。最終エネルギー消費量は、過去10年間で約3倍になっている。

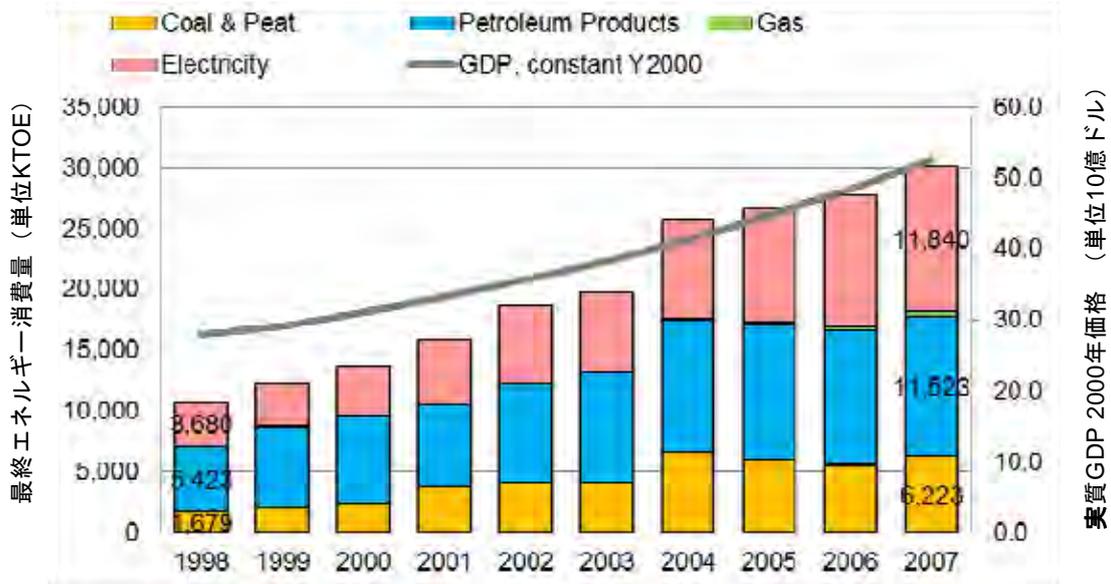


図2-1 ベトナム国の最終エネルギー消費量の推移

出所：商工省（MOIT）

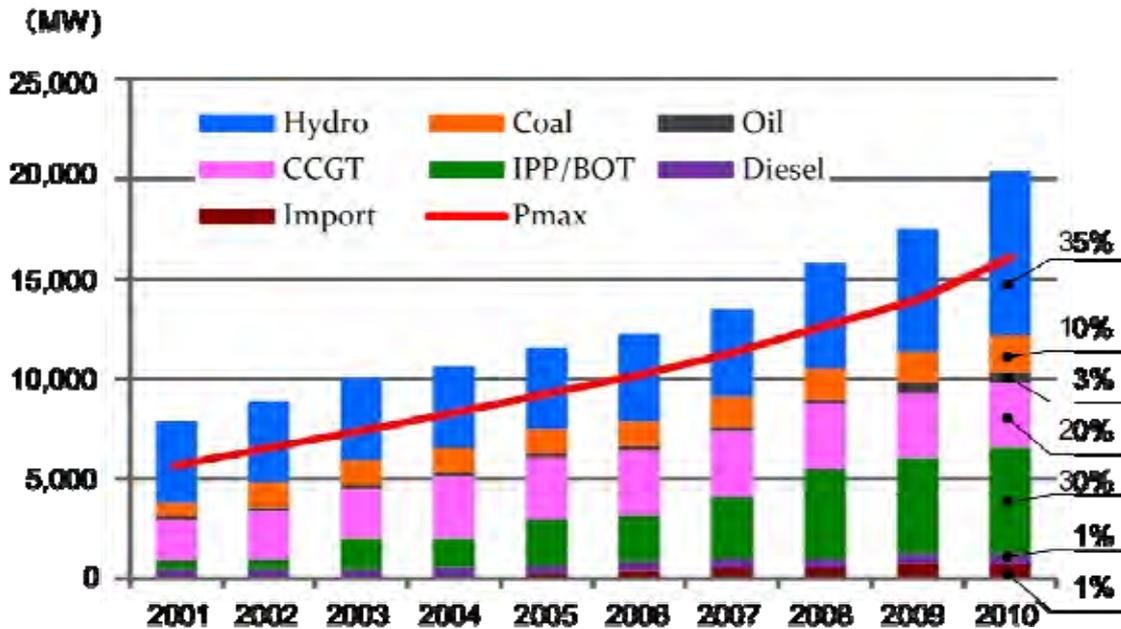


図2-2 ベトナム国の電源容量とピーク需要の推移

出所：ジェトロ（2011）ベトナム電力調査

同様に、電力のピーク需要も過去10年間で約3倍にのぼっている。ベトナム南部など、局所的に電力需給は逼迫しており、主力の水力発電も天候に左右されるため、停電は頻発している。

セクター別の最終エネルギー消費量の割合は、産業部門が46%と最大であり、運輸部門32%、家庭部門15%、業務部門が5%と続いている。特に、産業部門におけるエネルギー消費量は継続的に伸びており、同部門に対する省エネルギーの推進は、ベトナム国の持続的な経済成長、エネルギー安全保障、環境保全の観点から、喫急の課題となっている。

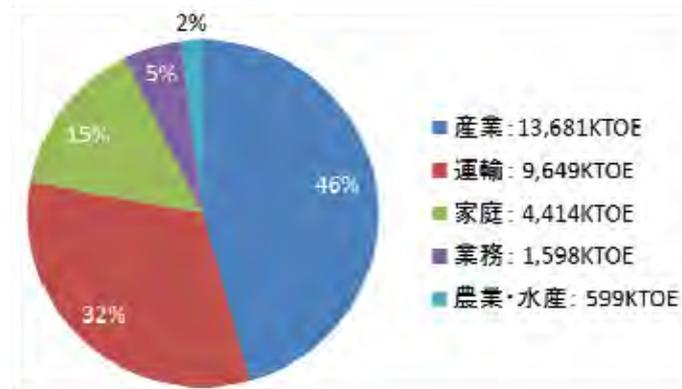


図 2 - 3 ベトナム国の最終エネルギー消費量割合2009年（部門別）

出所：OECD/IEA（2011）ベトナム国エネルギーバランス表2009年

産業部門の分野別の最終エネルギー消費量の割合は、下図のとおり推測される。セメント、セラミック分野におけるエネルギー消費量は、産業部門全体におけるエネルギー消費量の5割を占有している。

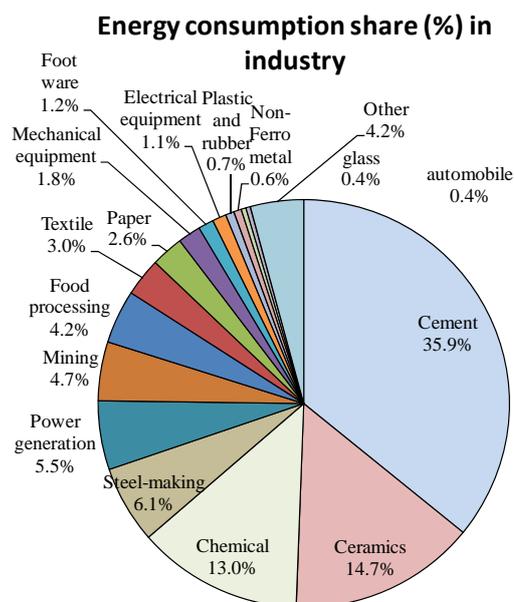


図 2 - 4 ベトナム国の産業部門における最終エネルギー消費量割合2011年（分野別）

出所：「エネルギーデータ管理・分析」専門家業務完了報告書（2012）

2-2 省エネルギーにかかる上位政策

2-2-1 ベトナム国省エネルギーにかかる上位政策

ベトナムの省エネルギーに係る上位政策は「国家エネルギー開発戦略（2007）」、「電力開発計画（PDP7）（2011）」、「国家省エネルギープログラム（2006）」、「省エネルギー法（2011）」、「産業分野における電力削減指示（2011）」である。詳細は表2-1のとおり。

表2-1 ベトナム国省エネルギーにかかる上位政策

<p>(1) 国家エネルギー開発戦略（首相令：No.1855/QD-TTg）2007年12月27日制定 Vietnam's National Energy Development Strategy up to 2020 with 2050 Vision 「国内エネルギー資源の開発」 「エネルギー市場の開発、民間促進、補助金撤廃」 「エネルギー資源の多角化」 「省エネルギーの推進」 「環境・持続性に配慮したエネルギー開発」等</p>
<p>(2) 電力開発計画（首相令：No. 1208/QD-TTg）2011年7月21日制定 Power Development Plan 7（PDP7） ・節電及び電力の効率的使用の対策として、節電の国家目標プログラムを大々的に展開し、2015年までに消費電力量の5%～8%、2020年までに8%～10%の削減目標を掲げている。</p>
<p>(3) 国家省エネルギープログラム（首相令：No.79/2007/QD-TTg）2006年4月14日制定 国家省エネルギープログラム（Vietnam Energy Efficiency Program：VNEEP） ・省エネルギー目標値として、BAU（Business As Usual）のベースラインと比較し2006年から2010年で毎年3%～5%の削減、2011年から2015年では5%～8%の削減とすることが決定されている。</p>
<p>(4) 省エネルギー法（法律：50/2010/QH12）2010年6月17日制定、2011年1月1日施行 ・指定事業者に対する規制（エネルギー管理、計画・報告提出、エネルギー診断等） 省エネラベリング（家電製品、事務機器、産業機器、輸送機器）輸送機器に対する規制、等</p>
<p>(5) 産業分野における電力削減指示（首相令：171/CT-TTg）2011年1月26日制定 ・政府関係機関に対する節電要請。 指定事業者に対する年間1%以上の節電要請と計画の義務づけ。</p>

2-2-2 ベトナム国省エネルギー法の制定状況

省エネルギー法は、法律：1、政令：2、首相令：3、省令：4で構成されている。最上位の省エネルギー法は2010年6月17日に制定され、翌2011年1月1日に施行されている。また、下位の省令は、2012年9月現在、最新のもので、エネルギー管理報告及びエネルギー診断にかかる省令（9/2012/TT-BCT）が2012年4月20日に制定され、2012年6月5日に施行されている。省エネルギー法は、大きく分けて、産業・業務部門の「指定事業者に対する規制」、業務・家庭部門の「省エネルギーラベリング制度の導入」、運輸部門の「交通部門にかかる規制」の3つに分けられる。法律の一覧は表2-2のとおり¹²。省エネルギー関連法令の詳細に関しては、付属資料4.から付属資料13.を参照のこと¹³。

表2-2 ベトナム国省エネルギー法の制定状況

	法令	法令種別	発行主体	法令番号	制定状況
上位規定	Law on Energy Efficiency and Conservation 省エネルギー法	Law 法律	National Assembly 国会	50/2010/QH12	2010年6月17日制定 2011年1月1日施行
	Providing in Detail and Measures for Implementation of the Law on Energy Efficiency and Conservation 実施細則	Decree 政令	Government 政府	21/2011/ND-CP	2011年3月29日制定 2011年5月15日施行
	Decree on Sanctioning of Administrative Violations in the Field of Energy Efficiency and Conservation 罰則令	Decree 政令	Government 政府	73/2011/ND-CP	2011年8月24日制定 2011年10月15日施行
指定事業者の規制	Issuing the List of Designated Enterprises year 2011 指定事業者リスト（2011年）	Decision 首相令	Prime Minister 首相	1294 /QĐ-TTg	2011年8月1日制定 2011年8月1日施行
	Instructions for Training and Issuing Energy Manager and Energy Auditor Certification. エネルギー管理士・診断士の研修と資格制度にかかる省令	Circular 省令	MOIT ¹⁴ 商工省	39/2011/TT-BCT	2011年9月12日制定 2011年11月1日施行
	Guidelines on Reporting for Energy Saving and Implementing Energy Audit. エネルギー管理報告及びエネルギー診断にかかる省令	Circular 省令	MOIT 商工省	09/2012/TT-BCT	2012年4月20日制定 2012年6月5日施行
省エネラベリング	The list of equipment subject to energy labeling and minimum energy performance standards, and the implementation roadmap 省エネルギーラベリングと最低エネルギー効率基準（MEPS）の対象機器リスト及び実施ロードマップ	Decision 首相令	Prime Minister 首相	51/2011/QĐ-TTg	2010年6月17日制定 2011年1月1日施行
	Guidelines on labeling for energy used facilities and equipment. 省エネラベリングにかかる省令	Circular 省令	MOIT 商工省	07/2012/TT-BCT	2011年3月29日制定 2011年5月15日施行
	List of energy saving equipment purchased for agencies funded by the State budget. 国家予算の調達にかかる省エネ機器リスト	Decision 首相令	Prime Minister 首相	68/2011/QĐ-TTg	2011年8月24日制定 2011年10月15日施行
交通	Regulating energy saving and efficient using measures in transport activities. 交通部門の省エネにかかる省令	Circular 省令	MOT ¹⁵ 交通省	64/2011/TT-BGT VT	2011年8月1日制定 2011年8月1日施行

¹² 2013年1月14日に制定された首相令 03/2013/QĐ-TTgにより、首相令51/2011/QĐ-TTgに規定されている、エネルギー効率基準・省エネルギーラベリングの実施スケジュールが、半年から1年程度 期となっている。

¹³ 省エネルギー関連法令の原文（ベトナム）は、MOITのウェブサイトに掲載されている。

<http://tietkiemnangluong.com.vn/home/documents.list.html>

また、省エネルギー関連法令の主要なものについては、JETROハノイにより和文 され、JETROウェブサイトに掲載されている。<http://www.jetro.go.jp/world/asia/vn/business/>

¹⁴ MOIT : Ministry of Industry and Trade（商工省）

¹⁵ MOT : Ministry of Transport（交通省）

2-3 エネルギー管理制度、診断制度

2-3-1 エネルギー管理制度、診断精度の概要

省エネルギー法及び実施細則により、年間エネルギー消費量が1,000TOE（原油換算トン）以上の製造所及び500TOEの事業所（ホテル、
、商、事務所ビル等）は、エネルギー消費の指定事業者（以下「指定事業者」とす）として登録され、エネルギー管理士資格を有するエネルギー管理士を1名選任し、毎年及び5年毎のエネルギー管理計画書・報告書を国家に提出するとともに、3年毎にエネルギー診断を実施することが義務づけられている。エネルギー診断は、エネルギー診断士資格を有する会社による外部診断、またはエネルギー診断士資格をもつ社員による内部診断が実施することが義務づけられている。

同制度の下では、指定事業者に対する「エネルギー管理士の任命義務」、「毎年及び5年毎のエネルギー管理計画書・報告書の提出義務」、「3年毎のエネルギー診断の受診義務」は規定されているものの、エネルギー消費量の削減目標値は設定されておらず、各指定事業者が掲げる省エネルギー目標が達成されなくても、現行の罰則令の下で罰金が科せられることはない。詳細は表2-3のとおり。

表2-3 ベトナム国エネルギー管理制度、診断精度の概要

<p>(1) 省エネルギー法（50/2010/QH12）2010年6月17日制定、2011年1月1日施行 指定事業者に対する：</p> <ul style="list-style-type: none"> ① エネルギー管理士の任命義務 ② 毎年及び5年ごとのエネルギー管理計画書・報告書の提出義務 3年ごとのエネルギー診断の受診義務を規定
<p>(2) 実施細則（21/2011/ND-CP）2011年3月29日制定、2011年5月15日施行</p> <ul style="list-style-type: none"> ・ 指定事業者を、毎年のエネルギー消費量が原油換算1,000t以上の製造所もしくは500t以上の事業所と定義
<p>(3) 指定事業者リスト・首相令（1294/QĐ-TTg）2011年8月1日制定、2011年8月1日施行</p> <ul style="list-style-type: none"> ・ 指定事業者リストを毎年公表する予定。2011年度は1192社。
<p>(4) エネルギー管理士・診断士の研修と資格制度・省令（39/2011/TT-BCT） 2011年9月12日制定、2011年11月1日施行</p> <ul style="list-style-type: none"> ・ エネルギー管理士、エネルギー診断士の資格要件等を規定。
<p>(5) エネルギー管理報告及びエネルギー診断にかかる省令（09/2012/TT-BCT） 2012年4月20日制定、2012年6月5日施行</p> <ul style="list-style-type: none"> ・ 指定事業者の定期報告様式、報告方法、エネルギー診断内容などを規定。 エネルギー管理計画書及び報告書は、毎年1月15日までに指定機関へ提出する。 (5カ年計画書及び報告書は、開始年次のみ1月15日までに提出する。)

エネルギー管理報告及びエネルギー診断にかかる省令（09/2012/TT-BCT）には、エネルギー管理計画書・報告書の各種様式が 付されている。各計画書・報告書は、インターネットベースで地方行政のDOITに提出され、DOITから商工省（MOIT）に共有される。エネルギー計画書・報告書様式の例は図 2－5、エネルギー管理計画書・報告書の提出フローは図 2－6 のとおり。



定期計画・報告申請用紙



年度計画・報告申請様式例
（合計 10 枚程度）
インターネット上で登録

図 2－5 エネルギー管理計画書・報告書の各種様式

出所：エネルギー管理報告及びエネルギー診断にかかる省令（09/2012/TT-BCT）

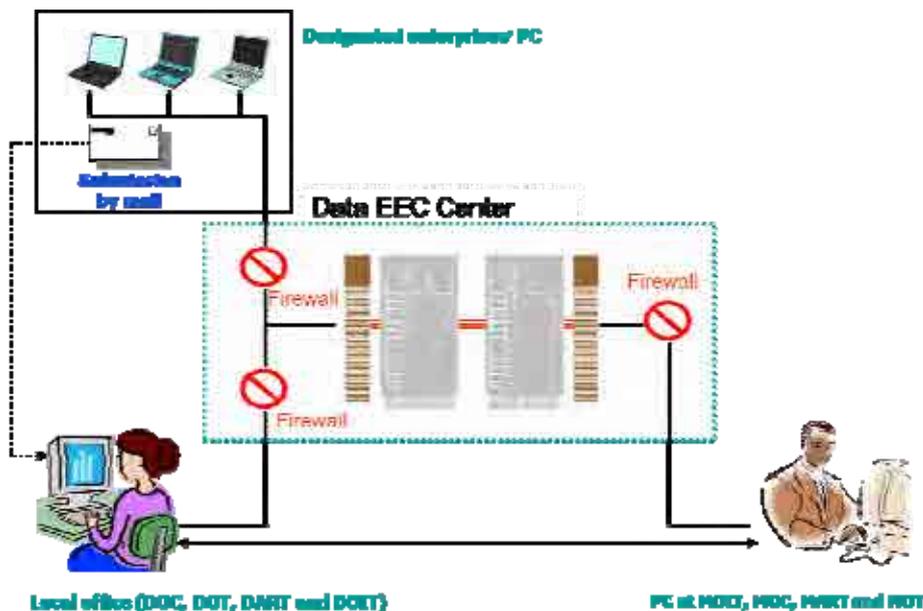


図 2－6 エネルギー管理計画書・報告書の提出フロー図

出所：商工省（MOIT）

2-3-2 エネルギー管理士、診断士の資格制度

エネルギー管理士及び診断士の資格認定制度は、2008年から2009年に実施されたJICAの省エネルギー促進マスタープラン調査の提案スキームを基本として、制度構築されている。JICAの提案制度を図2-7に示す。

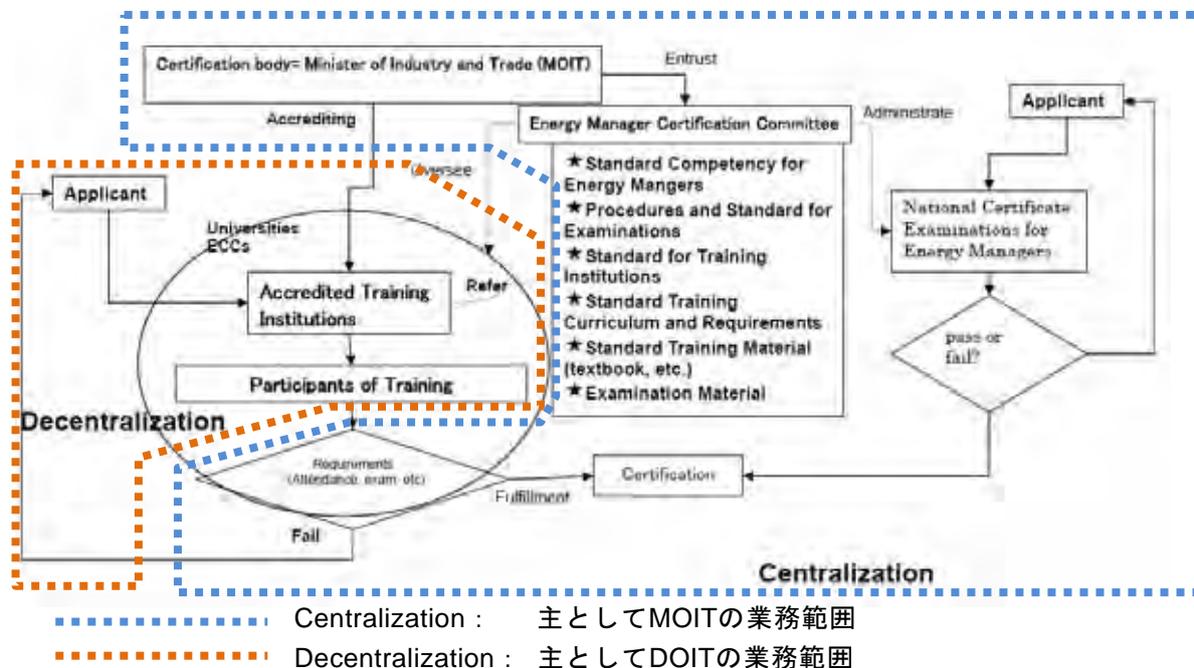


図2-7 エネルギー管理・診断資格に係る研修制度の枠組み

出所：JICA（2009）ベトナム国省エネルギー促進マスタープラン調査最終報告書

中央政府の商工省（MOIT）は資格認定制度構築、研修用カリキュラム作成、研修用テキスト作成、資格試験の実施、資格者登録管理を行う。図2-8の中のCentralizationの範囲はMOITの業務範囲である。地方政府機関のDOITは研修コースの実施、研修修了証の発行、研修終了者のMOITへの報告を行う。図2-5の中のDecentralizationの範囲はDOITの業務範囲である。受験者は研修修了後に検定試験を受けて、合格後にエネルギー管理士の資格が与えられる制度と、研修を受けずに国家試験合格によりエネルギー管理士の資格が与えられる制度の併用方式である。

エネルギー管理士研修、エネルギー診断士研修を実施する機関は、省エネルギー法に基づいて、ポンプ、ファン、コンプレッサー、照明、熱設備などの実習設備を保有することが義務づけられている¹⁶。現在、省エネルギー研修センターが設立される前の措置として、エネルギー管理士研修コース及びエネルギー診断士研修コースが定期的に運営されている。エネルギー管理士研修コースは、MOITの委託により、PRET及びハノイ省エネルギーセンター（Energy Conservation Center, Hanoi : ECC-HN）が講義5日間、実技2日間、合計7日間で実施し、研修修了証を交付している。MOITは2011年までに190名を研修している。また、エネルギー診断士研修コースはMOITの委託事業として、PRET及びECC-HNが11日間で実施し、研修修了証を交付して

¹⁶ MOIT（2011）エネルギー管理士・診断士の研修と資格制度にかかる省令（39/2011/TT-BCT）

いる。MOITは2011年までに70名を研修している。実技研修はハノイでは、ハノイ工科大学 (Hanoi University of Science and Technology : HUST) の小型研修機材を使って実施し、ホーチミンでは研修機材がないため工場視察に変更され、測定実習は行われていない。現行のエネルギー管理研修及びエネルギー診断研修の省エネ実習は、講義内容や設備の観点から 分とはいえない状況にある。

エネルギー管理士研修の座学カリキュラム、テキストはMOITが2010年に作成したもの、DANIDAが2011年に作成したものが存在し、今後、MOIT主導により双方を統合する予定である。エネルギー診断士の座学カリキュラム、テキストはDANIDAが2011年に作成したもののみ存在し、MOITにより されたものが使用されている。実技研修のカリキュラム、テキストはHUSTにより 時のものが作成され使用されている。

2-3-3 エネルギー管理士、診断士の人材育成計画

MOITは、現時点で資格者数の目標値を掲げていないため、今後、目標値を定める必要がある。省エネ規則に規定されているとおり、指定事業者は毎年1月15日に登 され、公表される。初年度の2011年1月現在の指定事業者数は1,192である。今後、全国の事業者の年間エネルギー消費量報告制度が確立すれば、指定事業者数は相当数増加する。エネルギー管理士資格者の必要数は資格者の社内異動、転職等を考慮すると、指定事業者数の3倍の3,600名が必要と推定される¹⁷。

エネルギー診断士資格者の必要数は、毎年の診断事業所数は約400事業所 (1,192社/3年) であり、資格者1名が年間6事業所を診断すると、67名 (400/6) である。エネルギー診断士資格者の専門分野及び地域による りを考えると、200名以上が必要と推定される¹⁸。

2-4 省エネルギー研修センター

2-4-1 省エネルギー研修センターに係る組織体制

2010年8月、首相府から関連省庁に、ハノイ及びホーチミンの2都市にエネルギー管理士及びエネルギー診断士を育成する省エネルギー研修センターを設立するよう指示があり¹⁹、そのフェージビリティ・スタディ (Feasibility Study : F/S) の実施主体として、ハノイではECC-HNが、ホーチミンではDOIT-HCMCが、それ れ任命されている。その結果、ホーチミンの対象サイトはPRETに決定し、2011年9月にホーチミン市人民委員会の承認も得られている²⁰。他方、ハノイの対象サイトは2012年9月時点でECC-HNによる検討が続いており、ハノイ市の人民委員会の承認も得られていない状況である²¹。

MOITは商工省ワーキンググループ (Ministry of Industry and Trade Working Group : MOIT-WG) を中心にカリキュラム・テキスト・資格試験制度を策定する役割を担っている。省エネルギー研修センターの検討・準備については、ハノイではECC-HNが、ホーチミンではDOIT-HCMCが中心となって手続きを進めている。DOIT及びその下部組織は、中央政府のMOITの指揮命令系統

¹⁷ 日本は第1種指定工場数8,000に対して、エネルギー管理者資格者は40,000名で、約5倍である。

¹⁸ 2012年10月2日に制定された首相令1427/QĐ-TTgにより、国家省エネルギープログラム (2012~2015年) が策定され、エネルギー管理士及びエネルギー診断士の想定目標数などが規定されていることが、詳細計画策手 調査後に判明している。

¹⁹ 副首相による決議 (No. 216/TB-VPCP) 2010年8月

²⁰ ホーチミン人民委員会からの承認レター (No.4604/QĐ-UBND) 2011年9月

²¹ 2013年2月時点では、ハノイの省エネルギー研修センターをHoa Lacハイテクパーク内に新設することで、ハノイ市人民委員会の承認が得られているとの報告が得られている。

の下にあるが、予算は、各地の人民委員会（People's Committee : PC）の地方予算を使用することが通例のようである。省エネルギー研修センターをとりまく、組織体制は図 2 - 8 のとおり。

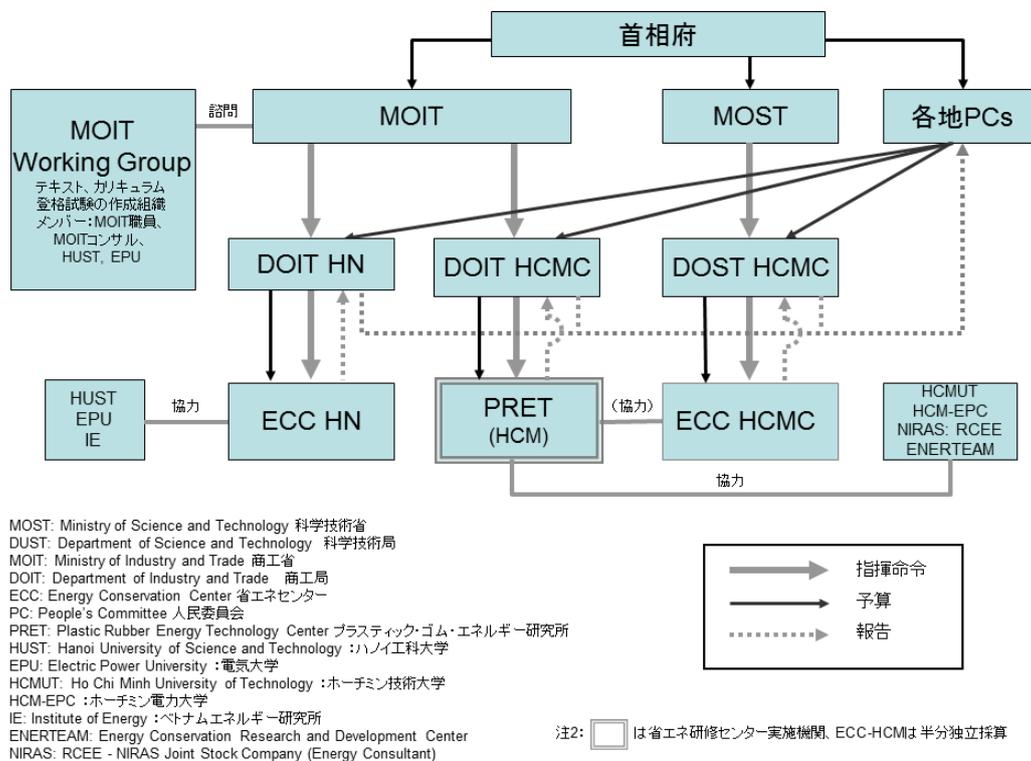


図 2 - 8 省エネルギー研修センターに係る組織体制

出所：調査団作成

2 - 4 - 2 ホーチミン省エネルギー研修センター（ECC-HCMC）

ECC-HCMCは、DOIT-HCMC傘下の研究機関であるPRET内に設置される。DOIT-HCMCの組織図及びPRETの組織図を図 2 - 9 と図 2 - 10に示す。

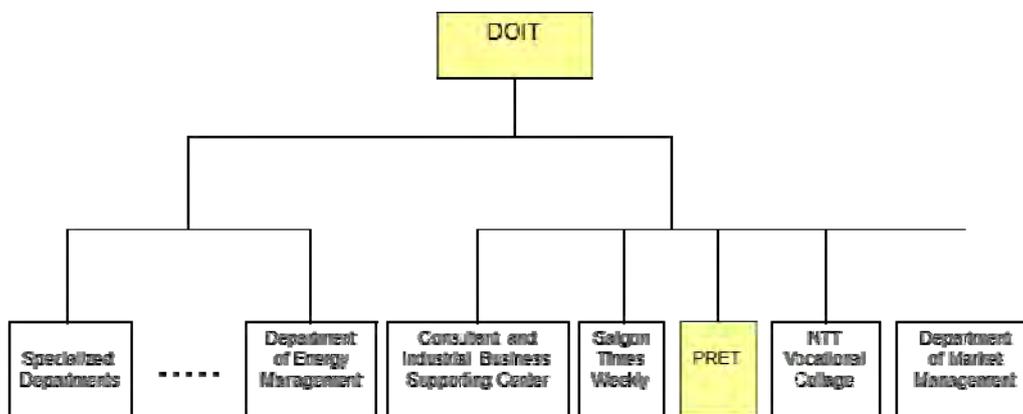


図 2 - 9 ホーチミン市工業商業局（DOIT）組織図

出所：PRET報告書

PRETはホーチミン市内にショールームを含む本部事務所と、Hiep Phuoc工業団地内に研究所を所有している。PRETは、Hiep Phuoc工業団地の研究所に設置される。それらの住所は以下のとおりである。

<PRET本部事務所>

156 Nam Ky Khoi Nghia Street, District 1, Ho Chi Minh City

<PRET研究所>

Lot A2 Hiep Phuoc Industrial Zone, Long Thoi Village, Nha Be District, Ho Chi Minh City

(ホーチミン市内より南に30Km、車で40分程度)



図2-10 PRET所在地

出所：Google Map



図2-11 ホーチミン省エネルギー研修センター（PRET 研究所）

出所：PRETウェブサイト

PLASTIC - RUBBER TECHNOLOGY & ENERGY CONSERVATION TRAINING CENTER

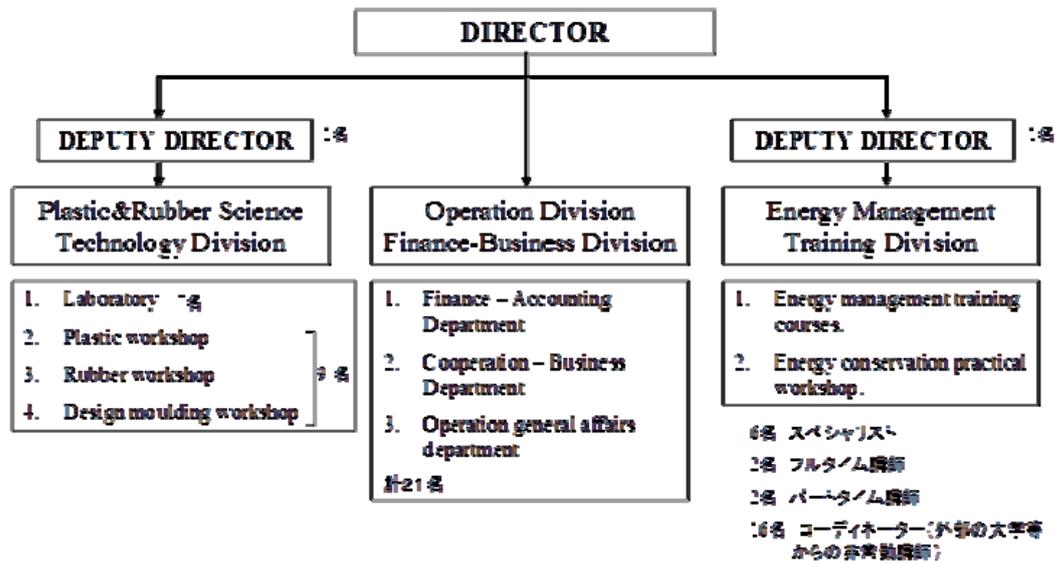


図 2-12 プラスチック・ゴム技術・省エネルギー研修センター (PRET) 組織図

出所：PRET報告書

PRET内のエネルギー管理研修部は、2011年9月にホーチミン市人民委員会の承認 (No.4604/QD-UBND) を受けて 成されたものであり、設立後間もないことから、組織体制が であり、講師確保に している。PRETのDirectorであるMr. Truong Van Long及びDeputy Director であるMs. Le Thi MungはDOIT-HCMC出身者であることから、予算 得などの力はあると思われるが、省エネルギーに関する知識・経験は ない。現在確保できている常勤講師はHCMUT²²のMr. Nguyen Van Tuyen (熱工学 士) 及びHEPC²³のMr. Nguyen Nhat Tan (電気工学修士) であり、非常勤講師としてENERTEAM²⁴に在 しているMr. Dang Quang Vinh (熱技師) 及びMr. Lam Thai Duy Linh (電気技師) の協力を取り付けているに過 ない。今後、エネルギー管理士及びエネルギー診断士の実技研修を主体的に実施できる体制を実現するため、PRETは常勤講師を4名体制にする予定である。PRETの省エネ研修センターの現在のスタッフを表 2-4 に示す。

²² HCMUT : Ho Chi Minh University of Technology (ホーチミン工科大学)

²³ HEPC : Ho Chi Minh Electric Power College (ホーチミン電力大学)

²⁴ ENERTEAM : Energy Conservation Research Development Center (エネチーム : 民間コンサルタント会社)

表 2-4 ホーチミン省エネルギー研修センタースタッフリスト²⁵

No.	氏名	専門分野	役職	経験	その他
1	Ms. Le Thi Mung	技術者	副所長	N/A	DOIT-HCMC出身 常勤
2	Mr. Nguyen Van Tuyen	熱工学（士）	講師	17年	HCMUT出身 常勤
3	Mr. Nguyen Nhat Tan	電気工学(修士)	講師	9年	HEPC出身 常勤
4	Mr. Dang Quang Vinh	熱技師	講師	8年	ENERTEAM在 非常勤
5	Mr. Lam Thai Duy Linh	電気技師	講師	5年	ENERTEAM在 非常勤
6	Mr. Ho Quoc Phong	事務（会計）	研修管理課	N/A	PRET出身 常勤に格上げ予定
7	Mr. Huynh Van Hung	事務	研修管理課	N/A	PRET出身 常勤に格上げ予定
8	Mr. Nguyen Thi Thanh	事務	研修管理課	N/A	PRET出身 常勤に格上げ予定
9	Mr. Vu Dinh Hiep	事務	研修管理課	N/A	PRET出身 常勤に格上げ予定

出所：PRET報告書

2-4-3 ハノイ省エネルギー研修センター

2010年8月に副首相による決議（No. 216/TB-VPCP）が発令され、ハノイ及びホーチミンに省エネルギー研修センターを設立するための検討指示が出された。この指示を受けて、ハノイ市商工局（DOIT-HN）はハノイ省エネルギーセンター（ECC-HN）の協力を受けて、ハノイ市郊外の数か所の候補地において用地使用権の移転を図ったが、ハノイ人民委員会の都市計画との重等が判明したことから、検討は出にり、計画は大幅に遅れている。2012年に入り、ハノイ市の30kmのHoa Lacハイテク工業団地が候補地として検討され、同工業団地内の教育研修ゾーンに1.7haの土地を確保する方向で、Hoa Lacハイテク工業団地側と交しており、ハノイ市人民委員会の承認を取り付ける予定である²⁶。ECCハノイが実施した、フィージビリティ調査では次の予定が定められている。

- 1) 土地造成開始：2013年
- 2) ビル建設工事：2013年～2015年6月
- 3) ビル内装工事：2015年6月～2016年6月

²⁵ 2013年2月現在、PRETの講師は、表2-4の常勤2名、非常勤2名に加え、電気工学専門、日系企業出身のMr. Luu Anh Tuanが常勤講師として用された。また、ENERTEAMに在している非常勤講師は、表2-4に記載の2名から、Mr. Le Hoang Viet（専門：熱、ENERTEAM所長）、Mr. Ma Khai Hien（専門：電気、ENERTEAM副所長）に格上げになっている。

²⁶ 注9参照。

Hoa Lacハイテク工業団地内の教育研修センターの予定地周辺は、2012年9月時点で、両用道路が未着工であり、キャッサバ（イモ科作物）が植えられている。ハノイ省エネルギー研修センターの予定地と完成予想図を以下に示す。



図 2-13 ハノイ省エネルギー研修センター予定地と完成予想図
(Hoa Lacハイテクパーク内)

出所：() 調査団 影、(完成予定図) ECC-HN提供資料

2-5 他ドナーの活動

本プロジェクトの類似案件としてエネルギー管理士・診断士の人材育成支援を行っているのはデンマーク開発庁 (DANIDA) である。また、国連開発計画 (UNDP) と国連工業開発機関 (UNIDO) は、ISO50001のエネルギー管理制度導入に係る支援を実施している。

産業セクターごとの省エネルギー戦略やロードマップの策定支援を行っているのは、WB (化学、製紙、食品加工、繊維産業)、ADB (セメント)、AFD (鉄鋼) である。また、WBはESCOに対する支援を実施している。省エネルギーラベリング制度への支援を行っているのはUNDP (BRESL Program)、オーストラリア開発庁 (Australian Agency for International Development : AusAID)、経済産業省 (METI) の委託を受けている日本エネルギー経済研究所 (2007～2011年) 及び基準認証イノベーション技術研究組合 (International Standard Innovation Technology Research Association : IS-INOTEK) (2011年) (試験所支援) 等である。

また、気候変動対策支援プログラム “SPRCC-Support Program to Respond to Climate Change” 2009年から2015年にかけて実施されており、気候変動に資する政策対話のための一 財政支援として、マルチドナーによる協調融資が行われている。JICAの他に、AFD, WB, CIDA (カナダ開発庁), AusAID, KOREA EXIMBANKが、有償資金協力もしくは 償資金協力として拠出している。

資金メカニズム (補助金、優遇税制、低利融資等) の構築支援は、JICAが実施している「省エネルギー・再生可能エネルギー導入促進事業 (有償資金協力) (2009)」のツー・ステップ・ローン以外では、ADBが、産業セクターの鉄鋼・セメント分野に り込んで、民間金融機関を 介し、総 90Million USDの低利融資制度を構築する見通しである。また、国際金融公社 (International Finance Corporation : IFC) も省エネルギーファナンススキームの検討を行っている。

2-5-1 デンマーク開発庁 (DANIDA)

ベトナムでのDANIDAの活動は、国家省エネルギープログラム (Vietnam National Energy Efficiency Program : VNEEP)、及び、国家気候変動対策プログラム (National Target Program to Respond to Climate Change : NTP-RCC) と 密に連携され実施されている。DANIDAは"Climate Change Mitigation Support to the Vietnam Energy Efficiency Program" (2009-2015) を実施し、産業、ビルにおける省エネルギーの支援、エネルギー管理士、エネルギー診断士の育成支援、模 診断を実施している。カウンターパート (Counterpart : C/P) は商工省 (MOIT) である。同プロジェクトではエネルギー管理士、及びエネルギー診断士のカリキュラムとテキストを作成している。

DANIDAは、今後の活動として、産業部門の多消費産業別にエネルギー診断のテキストを作成する予定であり、2013年の完成をめざしている。また、2015年までに、以下の協力に関心を示しており、MOITと協議中である。DANIDAの支援予定 は、5~6 million USDである。

- (1) エネルギー管理士及びエネルギー診断士の人材育成
具体的には、テキストを使用したセミナーや工場におけるエネルギー診断などが含まれる。
- (2) 省エネルギーに係る普及啓発活動
政府機関から民間企業までが対象となる。
- (3) ベンチマークプロジェクト
石 力発電所のエネルギー診断を行い、エネルギー診断のパイロット研修を行う。どのプロジェクトにするかはMOITがショートリストを作成中である。

2-5-2 アジア開発銀行 (ADB)

ADBは2007年からTechnical Assistance (ADTA7024-VIE) 「国家省エネルギープログラムの実施支援プログラム」 “Supporting Implementation of the National Energy Efficiency Program” を実施している。技術協力の総 は11Million USDである。フェーズ1の技術協力では、セメント5社、鉄鋼2社のエネルギー診断を実施している。フェーズ2として、フェーズ1で特定されたセメント5社、鉄鋼2社の設備更新に対して、低利融資を行う予定である。C/PはMOITである。クレジットラインは、民間銀行 (Vietin Bank, Sacom Bank, Techcom Bank) を 介する。具体的なスキーム案としてはコンセプト1とコンセプト2があり、図2-14に示す。

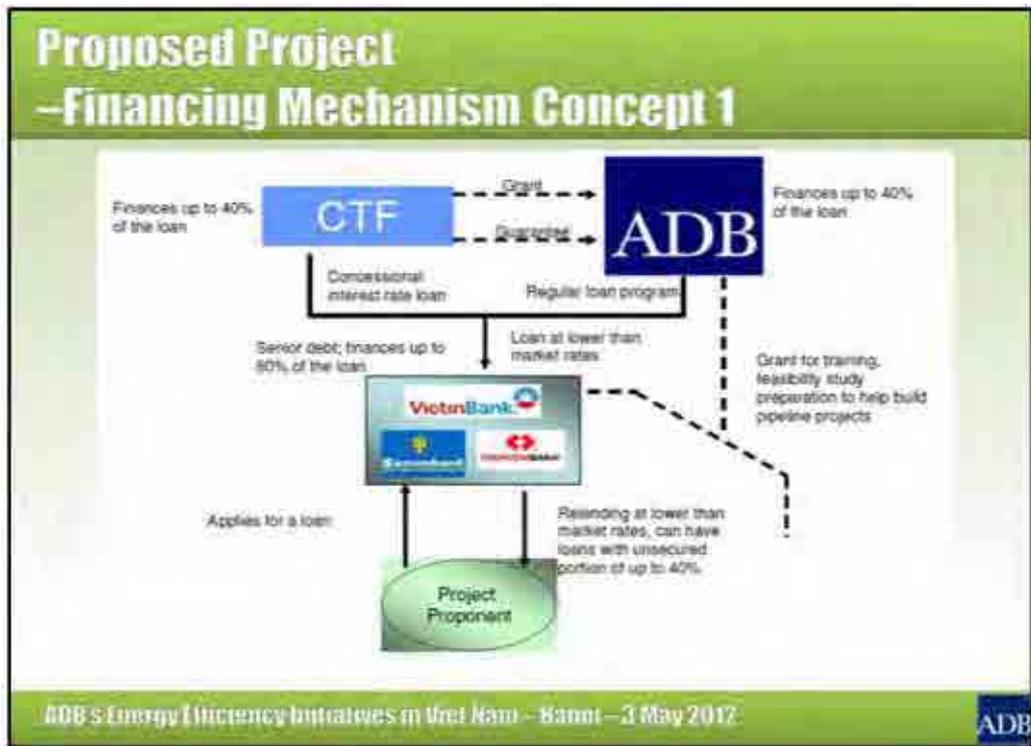


図 2-14 ADBファイナンススキームのコンセプト案1

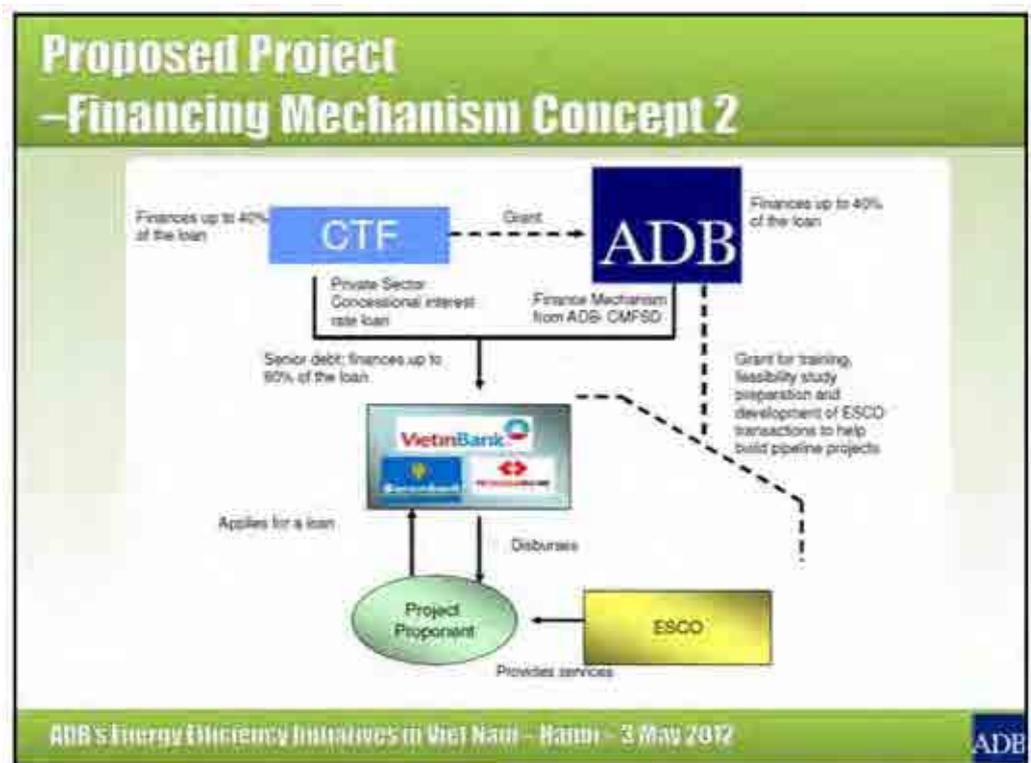


図 2-14 ADBファイナンススキームのコンセプト案2²⁷

出所：ADBプレゼン資料

²⁷ 注：CTF (Carbon Technology Fund) はオーストラリア、国、日本、英国、フランスなど9カ国が出資したファンドであり、1) Mitigation 2) Adaptation 3) Forestryの3つのスキームがある。ADBのプロジェクトは1) のMitigationに属する。

2-5-3 フランス開発庁 (AFD)

ベトナムに対するフランス開発庁 (L'Agence Française de Développement : AFD) の支援は、2006年にフランスとベトナム間で交されたPartnership Framework Documentによって始まった。2012年9月現在、AFDは、鉄鋼セクターにおける省エネルギー戦略の策定“Providing Energy Efficiency Roadmap and Strategy in Steel Sector” (2011) を実施に向け、各省との調整を行っている。C/PはMOITである。また、気候変動対策支援プログラムには、主要ドナーとして精力的に関わっている。

2-5-4 国連工業開発機関 (UNIDO)

国連工業開発機関 (United Nations Industrial Development Organization : UNIDO) は2011年7月から2014年12月までの期間で産業部門省エネルギープロジェクト”Promoting Industrial Energy Efficiency through optimization and energy standards in Vietnam”を行っている。C/PはMOITである。製紙、繊維、食品加工、ゴム産業における、ISO50001の導入を用いた、蒸気システム及びコンプレッサー・圧縮空気の最適化による省エネの実現を図る。ISO50001の実施を通じて、エネルギー管理を推進するというものである。本プロジェクトには、以下の3つのサブプロジェクトがある。

- 1) National Capacity Building Program on Energy Management and System Optimization
- 2) Implementation of Energy Management & System Optimization Demonstration Projects
- 3) Financial Capacity Development for Supporting Energy Efficiency Projects in Industry

対象は、年間エネルギー消費量が石油換算1000t以上の指定事業者であり、主に蒸気システムの改善を研修材料としており、ISO50001の普及を主に置いている。研修コースは主に2つある。

a) 産業セクター4

業種 (テキスタイル、製紙、食品加工、ゴム) について、指定事業者から各業界団体を通じて100人ほどの受講生を集め、2日間のトレーニングを行う。

b) エネルギー関係会社と大企業を対象としたもの。

これらの研修は、3つのモジュールに分かれており、各5日間のコースである。

①省エネルギー計画

②専門家研修 (ユーザー研修、オペレーション研修)

検証・評価

講師はインターナショナルコンサルタント (アイルランド人、デンマーク人、アメリカ人) により構成されており、講義のときだけベトナムに出張している。講義は英で行われ、通付きで行われる。また補助講師として、国内講師は省エネルギーセンター等から派遣されている。テキストはUNIDOが世界各国 (例として南アフリカ、コスタリカなど) で使っているものをベトナムに して使用する

今後の展開として、セメント、鉄鋼、化学等で同研修を実施する予定であり、資金調達の見通しを検討中である。また、ISO50001のベトナム版を2012年終わりまでに作成予定。

なお、MOITは、省エネルギー法 (法規制) とISO50001 (自主活動) の関係を決めていない。

2-5-5 国連開発計画 (UNDP)

国連開発計画 (United Nations Development Programme : UNDP) はベトナムに対して1977年から支援している。UNDPの重点分野の1つはエネルギーと環境であり、ベトナム国政府の重点分野である「環境の持続可能性」及び、ミレニアム開発目標との整合が取れている。UNDPは、2006年から2011年にかけて、中小企業に対する「省エネルギーの推進プロジェクト」“Promoting Energy Conservation in Small and Medium Scale Enterprises (PECSME)”を実施した。C/Pは科学技術省 (Ministry of Science and Technology : MOST) である。総予算は、28.8 Million USD (そのうち5.5 Million USDはGlobal Environment Fund (GEF) より拠出)。セラミック、製紙、繊維、食品加工分野における中小企業の省エネルギー推進に係る技術協力を実施した。

また、このほかに、「省エネルギーラベリング支援プロジェクト” BRESL (Barrier Removal to the Cost Effective Development and Implementation of Energy Efficiency Standards and Labeling Project) (2009～2014年) を実施している。C/PはMOSTである。同プロジェクトの対象国は、中国、タイ、インドネシア、ベトナム、バングラデッシュであり、対象製品はエアコン、冷機、モーター、バラスト (直管型蛍光灯 (Fluorescent Tube Lamp : FTL) 用)、コンパクト蛍光灯 (Compact Fluorescent Lamp : CFL)、電球型蛍光灯 (CFL) である。これらの家電製品に対して、エネルギー効率基準と省エネルギーラベリングの標準化に係る技術協力を実施している。

2-5-6 世界銀行 (WB) / 地球環境ファシリティ (GEF)

世界銀行 (World Bank : WB) は、産業省エネルギープロジェクト “Clean Production and Energy Efficiency Project (VCPEEP)” (2011～2016年) を実施している。C/PはMOITである。VCPEEPの目的はベトナム財政機関によるCleaner Production and Energy Efficiency (CP-EE) プロジェクトへの投資を促進することである。GEFより2.37 Million USDのグラントも供与される。重点エネルギー消費セクター (化学、製紙、食品加工、繊維産業) に対する、省エネルギーアクションプランの策定支援、ESCO支援、モニタリング評価に対する人材育成を行う。

2-5-7 オーストラリア開発庁 (AusAID)

オーストラリア開発庁 (Australian Agency for International Development : AUSAID) は、「省エネルギーラベリング支援プロジェクト」 “Training in Energy Standard Labeling” (2011年) を実施している。C/PはMOITである。家電製品に対する、省エネルギーラベリングの技術支援。試験機関に対する人材育成も含む。

2-6 円借款案件との連携・相乗効果

2-6-1 省エネルギー・再生可能エネルギー促進事業 (省エネTSL)

(1) 案件概要

省エネルギー・再生可能エネルギー促進事業 (省エネTSL) (2009～2011年)

“Energy Efficiency and Renewable Energy Promoting Project : EEREP” の事業概要図は、次のとおり。

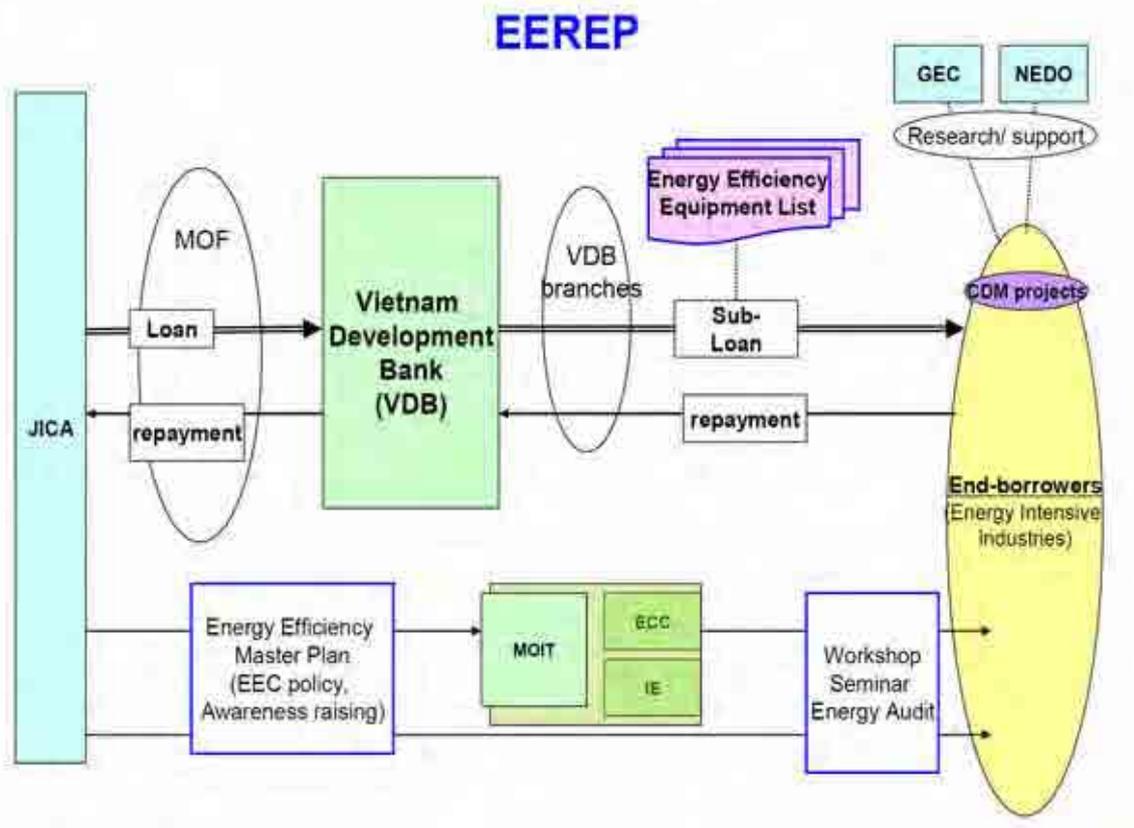


図 2-15 省エネルギー・再生可能エネルギー促進事業（EEREPP）の概要

出所：JICAプレ ン資料

本案件の借款契約（Loan Agreement：L/A）はJICAとベトナム財務省（MOF）の間で2009年に締結されている。JICAからMOFへ金利0.2%（コンサルティングサービスは0.1%）、円建てで融資しており、リスクはMOFが保証。MOFからベトナム開発銀行（Vietnam Development Bank：VDB）へ同じく金利0.2%（コンサルティングサービスは0.1%）、ベトナムドン建てで融資している。VDBからエンドユーザーへは、MOFが指定する“State Credit Investment Rate”に合わせて貸し付けを行うことになっている。返済は最長18年、据え置きが4年、金利が12%（ベトナムドン）である。（市中銀行の同等のプロジェクトへの貸し出し金利は14%）銀行からの融資は、全体投資の70%に限定されている。

円借款（フェーズ1）の総額は46.82億円。その内、40億円が機器・機材、サブプロジェクトへの借款、機器・機材用40億円の内30億円が省エネプロジェクト、10億円が再生可能エネルギープロジェクトを対象としている。残り6億円は、テクニカルサポート（内額は1億6,300円が調査にかかるコンサルティングサービス、300円がエネルギー診断にかかるコンサルティングサービス。その他、220円は成報など。）テクニカルサポートは、次の2つの目的で使われる。

- 1) 全プロジェクトの再評価
- 2) 次のフェーズへの準備

TSL（Two Step Loan）の円借款は40億円を40年間貸し付けるが、個別のサブプロジェクトの返済期間は最長で10年（通常はより短期間で返済）であるため、回収された資金はリボ

ルビングファンドとして活用可能となっている。

既に、次の2つのプロジェクトに融資がなされている。

①Hoa Phatグループの製鉄所の排ガス発電（Hai Duong省）22MWへ約12億円

②Lam Son 工場の廃棄物を使用したバイオガス発電12.5MWへ約6億円

双方とも2012年 には、発電を開始する予定である。

技術 査のためのエネルギー診断は、初めに自社負担で診断してもらい、 査時に外部のコンサルタントが 用される。機器・機材の り12億円の貸し出し候補は、鉄鋼、セメント、食品、テキスタイルなどのエネルギー多消費産業であることが望ましいとしている。

当初、7つのサブプロジェクト候補があり、上記2つが承認され5つが 査中である。 りのサブプロジェクトはVDBの得意分野である、小水力案件に対する融資が検討されている。

表 2 - 5 省エネプロジェクトの進捗状況

	プロジェクト	詳細	事業者	ローン	実施状況
1	Thermal Generation Station (Stage 2)	Steel plant, Coke Kiln, Cogeneration Capacity : 22MW (Chinese Technology)	Hoa Phat Power Joint Stock Company (Hai Duong)	319 Billion VND -約12億円	査・承認済み。 251 Billion VND (約9.3億円) 貸付け済み (2012年6月時点)
2	Power Generation from Biogas	Capacity : 12.5MW (Indian Technology)	Lamson Sugar Joint Stock Company (Thanh Hoa)	165 Billion VND -約6.1億円	査・承認済み。 44 Billion VND (約1.6億円) 貸付け済み (2012年6月時点)

出所：調査団作成

(2) 査基準

VDBの融資基準として、サブプロジェクトの最低金 はなく、最高金 は再生可能エネルギーについてのみ5 Million USDである。省エネルギーには最低 も最高 も制約がない。

VDBからエンドユーザーへの貸し付け条件は、以下のいずれかである。（2009年5月22日署名のM/Dに記載。）

- 1) プロジェクト実施者は、年間エネルギー消費量が1,000原油換算トン（Tons of Oil Equivalent : TOE）もしくは3,000,000 kWh以上の大口需要者であり、省エネ機器の導入後、導入前に比べて見込めること。またエネルギー診断を受診しており、年間のGHG削減効果見込みが明確であること。
- 2) 機器リストの対象製品であること。（機器リストに載っていない場合でも、同等の費用対効果の見込める技術であれば、ローンの申請は可能。）

その他の条件としては機器据え付けが、2年以内で終わることである。クリーン開発メカニズム（Clean Development Mechanism : CDM）や地元への配慮なども 査基準とはならない。

借款契約（L/A）の調印前に実施された案件形成促進調査（Special Assistance for Project Formation : SAPROF）、及び案件実施支援調査（Special Assistance for Project Implementation : SAPI）で6つのサブプロジェクトが特定されたが、2010年～2011年の金融 機を受けて、プロジェクト申請者が融資を したり、融資基準を満たさなかったりしたため、サブプロ

プロジェクトはすべて入れ わっており、引き続き再検討されている状況である。

MOITはL/A調印前の案件形成段階では、意見交換のためプロジェクトに関与していたが、案件実施段階に入っては 査やモニタリングには関与していない。

VDBは、 査にかかる経費などを勘案し、数 円から数千 円程度の融資に対して消極的であるため、1億円から数十億円程度の規模感のサブプロジェクトを検討する 向にある。

(3) 連携可能性

ベトナム省エネルギー・再生可能エネルギー促進事業（ツー・ステップ・ローン）と省エネルギー研修センター設立支援プロジェクトとの連携可能性は、以下のとおりである。

- 1) 2012年9月現在で40億円の内、22億円分のサブプロジェクトが未確定。
- 2) 円借款は40億円を40年間貸し付けるが、個別のサブプロジェクトの返済期間は最長で10年（通常はより短期間で返済）であるため、回収された資金はリボルビングファンドとして活用可能。
- 3) エネルギー管理制度や診断制度は、年間エネルギー消費量が1000TOE以上の指定事業者を対象としており、エネルギー診断も義務づけることから、現在の 査方法の2項目をカバーしている。
- 4) 研修センタープロジェクトで、模 診断等を実施し、指定事業者のなかから20%の省エネ効果が期待される省エネ設備・技術の案件発掘ができれば、VDBのツー・ステップ・ローンの申請につながる可能性がある。

2-6-2 気候変動対策プログラムローン（SPRCC）

気候変動対策プログラムローン（Support Program to Respond to Climate Change : SPRCC）のポリシーマトリックスへの反映に係る提案

SPRCCは、気候変動に資する政策対話の実施を促進するための一 財政支援である。借款は、ベトナムMOFの一 会計に入り、その使い道はベトナム政府に任されている。JICAは2009年より 組みを導入し、AFDの協力とともに、WB、CIDA、AusAID、KOREA EXIMBANKと参加ドナーを増やし、SPRCCを推し進めてきた。JICAのコミット は毎年100億円であり、参加ドナー最大である。

SPRCCについては、JICAが省エネルギー分野のリードドナーであること、省エネにかかるC/P機関がMOITであること、ベトナム側が2011年から2012年にかけて省エネルギーの主要な法令を制定させて実施に移すタイミングであること、また省エネルギー研修センター設立支援プロジェクトがSPRCCに付 した有償付 技術協力プロジェクトであることから、積極的な連携が求められる。

2-7 省エネルギー研修センター設立支援プロジェクト（ステージ1）活動概要

本事業の実施に当たって、省エネルギー研修センターの活用に係る法的位置づけ及び研修センターのサイト選定が重要であったため、JICAではこれらを促進するために、研修センターのサイト選定までの準備段階として、2011年9月から2012年9月まで「省エネルギー研修センター設立支援プロジェクト（ステージ1）」を実施した。ステージ1では、長期専門家を派遣し、省エネルギー

一実技研修に係る本邦研修を実施するとともに、省エネルギー政策・技術紹介に係るセミナーを開催した²⁸。また、エネルギー管理制度の運用に伴って必要となるエネルギーデータ管理・分析に係る短期専門家を派遣するとともに、エネルギーデータ管理研修に係る本邦研修を実施した。各投入の詳細は、表2-6に示す。ステージ1の協力を通じて、実技研修を含む研修センターの資格基準が省令に反映され、2012年7月に対象サイトがホーチミン市商工局（Department of Industry and Trade, Ho Chi Minh City : DOIT-HCMC）傘下のプラスチック・ゴム技術・省エネルギー研修センター（PRET）に決定した。

表2-6 省エネルギー研修センター設立支援プロジェクト（ステージ1）の投入

No.	投入	名	期間
1	長期専門家	省エネルギー政策・制度専門家	2011年9月～2012年9月
2	短期専門家	エネルギーデータ管理・分析専門家	2011年10月～2012年1月
3	本邦研修	省エネルギー実技研修	2011年8月
4	本邦研修	エネルギーデータ管理研修	2011年11月～12月

²⁸ 省エネルギー政策・技術紹介のセミナーは、世界省エネルギー等ビジネス推進協議会（JASE-W）との共催により実施し、2012年12月12日にハノイ、12月14日にホーチミンで実施した。

第3章 調査結果

3-1 プロジェクトの基本計画・概要

本事業は、ベトナムにおいて、エネルギー管理士及びエネルギー診断士育成のための研修カリキュラム、研修テキスト、実習機材を整備し、研修講師を育成することにより、エネルギー管理士及びエネルギー診断士の育成に必要な能力を有する研修センターが設立され運用できるようになることを図り、指定事業者の省エネルギー活動の推進に寄与するものである。

3-2-1 プロジェクト概要

(1) 上位目標

省エネルギー法下の指定事業者における省エネルギー活動が推進される。

(2) プロジェクト目標

エネルギー管理士、及びエネルギー診断士の育成に必要な能力を有する研修センターが設立され運用できるようになる。

<成果>

- 1) エネルギー管理士及びエネルギー診断士育成のための、研修カリキュラム、テキスト、実習機材が整備される。
- 2) C/Pが、エネルギー管理士育成のための実技研修を実施できるようになる。
- 3) C/Pが、エネルギー診断士育成のための実技研修を実施できるようになる。
- 4) C/Pの企業に対する省エネルギー活動の普及啓発能力が、強化される。

<活動>

- 1-1 ベースライン調査を実施する。
 - 1-2 研修センターに常勤の熱・電気分野講師、運営スタッフが配置される。
 - 1-3 カリキュラム、テキスト、試験制度に関するワーキンググループを設置する。
 - 1-4 DANIDA版、MOIT版カリキュラム・テキストのレビューを行う。
 - 1-5 実習カリキュラム・プログラムを整備する。
 - 1-6 実習機材を整備する。
 - 1-7 スペアパーツリストを含む、機材運転・維持管理マニュアルを整備する。
 - 1-8 実習テキストを整備する。
 - 1-9 試験・資格制度を整備する。
 - 1-10 必要な法令への反映を行う。
-
- 2-1 ホーチミンの研修センターに、エネルギー管理士研修の講師が配置される。
 - 2-2 実習機材の運転・維持管理の指導を行う。
 - 2-3 実習機材による研修実施の指導を行う。
 - 2-4 エネルギー管理士の試行研修を実施する。

- 3-1 ホーチミンの研修センターに、エネルギー診断士研修の講師が配置される。
 - 3-2 実習機材の運転・維持管理の指導を行う。
 - 3-3 実習機材による研修実施の指導を行う。
 - 3-4 エネルギー診断士の試行研修を実施する。
 - 3-5 工場・ビルにおける試行エネルギー診断を実施する。
-
- 4-1 企業に対する省エネルギー技術・制度に関するワークショップを実施する。
 - 4-2 MOIT、DOIT、大学など省エネルギー関係機関間の省エネルギー推進のためのネットワークを構築する。

<協力期間>

2013年7月～2015年12月（30カ月）を想定。

<プロジェクトサイト/対象地域名>

想定されている活動の内、エネルギー管理士及びエネルギー診断士育成のためのカリキュラム、テキスト、試験・資格制度の整備は、中央政府であるMOITの管轄のため、国家資格制度構築支援はハノイで実施し、実習機材による実技研修を実施は地方行政であるDOITの管轄のため、省エネルギー研修センター設立支援はホーチミンで実施する予定である。

- ・ハノイ（国家資格制度構築支援）
- ・ホーチミン（研修センター設立支援）

<実施体制>

1) ベトナム側

- ・商工省（MOIT）
- ・ホーチミン市商工局（DOIT-HCMC）
- ・プラスチック・ゴム技術・省エネルギー研修センター（PRET）（ホーチミン）

ハノイ省エネルギー研修センターがタイミングよく設立された場合には、ハノイ側の講師を、本邦研修及びホーチミン人材育成に参加させることを可能とする。

2) 日本側

- ・長期専門家、コンサルタント業務実施契約、機材調達契約により本格協力を実施予定。

<投入>（予定）

a) 長期専門家：1名

- ・省エネルギー制度/業務調整

b) 短期専門家：8名

- ・省エネルギー（法令支援）
- ・省エネルギー（試験・資格）
- ・省エネルギー（電気）
- ・省エネルギー（熱）

- ・省エネルギー（機材計画）
- ・省エネルギー実習（電気）
- ・省エネルギー実習（熱）
- ・省エネルギー実習（機材運転管理）

- ・本邦研修（4回）
 - エネルギー管理士実技研修（1回目、2回目）
 - エネルギー診断士実技研修（1回目、2回目）

3 - 2 評価 5 項目による分析

3 - 2 - 1 妥当性

本プロジェクトは以下の4点の理由から、妥当性が極めて高いと判断できる。

(1)（先方政府の政策との整合性）

本プロジェクトは、上位目標として「省エネルギー法下の指定企業における省エネルギー活動が推進される。」ことにあり、国家省エネルギープログラム（VNEEP（2006～2015年））、2010年に施行されたベトナムエネルギー法（Law on Energy Efficiency and Conservation）、及び第7次国家電力開発計画（マスタープラン）：“7th National Power Development Plan : PDP7th” などの上位政策とも整合性がとれている。

(2) 日本政府の援助政策との整合性

本プロジェクトは、ベトナム国の国別援助計画の4つの重点分野の内、省エネルギーを通じて「経済成長促進・国際競争力強化」に資するものであり、省エネルギーに関する技術支援を通じて、人材育成を含む支援を行うことができる。資源・エネルギー安定供給の視点でも省エネルギーは、資源・エネルギー確保につながる。

「環境保全」面でも省エネルギーはCO₂排出削減を通じて、都市環境管理、自然環境保全につながることとなる。

(3) 日本の省エネルギー経験の活用

ベトナム国において法制度整備で強化・導入予定の措置の多くは、わが国が省エネ法などによって既に導入済みのものであること、過去にわが国が各国において実施してきた省エネルギー分野支援経験の蓄積があることから、技術協力を実施する際に、わが国の経験や技術を活用することができる。

(4) 他国ドナー支援との相互補完

DANIDAは2006年から2011年までVNEEP（Phase1）を支援し、エネルギー管理士・診断士研修の座学カリキュラム及びテキストを整備してきた。また、UNDP/UNIDOはISO50001の普及を目的とした技術協力を展開している。他機関の支援が理論中心であるのに対し、本プロジェクトにおける支援は機材を使った実務研修を含む本格的な研修であり、こうした他ドナー支援との相互補完による相乗効果を出していくことで、本調査協力の妥当性が高

くなる。

3-2-2 有効性

プロジェクト目標は、「エネルギー管理士及びエネルギー診断士の育成に必要な能力を有する研修センターが設立され運用できるようになる」である。

現在ステイクホルダーであるMOIT、DOIT-HCMC、PRET間で、今後どのような責任分担でどのような活動を進めていくかという具体的な計画がなく、DOIT-HCMC及びPRETがMOITからの指示を待っているという状況にある。その一方で、MOITにも主体的に計画を進めていく様子がなく、研修センター設立を進めていくプロセスが不明確である。

プロジェクト成果からプロジェクト目標に至るまでの外部条件は、以下の点が挙げられるが、引き続き、状況を継続的に確認していく必要がある。

- 1) プロジェクトに必要な予算や事務所、施設が割り当てられる。
- 2) 省エネルギー関係国内諸機関の協力が得られること。
- 3) 研修を受けたエネルギー管理士が、職場スタッフを巻き込んで省エネルギー活動を実践すること。
- 4) 研修を受けたエネルギー診断士がデータに基づき、省エネ効果を考慮したエネルギー診断を実践すること。

3-2-3 効率性

本プロジェクトは、以下の理由から条件付きで効率的な実施が見込まれる。

- 1) 本プロジェクトでは、包括的かつ体系的な支援体制を構築するため、日本人長期専門家（省エネルギー制度/業務調整）と日本人短期専門家（技術）の組み合わせにより実施する。前者はプロジェクト計画の作成支援を行い、MOIT及び各省エネルギー研修センターのニーズを確認しながら、支援体制を構築する。後者は、技術的な分野について、チームの各専門家が横断的に展開する。また、本邦研修も有機的に組み合わせることができる。これらの有効な投入により、期待される効果を達成することができる。
- 2) MOIT、JICA及びDANIDAの訓練教材の間での適切なコーディネーションが望まれる。
- 3) 現時点において直接支援先のPRETは、省エネルギーのトレーニングを担う人的資源が不足している一方、周辺の大学、省エネルギーセンター、コンサルタント事務所には一定の人材プールがあるため、一層の外部人材の登用や連携し組織体制を強化することが望まれる。

3-2-4 インパクト

上位目標「省エネルギー法下のエネルギー多消費事業所における省エネルギー活動が推進される。」について、次のようなインパクトが期待できる。

(1) 制度面でのインパクト

省エネルギー研修センターは、省エネルギーに関して、理論だけでなく、実習も含めた、高い水準の訓練機会を提供する組織として、資格取得の必須の研修機関となる。

(2) 技術面でのインパクト

ベトナム国で省エネルギーの理論、実習の本格的な訓練を行うのは、本プロジェクトが最初の試みである。機材を通じた実習訓練が行われるようになり、訓練生への技術移転の面で、より効果的でレベルの高いものとなる。

以下の外部条件が満たされることが本プロジェクトのインパクトを高め、上位目標の達成につながるようになる。

- ・ベトナム国政府が産業のエネルギー管理活動を継続的に支援する。

3-2-5 自立発展性

本プロジェクトの自立発展性は、以下のような取り組みが担保される必要がある。

(1) 政策、制度/組織

1) 関係機関との連携確保

ステイクホルダーであるMOIT、DOIT-HCMC、PRETの間の連携体制の強化、役割分担の明確化が必要である

2) 省エネルギーデータベース整備による省エネルギー効果のフォロー

省エネ効果をフォローするには、省エネルギーに関するデータベースの構築整備が必要となる。

エネルギー多消費事業所の年次報告書のエネルギー消費量データの精度向上により、エネルギー多消費事業所の省エネ効果を的確に把握できる。MOITは、ベトナム全体のエネルギーバランスデータベースの整備を行うための準備を進めているが、その進捗を見る必要がある。

3) 省エネルギー削減目標値の設定

上記に関連して現在、省エネルギー削減目標値が定められていないため、省エネルギー効果を判断することが難しい。

(2) 財政

1) エネルギー管理士、エネルギー診断士の市場の不確定

現時点においてエネルギー管理士、及びエネルギー診断士の需要が正確につかめていないことは、持続性確保の点から懸念事項である。

MOIT及びDOITがエネルギー多消費事業所のエネルギー管理者任命の促進を図り、エネルギー管理士資格者の必要数を把握する必要がある。

毎年1月15日現在のエネルギー多消費事業所数により、年次別エネルギー管理士研修コース実施スケジュールを作成することが重要である。

2) 予算、収入の確保

ベトナム側におけるプロジェクト目標達成に必要な財源の継続的な確保が必要である。

研修員の募集強化、及び研修コースの多様化（エネルギー管理士研修の他に、産業業種別研修コースなど）により、収益性を向上する。

MOITは、省エネルギー研修センターの収支計画、及び事業所負担能力を考慮して、省令 39/2011 TT/BCT Art. 8 Paragraph 1-b)-4に記載している研修料金を決める必要がある。

(3) 技術

1) 研修コースの持続性

省エネルギー研修が持続するメカニズムが構築される必要がある。

カリキュラム、教材、資格制度のアップデートは本プロジェクトの持続性を確保する上で重要である。

2) 技術継承

技術研修については、当初はHCMUTやエネチーム（Energy Conservation Research Development Center : ENERTEAM）等からの協力により講師派遣を頼むが、次の段階としては省エネルギー研修センター内部の技術者が、選抜により育成され研修トレーナーとなることが求められる。こうした省エネルギー研修センターの技術蓄積が必要である。

3 - 3 技術協力実施上の留意点

3 - 3 - 1 上位目標

省エネルギー法の下で、エネルギー管理制度とエネルギー診断制度の対象となる指定事業者の数は特定されているものの、今後、育成すべきエネルギー管理士やエネルギー診断士の数や指定事業者のエネルギー消費削減目標等は定められておらず、詳細計画策定調査のプロジェクト・デザイン・マトリックス（Project Design Matrix : PDM）においても定量的な目標値が定められていないため、本格協力におけるベースライン調査で特定されることが求められる。

3 - 3 - 2 法律への反映

省エネルギー法の下では、省エネルギー実技研修が位置づけられていることから、本事業で供与予定である実習機材は、一定の割合で使用される目途が立っている。しかしながら、本事業で支援予定である試験・資格制度や省エネルギー実技研修のカリキュラム・テキストは、今後、MOITの大臣指示によって定められる予定であることから、これらの必要な法律への反映に係る支援が求められている。

3 - 3 - 3 組織体制

(1) MOIT、DOIT、人員委員会の連携

本事業では、想定されている活動の内、エネルギー管理士及びエネルギー診断士育成のためのカリキュラム、テキスト、試験・資格制度の整備は、中央政府であるMOITの管轄のため、国家資格制度構築支援はハノイで実施し、実習機材による実技研修の実施は地方行政であるDOITの管轄のため、省エネルギー研修センター設立支援はホーチミンで実施する予定である。MOIT、DOITの力関係は歴然としており、MOITの指示によりDOITは直ちに動くが、DOITはMOITに対する影響力がほとんどないため、本事業では、より上流であるMOIT関係者にグリップを利かせることが非常に重要である。また、指揮命令系統は、MOITから

DOITへと行われるが、予算要求は通常、各地のDOITから各地の人民委員会に対して行われるため、プロジェクトの円滑な実施のためには、MOIT、DOIT、人民委員会の連携が求められる。

(2) MOITの組織体制

ベトナムにおける省エネルギー推進活動は、C/P機関であるMOITエネルギー総局科学技術省エネルギー局（Energy Efficiency Office : EEO）が推し進めてきた。本事業においては、同局局長のMr. Phuong Hoang Kimが推進してきたが、詳細計画策定調査後の2013年2月をもって異動することとなり、2013年3月現在、後任は未定となっている。当面、MOITの窓口は、エネルギー総局副総局長であるMr. Cao Quoc Hungが代理決裁を行い、EEO副局長であるMr. Nguyen Van Longが技術的な内容をフォローする予定である。今後、MOITの組織体制を注視するとともに、本事業の円滑な実施に向けて、良好な関係を構築することが求められている。

(3) DOIT-HCMC・PRETの組織体制

PRETは、講師の確保に尽力しており、組織体制の整備を進めているものの、過去の実績がほとんどなく、現在確保できている講師陣（常勤3名、非常勤2名）の能力は未知数である。そのため、ホーチミン近郊のホーチミン工科大学（HCMUT）やホーチミン電力大学（HEPC）との連携・協力が求められている。また、必要に応じて、10年以上の省エネルギー推進活動の実績がある、ホーチミン省エネルギーセンター（Energy Conservation Center, Ho Chi Minh City : ECC-HCMC）との連携・協力も求められるが、同組織は科学技術省（MOST）傘下であり、縦割行政であるベトナムにおいて、本事業のC/PであるMOIT及びDOIT-HCMCと相容れない関係であることも見受けられるところ、連携・協力については慎重に検討されるべきである。

(4) ハノイ省エネルギーセンター（ECC-HN）との連携

MOITとの協議の結果、JICAの省エネルギー研修センター設立支援はホーチミン市（DOIT-HCMC及びPRET）に対して行われることが、MOIT副大臣のレターにて定められている。しかしながら、ハノイの省エネルギー研修センターの設立は、ベトナム側で粛々と進められており、タイミングが合えば、本事業でハノイ側の講師も招聘し、本邦研修やホーチミンでの人材育成に参加してもらえよう詳細計画策定調査のミニッツで整理している。このため、ハノイにおける省エネルギー研修センターの設立状況及び組織体制を注視し、必要に応じて、連携・協力することが求められている。また、ハノイにおいても、ECC-HNの研修能力が限定的であるため、ハノイ工科大学（HUST）や電力大学（Electric Power University : EPU）の協力は必要と思われる。

3-3-4 ベトナム側の予算措置について

PRETは、実習機材の納入先となる見通しだが、壁の補強、空調、トレンチなど、施設の改修は必須となる見通しである。これらの施設改修費は、ベトナム側で工面される予定であるが、PRETがDOIT-HCMC経由で、MOITに対して予算要求するのか、ホーチミン人民委員会に予算要求するのか、もしくはPRETの自己資金で賄うのか、見通しが立っていない。通常、ベトナムの翌年度国家予算の予算要求は、毎年10月に締め切られるため、施設改修など、ベトナム側の予算措置に必要となる情報について整理し、タイミングよく、先方に共有することが求められる。

3-3-5 理論カリキュラム・テキストのレビュー

エネルギー管理士研修・エネルギー診断士研修の理論カリキュラム・テキストのレビューについては、実技カリキュラム・テキストと整合性が取れるような範囲で見直し、必要な項目について追加することが強く求められる場合には、本事業で対応することを予定している。しかしながら、既存カリキュラム・テキストを全面改訂することは想定していない。これらの事項については、MOIT及びMOIT-WGと連携・協力しながら、作成支援することを想定している。

3-3-6 実習機材の納入先

実習機材は、PRETのHiep Phuoc工業団地内の研究所に納入される予定である。また、機材の所有権はDOIT-HCMCに属することを予定している。これらは、本事業のMOUで整理されている。機材供与要請書（A4フォーム）については、DOIT-HCMCが起案し、MOITの承認を得ることで手続きを進める予定である。本事業の機材輸送の際に、ベトナム側の免税措置を得るためにはA4フォームの取り付けが必須であり、本事業で取付状況を注視し、必要に応じてフォローすることが求められる。

3-3-7 円借款との連携

本事業で支援予定であるエネルギー管理・診断制度の構築は、有償資金協力「気候変動対策プログラムローン」のポリシーアクションとして位置づけられているため、有機的な連携が求められている。また、同制度の導入に伴い、省エネ機器や設備に対する優遇税制、補助金制度、低利融資などが求められており、有償「省エネルギー・再生可能エネルギー促進事業」のツー・ステップ・ローンやリボルビングファンドの案件発掘やエネルギー診断において、本プロジェクトとの連携が期待されている。

3-3-8 他ドナーとの連携

(1) 他ドナーとの連携

DANIDAは2006年から2011年まで、エネルギー管理士・診断士に係る、理論研修（座学）のカリキュラム及びテキストの整備を実施している。また、2012年以降は、産業部門の多消費産業別にエネルギー診断のテキストを作成しているため、本事業において、情報収集すると共に、必要に応じて、エネルギー診断士研修にて連携することが望まれる。

また、UNDPとUNIDOはエネルギー効率等の改善を目的としたISO50001の導入に係る支援を実施しているため、情報収集を行い、動向に注視することが求められている。

(2) 国内関連事業との連携

ベトナム国では、当機構の技術協力プロジェクト等に加え、経済産業省による委託事業や、二国間オフセットクレジット制度（Bilateral Offset Credit Mechanism：BOCM）のF/S事業など、省エネルギー推進に係る事業を実施している国内機関が多数存在するため、情報交換を密に行い、必要に応じて、連携・協力することが望まれる。

3-3-9 日本の技術紹介

本事業で支援する省エネルギー研修センターには、将来のエネルギー管理士やエネルギー診断士の卵が一同に会する場となるため、必要に応じて、日本の省エネルギー設備・技術の紹介を行うことで、日系企業への裨益を確保する狙いがある。本事業のステージ1では、日本の業界団体である世界省エネルギー等ビジネス推進協議会（Japanese Business Alliance for Smart Energy Worldwide：JASE-W）省エネルギーソリューション部会と連携し、省エネルギー政策・技術を紹介するセミナーを共催した実績がある。ステージ2においても、JASE-W等との業界団体と連携し、優位性があると思われる、日本の省エネルギー設備・技術を紹介する場を提供し、官民連携を促進することが期待されている。

3-4 その他

3-4-1 団長所感

本調査の目的は、2012年6月に省エネルギー実務研修サイトがホーチミン市のPRETに内定したことを受け、ステージ1（2011年8月～2012年9月）に引き続き、ステージ2として要請中の機材供与を含めた省エネルギー研修センター設立支援の事前評価を行うとともに、本格協力に係わる詳細計画策定調査を実施して、実技研修プログラムなど関係機関と協議、合意文書の協議・署名を行うことである。

そのため、調査団は、先ず、候補サイトとして挙げられたホーチミン市PRETを視察、引き続き、ハノイに移動して関係機関と協議を重ねるとともに、本協力が連携を期待される「気候変動対策プログラムローン」の現況について、派遣中のJICA専門家と意見交換を行った。

(1) ステージ2のタイミング・意義について

ベトナムは、急激な経済成長を遂げるなか、近年は、エネルギー/GDP弾性値（エネルギー消費量の増加率とGDPの増加率の比）が継続的に1.0を上回る状況にあり、その値はアジア諸国に比較しても高く、エネルギーの効率的利用及び温暖化への寄与には課題がある。これは旺盛な経済活動による持続発展と比較的エネルギー資源が豊富なことから、エネルギーの効率的利用、省エネルギーに対するエンドユーザーの関心の低いことが挙げられる。2015年にはエネルギーの純輸入国への転換も懸念される一方、ベトナム国政府は、2006年国家省エネルギープログラム（2006～2015年）を策定、エネルギーを効率的に運用する社会経済構造の形成への取り組みを強化しつつあり、2011年1月には省エネ法を施行し、関連法令の整備や制度設計など順次進めつつある。こうしたなか、DANIDAの支援により省エネルギー人材の育成にも努めるが、実務技術研修への支援は、日本自身の体験やこれまでの経済産業省、JICAにおける省エネルギー支援の経験・実績からも、効果的な人材育成・資格制度、制度運用には、不可欠なものであり、同国に対するWB、ADB、UNIDOなどの他機

関による省エネルギー協力にはない独自性をもつものであるさらに、フェーズ2技術協力は、円借事業として遂行中の省エネルギー・再生可能エネルギー促進事業（省エネTSL）との連携による相乗的な効果も期待でき、その時宜と併せて、本協力の意義は極めて高いと所感する。

(2) C/P機関について

エネルギー消費効率の向上は、国家的には省資源による財政負担の緩和と同時に、優れてエネルギーコスト節減によって、利益の増大の見返りを期待する個別企業や商業ビル現場の課題でもある。本協力の直接のC/P機関は、ホーチミン市商工局（DOIT HCMC）、ハノイ市商工局（Department of Industry and Trade, Hanoi : DOIT-HN）というベトナムにおけるエネルギー多消費地域に集積する製造業、商業ビルを管掌する行政組織であること、両機関ともその上位政策は商工業省によることから、国家的な省エネルギー政策と省エネルギーの現場をつなぐ中継組織として、政策の実効性を担保するには効果的な位置づけにある。一方、市の商工局の予算措置は、首相府に属し、MOITとは同格の各地方自治体が決める仕組みになっており、これら上部の組織間の調整が、研修センターの持続発展性に影響する懸念なしとはしない。

この意味では、既に組織の財務の運営に経験のあるPRETがセンターの運営に関与する意味は大きい。本協力が円滑な実施については、JICA側からも適宜働きかけて、上位政策当局と省エネルギー政策対話のような場を設けることも効果的である可能性がある。

本調査時点では、C/Pとして技術移転対象者となる省エネルギー職員数は、近未来の増員が言われるものの、数名程度に留まっている。C/Pの人選と日本研修の効果的な実施も含めて、技術移転の実効性をよく勘案したプロジェクトとなるように検討することも課題となろう。また、省エネルギー人材の供給力の増強の観点からは、ホーチミン省エネルギーセンター（ECC-HCMC）との連携は適切であろう。ただし、ECCの上部組織は、やはり首相府では同格にある科学技術省（MOST）であることから、省エネルギーの実効性については、MOIT、地方人民委員会（PC）、MOST間の調整や協力を注視することも重要であろう。また、日本研修では、本プロジェクトが省エネ政策と執行を中心とする技術移転であるという観点からは、同国の省エネルギーマネジメントにインパクトを及ぼすような研修計画を立案する観点が重要となろう。

(3) 研修サイトについて

PRETは、実務研修サイトのインフラとしては、トルコ、イランなど類似プロジェクトサイトと比較しても、場所、スペースとも遜色はない。ただし、研修機材の据え付け、設備の運転に必要な電気、水、燃料などユーティリティ設備の詳細設計・施工・試運転、廃棄物の処理や安全配慮については、PRET側の責任であるものの、これら設備に関するローディングデータの提供はJICA側にあるので、円滑な実地研修環境の整備には、JICAと機器供給業者との契約も含めて、PRET側の能力をよく見極める必要性はあるだろう。

(4) JICA側の支援リソースについて

本協力は、2つの側面がある。研修教材と機材を活用した省エネルギー診断技術の向上という実務研修支援の側面と、省エネルギー関連法令の遵守など、企業の組織におけるエネルギーマネージメント手法の定着への支援の側面である。この2側面は、省エネルギーの実効性を担保するために横断的に相互依存する関係にある。日本側の専門家の人選では、これら側面への配慮とともに、C/Pの配置や各人の能力に見合った日本側専門家の派遣計画など、できるだけ柔軟な体制を整備しておくことが重要であろう。

(5) その他

2011年1月の省エネ法を施行は、同国が挙げて省エネルギー社会の形成に向かうべき明確な出発点といえる。一国における省エネルギーの進展には、省エネルギーに関するエネルギー消費者の省エネ意識を高め、社会的関心度を高めること、ベトナム国内における省エネルギー関連機器の製造能力が高まることなども重要である。そのためには、エネルギー料金の価格設定、省エネルギー機器導入に向けた財政支援など経済的な手法に加えて、省エネルギーに関する広報活動の強化、省エネルギー意識・文化の醸成とキャンペーン予算の確保など、省エネルギーに関する啓蒙側面を取り込む必要がある。本プロジェクトも、プロジェクト活動のあらゆる局面で、セミナー、ワークショップの開催などプロジェクトスコープのなかで、適宜実施することも本プロジェクト目標の確実な達成から、プロジェクトの自立発展性を担保する鍵となるであろう。

さらに、本プロジェクトの効果を最終的に確認するには、プロジェクトの間接インパクトとして評価される民間セクターにおける省エネルギー投資の増加がポイントとなる。そのため、プロジェクトの実施のなかでは、将来の投資プロジェクトとなり得るグッドプラクティスを提案するなど、具体的なモデルプロジェクトの検討までも視野に取り込む拡がりのある協力の姿勢も重要である。このためには、同国の関係政府機関や金融セクター、エネルギー消費セクターとの丁寧なプロジェクト対話と協力を通じて、現在、進行中の環境ローンも含めた資金ソースとの連携と活用を模索する方向性も強く求められる。とくに、京都メカニズムを触媒とする省エネルギープロジェクトの形成は、一石二鳥のインパクトをもつものとして鼓舞されるべきである。

3-4-2 PRETの準備事項

省エネルギー実習に係る研修機材は、ベトナム国内港でベトナム側に引き渡され、省エネルギー研修センターまでの国内輸送作業及び据付工事は、原則的にベトナム側の費用負担で実施される見通しであるが、詳細については本格協力のなかで整理される予定である。研修機材据付工事の指導員は日本から派遣される予定である。供与予定の研修機材（案）を表3-1に示す。また、PRET内に準備されている省エネルギー研修センターの施設・設備を表3-2に示す。PRET研究所建屋の図面は、付属資料18.を参照のこと。

表 3 - 1 研修機材リスト（案）

No.	研修機材	備 考
1	燃焼炉	燃料：LPG
2	オープンバーナー装置	燃料：LPG
3	蒸気ボイラ	
4	スチームトラップ装置	燃料：LPG 容量1 t/h
5	ポンプ装置	
6	ファン装置	
7	圧縮空気装置	
8	照明装置	
9	エネルギー診断用可搬式測定器	

出所：調査団作成

表 3 - 2 PRET内の省エネルギー研修センター施設・設備

No.	施設名	備 考
1	講義室及び準備室	PRETセンター2階に12m X 14mの部屋 講師室：2室、準備室1室を設置予定
2	講師室	PRET本部及びPRETセンター
3	JICA専門家室	PRETセンター内に2室あり。
4	実技研修ヤード	PRETセンター内に24m X 37mの屋内ヤード 床スラブ厚さ：250mm 隣接ヤード仕切り壁高さ：3.9m、壁厚さ：200mm
5	電源	380V、320A、50Hz、電圧変動率5%
6	用水	工業団地から飲料水規格で供給される
7	燃料	LPGをボンベで購入

出所：調査団作成

省エネルギー研修センター実技研修ヤードに必要な建築、及び土木工事（案）は表 3 - 3 のとおりであり、これらの工事は原則、ベトナム側の費用負担で実施される見込みである。

表 3 - 3 実技研修ヤードの建築・土木工事（案）

No.	建築・土木工事	備 考
1	道路拡張・舗装	燃焼炉の煙突及び冷却塔設置のため
2	燃焼炉煙突基礎工事	
3	燃焼炉冷却塔基礎工事	煙突高さ10m、重量3 t
4	LPGボンベ置場基礎工事	
5	冷却水配管用ピット工事	700mmW X 600mmD X 12mL
6	燃料配管用ピット工事	400mmW X 400mmD X 20mL
7	燃焼炉用ファン室	3m X 5m、ファン騒音遮断のため
8	予備品保管及び保守作業室	6m X 6m

9	照明実習装置室兼会議室	6m X 10m X 4mH、空調装置設置
10	場内照明設置	壁または天井に照明ランプ設置

出所：調査団作成

PRETは上記の研修機材の据付工事、及び実技研修ヤードの建築・土木工事の2013年度予算を人民委員会に申請するため、研修機材のレイアウト図及び費用積算資料をJICAに要求し、JICAは2012年10月までにこれらの資料を提供した。PRETに提出されたレイアウト図及び費用積算資料案は、付属資料19.を参照のこと²⁹。

²⁹ 2013年2月現在、ベトナム側による2013年度の予算措置は、ホーチミン人民委員会の予算不足から、承認されておらず、必要な予算が確保できていない。事業主体であるホーチミン商工局（DOIT-HCMC）は、2014年度予算を確保するため、商工省（MOIT）に対して予算要求の準備を行っている。本格協力では、DOIT-HCMCの予算要求に必要な情報を提供など、側面支援が期待されている。

付 属 資 料

1. 要請書
2. 署名したM/D
3. 署名したMOU
4. 省エネルギー法 (No. 50/2010/QH12)
5. 実施細則 (No. 21/2011/ND-CP)
6. 罰則令 (No. 73/2011/ND-CP)
7. 指定事業者リスト (2011年) (No. 1294 /QĐ-TTg)
8. 省エネルギーラベリングと最低エネルギー効率基準 (MEPS)
の対象機器リスト及び実施ロードマップ (No. 51/2011/QĐ-TTg)
9. エネルギー管理士・診断士の研修と資格制度にかかる省令 (No. 39/2011/TT-BCT)
10. 国家予算の調達にかかる省エネ機器リスト (No. 68/2011/QĐ-TTg)
11. 交通部門の省エネにかかる省令 (No. 64/2011/TT-BGTVT)
12. 省エネラベリングにかかる省令 (No. 07/2012/TT-BCT)
13. エネルギー管理報告及びエネルギー診断にかかる省令 (No. 09/2012/TT-BCT)
14. 副首相令 (No. 216/TB-VPCP)
15. ホーチミン人民委員会によるサイトの決定 (No. 4604 /QĐ-UBND)
16. JICA協力の対象サイトにかかる再確認のレター (No. 1116.2012/JICA-IF)
17. MOIT副大臣による対象サイトの決定 (No. 03/BCT-TCNL)
18. PRET研究所 (建屋図面)
19. レイアウト図及び費用積算資料案

APPLICATION FORM FOR JAPAN'S TECHNICAL COOPERATION

1. **Date of Entry:** Day 12 Month 7 Year 2010
2. **Applicant:** Ministry of Industry and Trade, the Socialist Republic of Viet Nam (MOIT)
3. **Project Title:** Establishment of Energy Management Training center
4. **Implementing Agency:**
 - 1) Energy Efficiency Office – Ministry of Industry and Trade (MOIT)
Address: No. 54 Hai Ba Trung street, Hanoi, Vietnam
 - 2) Energy Conservation Center of Ha Noi, Hanoi Department of Industry and Trade, Hanoi People's Committee
Address: No. 331 Cau Giay street, Cau Giay District, Ha Noi, Viet Nam

5. **Background of the Project**

Since 1990, as the energy issues including energy efficiency and conservation became the essential issue for the economic development, especially in the condition of limited resources and huge energy consumption which was growing rapidly, Vietnamese government has been paying lots of attention and effort to energy usage related issues. Since then, many activities in the sector of energy efficiency and conservation have been conducted.

In July 2008, the collaboration between Vietnamese Government and Japanese Government was started for the Study on Master Plan for Energy Conservation and Effective Use. Upon its completion, serious attention paid to Education and Training scheme for EE&C was pointed out by the Study as one of solutions for better energy management system in Vietnam. As a result, Vietnamese Government came up with the idea of establishing Energy Management Training center to secure the human resource for EE&C in future.

Besides, through the “Two-step Loan” program, Japanese Government is now providing Special Assistance for the Project Implementation for Energy Efficiency and Renewable Energy Promoting Project in Vietnam, among which more focus is put on Energy Efficiency Projects. In this connection, the establishment of the training center will supplement for the program aiming at enhancing energy efficiency in Vietnam.

On the other side, Vietnamese government has promulgated series of decisions and decrees relating to energy efficiency program and accelerated the financing of

state budget and other organizations.

In 17 June 2010, Vietnam National Assembly approved the Energy Conservation Law, which will take into force from 1st January 2011. This action shows the strong determination of Vietnam in pursuing the energy conservation goal.

The EEC Law stipulates the policies, rules and regulations relating management of the ownership (private sector, government sector) in exploiting energy resources and monitoring energy consumption process.

Specifically, the Law focuses on management measures which are utilized to obtain the energy efficiency sustainability. Regarding this, for the entities which are considered Designated Enterprises in energy consumption, it is a must for them to set up Energy Management System and have Energy Managers who need be trained and certified by a National standard Training system which is designed specifically for EE&C. In addition, those designated entities should be energy audited once every 3 years by accredited organization through Energy Auditors, and this also shows the needs for a standard training system.

In this circumstance, Vietnamese Government decided to ask for support of Japanese Government in establishing the Energy Management Training center. Upon the establishment of Certification system by end of 2010 and the completion of center construction by end of 2012, under support of JICA, the center is expected to provide training to energy managers and auditors who will be human resource for EE&C in Vietnam.

6. Outline of the Project

(1) Overall Goal

Energy Efficiency and Conservation of Vietnamese enterprises will be enhanced.

(2) Project Purpose

Energy Management Training Center will be established with proper capacity in providing necessary training for energy managers and energy auditors.

(3) Outputs

1. Operation, monitoring and evaluation system of the training center is established and managed effectively.
2. Theoretical and practical training curriculum for energy manager and auditor will be developed to meet the demand of training.
3. Capacity of Vietnamese counterparts are strengthened so that to ensure the

smooth operation and maintenance of the training center.

4. Energy manager and auditor trained by the center will pursue proper capacity for EE&C.

(4) Project Activities

(Vietnamese side)

1. Build up the center facility (land preparation, design and construction of center)
2. Ensure the synchronism between the operation of the training center and EE&C Law, also related Decrees, regulations etc.
3. Establish and secure the center management as well as proper administrative personnel
4. Ensure and secure running expenses for the operation of the center
5. Set up the examination and certification system for energy managers and auditors
6. Set up the operation and management system of the center

(Japanese side)

1. Support Vietnamese side in improving the Theoretical training curriculum and setting up the Practical training curriculum for energy managers and auditors
2. Implement the pilot training for energy managers and auditors
3. Provide Counterpart training in order to strengthen the capacity of concerned Vietnamese counterparts
4. Provide necessary equipments for the center so that to meet the demand of training for energy managers and auditors
5. Support Vietnamese side in setting up the operation and management system of the center
6. Support Vietnamese side in setting up the examination system for energy managers and auditors

(5) Input from Vietnamese side

- Center facility (including but not limited to lecture halls, laboratories, showrooms etc.)
- Running expenses for the center (cost for electricity & water, communication fee including telephone, fax, internet, and salary for Vietnamese counterparts at the center etc.)
- Personnel for center management and administration
- Office for JICA experts together with basic utilities

(6) Input from Japanese side

- Chief advisor
- Short term expert(s) in fields of Heat and Electricity management training
- Equipments which are necessary for the training of energy managers and auditors in the field of Heat and Electricity management training such as: pumping, fan, compressor, lighting, open burner etc.
- Counterpart training for Vietnamese counterparts

7. Implementation Schedule

From May 2011 to April 2014

8. Implementing Agency

1) Energy Efficiency Office – Ministry of Industry and Trade (MOIT)

Address: No. 54 Hai Ba Trung street, Hanoi, Vietnam

2) Energy Conservation Center of Ha Noi, Hanoi Department of Industry and Trade, Hanoi People's Committee

Address: No. 331 Cau Giay street, Cau Giay District, Ha Noi, Viet Nam

9. Related Activities

Theoretical training curriculum for training of Energy Manager, Energy Auditor is now in development progress by MOIT with support of DANIDA.

10. Gender Consideration

N/A

11. Environmental and Social Considerations

- Saving Natural resources.
- CO2 reduction
- Pollution reduction

12. Beneficiaries

- Capacity of Vietnamese counterparts who will be working at the center will be strengthened so that to ensure the smooth operation and maintenance of the center
- Energy managers and auditors who will be trained at the training center will pursue proper capacity for EE&C

- Designated enterprises in Vietnam will get benefit in developing and sustaining their energy management system
- In general, Vietnamese people will benefit from the project which help to improve EE&C and ensure the economic growth's sustainability

13. Security Conditions

14. Others

Screening Format

Question 1 Address of a project site

An area of over 20,000 m² of land at No. 15 in Mai Lam - Dong Anh district, Ha Noi, Vietnam

Question 2 Outline of the project

2-1 Does the project come under following sectors?

Yes No

If yes, please mark corresponding items.

- Mining development
- Industrial development
- Thermal power (including geothermal power)
- Hydropower, dams and reservoirs
- River/erosion control
- Power transmission and distribution lines
- Roads, railways and bridges
- Airports
- Ports and harbors
- Water supply, sewage and waste treatment
- Waste management and disposal
- Agriculture involving large-scale land-clearing or irrigation
- Forestry
- Fishery
- Tourism

2-2 Does the project include the following items?

Yes No

If yes, please mark following items.

- Involuntary resettlement (scale: households, persons)
- Groundwater pumping (scale: m³/year)
- Land reclamation, land development and land-clearing (scale: hectares)
- Logging (scale: hectares)

2-3 Did the proponent consider alternatives before request?

2-4 Did the proponent have meetings with related stakeholders before request?

- Yes
- Administrative body
- Local residents
- NGO
- Others

Question 3

Is the project a new one or an on-going one? In case of an on-going one, have you received strong complaints etc. from local residents?

- New
- On-going (there are complaints)
- On-going (there are no complaints)
- Others

Question 4 Name of laws or guidelines:

EEC Law

Is Environmental Impact Assessment (EIA) including Initial Environmental Examination (IEE) required for the project according to laws or guidelines in the host country?

- Yes
- No

If yes, please mark corresponding items.

- Required only IEE (Implemented, on going, planning)
- Required both IEE and EIA (Implemented, on going, planning)
- Required only EIA (Implemented, on going, planning)
- Others:

Question 5

In case of that EIA was taken steps, was EIA approved by relevant laws in the host country? If yes, please mark date of approval and the competent authority.

<input type="checkbox"/> Approved: without a supplementary condition	<input type="checkbox"/> Approved: with a supplementary condition	<input type="checkbox"/> Under appraisal
--	---	--

(Date of approval: _____ Competent authority: _____)

- Not yet started an appraisal process
- Others: JICA

Question 6

If a certificate regarding the environment and society other than EIA, is required, please indicate the title of certificate.

- Already certified
- Required a certificate but not yet done

Title of the certificate :

- Not required

Others

Question 7

Are following areas located inside or around the project site?

Yes No Not identified

If yes, please mark the corresponding items.

- National parks, protected areas designated by the government (coast line, wetlands, reserved area for ethnic or indigenous people, cultural heritage) and areas being considered for national parks or protected areas
- Virgin forests, tropical forests
- Ecological important habitat areas (coral reef, mangrove wetland, tidal flats)
- Habitat of valuable species protected by domestic laws or international treaties
- Likely salts cumulus or soil erosion areas on a massive scale
- Remarkable desertification trend areas
- Archaeological, historical or cultural valuable areas
- Living areas of ethnic, indigenous people or nomads who have a traditional lifestyle, or special socially valuable area

Question 8

Does the project have adverse impacts on the environment and local communities?

Yes No Not identified

Reason: Energy Management Training Center mainly provides training to energy managers and auditors which would contribute to Energy Efficiency and Conservation in Vietnam. In this regard, it has no adverse impacts on the environmental and local communities.

Question 9

Please mark related environmental and social impacts, and describe their outlines.

- | | |
|--|---|
| <input type="checkbox"/> Air pollution | <input type="checkbox"/> Water usage |
| <input type="checkbox"/> Water pollution | <input type="checkbox"/> Accidents |
| <input type="checkbox"/> Soil pollution | <input type="checkbox"/> Global warming |
| <input type="checkbox"/> Waste | <input type="checkbox"/> Involuntary resettlement |
| <input type="checkbox"/> Noise and vibration | <input type="checkbox"/> Local economy such as employment and livelihood etc. |
| <input type="checkbox"/> Ground subsidence | <input type="checkbox"/> Land use and utilization of local resources |
| <input type="checkbox"/> Offensive odors | |
| <input type="checkbox"/> Geographical features | |
| <input type="checkbox"/> Bottom sediment | |
| <input type="checkbox"/> Biota and ecosystem | |

Outline of related impacts:

Social institutions such as social infrastructure and local decision-making institutions

Existing social infrastructures and services

The poor, indigenous or ethnic people

Maldistribution of benefit and damage

Local conflict of interests

Gender

Children's rights

Cultural heritage

Infectious diseases such as HIV/AIDS etc.

Others

Question 10

Information disclosure and meetings with stakeholders

10-1 If the environmental and social considerations are required, does the proponent agree on information disclosure and meetings with stakeholders in accordance with JICA Guidelines for Environmental and Social Considerations?

Yes No

10-2 If no, please describe reasons below.

MINUTES OF DISCUSSION
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE MINISTRY OF INDUSTRY AND TRADE
ON
THE PROJECT FOR THE ESTABLISHMENT OF
ENERGY MANAGEMENT TRAINING CENTER

DATE: 13th September, 2012
PLACE: Hanoi,
The Socialist Republic of Vietnam

For
Japan International Cooperation
Agency

For
The Ministry of Industry and Trade


FOR Hiroshi Sumiyoshi
Director,
Energy and Mining Division 2,
Energy and Mining Group,
Industrial Development and Public
Policy Department
Japan International Cooperation
Agency


Phuong Hoang Kim
Director,
Science, Technology and Energy
Efficiency Department,
General Directorate of Energy
Ministry of Industry and Trade

I. INTRODUCTION

Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a survey mission (hereinafter referred to as "the JICA Mission") to the Socialist Republic of Vietnam from 26th August to 14th September, 2012 for the purpose of developing a detailed plan for the project for Establishment of Energy Management Training Center (hereinafter referred to as "the Project").

During its stay in the Socialist Republic of Vietnam, the JICA Mission exchanged views and held a series of discussions with the representatives of relevant organizations of the Socialist Republic of Vietnam.

As a result, the JICA Mission and the Ministry of Industry and Trade, the Government of the Socialist Republic of Vietnam, (hereinafter referred to as "MOIT") confirmed that both parties would sincerely cooperate with each other with a view to contributing toward smooth implementation and enhancing development effect of Support Program to Respond to Climate Change (SP-RCC) signed on 2nd November, 2011 and Energy Efficiency and Renewable Energy Promoting Project (EEREPP) signed on 10th November, 2009 by attaining the purposes of the Project.

Both parties agreed on the Project details and main points discussed during the survey as described in attached Memorandum of Understanding (hereinafter referred to as "MOU") which is subject to approval by the competent higher authorities on both sides.

In case both parties intend to modify any items described in the draft of MOU, they may hold a meeting to finalize the draft, if necessary. It is preferable that MOU will be signed within a month after signing of the Minutes of Discussions (M/D).

The Project will be carried out within the framework of the Agreement on Technical Cooperation signed on 20th October, 1998 and the Notes Verbale exchanged on 7th July 2011 between the Government of Japan and the Government of the Socialist Republic of Vietnam, and privileges, immunities and other benefits necessary for smooth implementation of the Project will be granted to the Japanese experts, missions and their families accordingly.



2. Others

Curriculum and Teaching Materials

The Vietnamese side iterated that in order to develop and integrate the curriculum and textbook suitable for the project under the Vietnamese context, a local coordinator or consultancy may be required.

Long Term Expert(s)

The Vietnamese side requested that a long term expert should be dispatched during the whole period of the project.

Cost for Equipment Installation

The Vietnamese side required that JICA will provide the information on the equipment installation such as tentative layout design and man months for budget preparation of the Vietnamese side by October 2012.

A handwritten signature in black ink, appearing to be 'Hadi', with a stylized flourish underneath.

(DRAFT)

**MEMORANDUM OF UNDERSTANDING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE MINISTRY OF INDUSTRY AND TRADE
ON
THE PROJECT FOR THE ESTABLISHMENT OF
ENERGY MANAGEMENT TRAINING CENTER**

DATE: XX XXX, 2012
PLACE: Hanoi,
The Socialist Republic of Vietnam

For
Japan International Cooperation
Agency

For
The Ministry of Industry and Trade

Motonori Tsuno
Chief Representative
JICA Vietnam Office

Hoang Quoc Vuong
Vice Minister
Ministry of Industry and Trade

For
The Department of Industry and Trade
Ho Chi Minh City

Nguyen Van Lai
Director
Department of Industry and Trade
Ho Chi Minh City



I. INTRODUCTION

Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a survey mission (hereinafter referred to as "the JICA Mission") to the Socialist Republic of Vietnam (hereinafter referred to as "Vietnam") from 26th August to 14th September, 2012 for the purpose of developing a detailed plan for the project for Establishment of Energy Management Training Center (hereinafter referred to as "the Project").

During its stay in Vietnam, the JICA Mission exchanged views and held a series of discussions with the representatives of relevant organizations of Vietnam.

As a result, the JICA Mission and the Ministry of Industry and Trade, the Government of the Socialist Republic of Vietnam, (hereinafter referred to as "MOIT") confirmed that both parties would sincerely cooperate with each other with a view to contributing toward smooth implementation and enhancing development effect of Support Program to Respond to Climate Change (SPRCC) signed on 2nd November, 2011 and Energy Efficiency and Renewable Energy Promoting Project (EEREPP) signed on 10th November, 2009 by attaining the purposes of the Project.

The Project will be carried out within the framework of the Agreement on Technical Cooperation signed on 20th October, 1998 (hereinafter referred to as "the Agreement") and the Notes Verbale exchanged on 7th July 2011 between the Government of Japan (hereinafter referred to as "GOJ") and the Government of Vietnam (hereinafter referred to as "GOV"), and privileges, immunities and other benefits necessary for smooth implementation of the Project will be granted to the Japanese experts, missions and their families accordingly.

Appendix 1: PROJECT DOCUMENT

Appendix 2: MAIN POINTS DISCUSSED



PROJECT DOCUMENT

I. BACKGROUND

In recent years, Vietnam is growing at a GDP growth rate of 6% to 7% per year, yet the energy consumption rate is growing at a faster rate of over 10% per year. In order to secure sustainable economic development, energy utilization including energy efficiency and conservation are seen as an essential issue. GOV has been implementing many activities in the energy efficiency and conservation sector such as the Vietnam National Energy Efficiency Program (VNEEP) from 2006 to 2015.

From 2008 to 2009, JICA implemented “the study on Master Plan for Energy Conservation and Effective Use” in Vietnam and made recommendations on energy efficiency policy measures. Upon its completion, GOV decided to utilize the recommendations to formulate “the Law on Economical and Efficient Use of Energy” in January 2011.

Under this legal framework, the energy management system and energy audit system is introduced, and designated enterprises have an obligation to appoint energy managers, to submit annual and five year plan and reports, and to receive energy audits. Therefore, the human resource development of energy managers and energy auditors are recognized as one of the key issues for implementation.

GOV had acknowledged the need for human resource development and officially requested “the Project for Establishment of Energy Management Training Center” to GOJ in July 2010. Under the support of JICA, the center is expected to provide not only theoretical program but practical training to energy managers and energy auditors who will become the key human resource to promote EE&C in designated enterprises in Vietnam.

II. OUTLINE OF THE PROJECT

Details of the Project are described in the Project Design Matrix (PDM) (Annex 1) and the tentative Plan of Operation (Annex 2).

1. Title of the Project

The Project for Establishment of Energy Management Training Center

2. Overall Goal

Under the Law on Energy Efficiency and Conservation, energy management in designated enterprises is enhanced.

3. Project Purpose

The Energy Management Training Center is established for training Energy Managers and Energy Auditors.

4. Outputs

- (1) Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed
- (2) Human resources for implementation of training for energy manager is developed
- (3) Human resources for implementation of training for Energy Auditor is developed
- (4) Capacity of dissemination of energy conservation activities for enterprises is strengthened.

5. Activities

- (1) Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed
 - (a) Appoint the full time instructors of heat, electricity and staff of training center
 - (b) Establish working group on curriculum, textbook, and qualification tests
 - (c) Review curriculum and textbooks so far prepared by MOIT and DANIDA
 - (d) Prepare curriculum and program of practical training course for Energy Manager and Energy Auditor
 - (e) Install training facilities and equipment
 - (f) Prepare operation and maintenance manual including spare parts list of training equipment and measurement devices
 - (g) Prepare textbook of practical training course
 - (h) Establish examination system and qualification system of Energy Manager and Energy Auditor
 - (i) Inform the necessary revision contents of regulations on energy management and energy audit
- (2) Human resources for implementation of training for energy manager is developed
 - (a) Appoint instructors for training course of Energy Manager in HCMC

Training center

- (b) Carry out the practical training on its operation and maintenance
 - (c) Carry out the training on energy conservation by training equipment.
 - (d) Implement trial training course for Energy Manager
- (3) Human resources for implementation of training for Energy Auditor is developed
- (a) Appoint instructors for training course of Energy Auditor in HCMC training center
 - (b) Carry out the practical training on its operation and maintenance
 - (c) Carry out the training on energy conservation by training equipment.
 - (d) Implement trial training course for Energy Auditor
 - (e) Implement trial energy audit in factories and buildings
- (4) Capacity of dissemination of energy conservation activities for enterprises is strengthened
- (a) Implement workshop on energy conservation technology and regulations
 - (b) Establish network of MOIT, Department of Industry and Trade (DOIT) and Universities on energy management and energy audit

6. Input

(1) Input by JICA

(a) Dispatch of Experts

Long-term expert

- Energy Efficiency Policy / Coordinator

Short-term experts

- Expert on Heat Technology
- Expert on Electricity Technology
- Experts for supervision of installation
- Experts on curriculum and textbook
- Experts on energy audit
- Experts on examination system and qualification of Energy Management and Energy Auditor
- Appropriate number of other experts will be dispatched as necessary arises.

(b) Training

- Training of C/P in Japan

Approx. 5-10 instructors for training course of Energy Manager and Energy Auditor.

(c) Machinery and Equipment

- Practical training equipment: pump, fan, compressor, furnace, open burner, boiler and steam trap system, lighting system, and measuring equipment etc.
- Spare parts and necessary materials for the commissioning period.

Input other than indicated above will be determined through mutual consultations between JICA and MOIT during the implementation of the Project, as necessary.

(2) Input by the Vietnamese Side

The Vietnamese side will take necessary measures to provide at its own expense:

- (a) Services of the Vietnamese counterpart personnel and administrative personnel as referred to in III-1;
- (b) Suitable space with necessary equipment;
- (c) Credentials or identification cards;
- (d) Available data (including maps and photographs) and information related to the Project;
- (e) Running expenses necessary for the implementation of the Project;
- (f) Expenses necessary for transportation within Vietnam of the equipment referred to in II-6 (1) as well as for the installation, operation and maintenance thereof;
- (g) Supply or replacement of machinery, equipment, instruments, transportation, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA.

7. Project Site

Hanoi and Ho Chi Minh City

8. Duration

The duration of the technical cooperation for the project will be from 2013 to 2015 (2.5 years).

9. Social/Environmental Consideration

MOIT agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. IMPLEMENTING ARRANGEMENTS

1. Administration of the Project

MOIT will be the counterpart Ministry and Department of Industry and Trade Ho Chi Minh City (DOIT HCMC) will be a co-counterpart agency to JICA for the Project implementation. The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:

(1) MOIT will assign:

- (a) Project Director (who will bear overall responsibility for the administration and implementation of the project) : Director, Science Technology & Energy Efficiency Department, General Directorate of Energy
- (b) Project Manager (who will bear responsibility on the managerial and technical matters): Officer, Science Technology & Energy Efficiency Department, General Directorate of Energy
- (c) Project Co-Manager: Head, Energy Management Division, Department of Industry and Trade Ho Chi Minh City (DOIT-HCMC)
- (d) Other counterparts

(2) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MOIT, DOIT HCMC and relevant organizations on any matters pertaining to the implementation of the Project.

(3) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct monitoring and evaluation of the Project, and exchange opinions on major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

2. Evaluation

(1) Ex-Ante Evaluation

Ex-Ante Evaluation was conducted jointly by JICA and the Vietnamese authority concerned during JICA mission's stay. Summary of the Ex-Ante Evaluation is as per Annex 5.

(2) Terminal Evaluation and Ex-Post Evaluation

Evaluation of the Project will be conducted jointly by JICA and the Vietnamese authority concerned, during the last six months of the Project (Terminal Evaluation) and after completion (Ex-Post Evaluation) in order to examine the level of achievement and impact of the Project. Ex-Post Evaluation will be conducted three (3) years after the Project completion, in principle.

3. Undertakings of MOIT

- (1) MOIT will provide counterpart personnel and suitable office space with necessary equipment.
- (2) MOIT will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of the Project, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.
- (3) MOIT will ensure that the technologies and knowledge acquired by the Vietnamese nationals as a result of the Project will contribute to the economic and social development of Vietnam.
- (4) MOIT will ensure that the Equipment referred to in II-6 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts and properly utilized/managed even after completion of the Project.
- (5) MOIT will take necessary measures to ensure that the knowledge and experience acquired by the Vietnamese personnel from technical training in Japan will be utilized effectively in the implementation of the Project.
- (6) MOIT will provide security-related information as well as measures to ensure the safety of the experts.
- (7) MOIT will provide information as well as support in obtaining medical service.
- (8) MOIT will provide credentials or identification cards.
- (9) MOIT will take necessary measures to permit the experts to enter, leave and sojourn in Vietnam for the duration of their assignments therein.

4. Mutual Cooperation

JICA and MOIT will consult each other whenever any major issues arising in the



course of Project implementation.

Annex 1 Project Design Matrix

Annex 2 Tentative Plan of Operation

Annex 3 Project Organization Chart

Annex 4 Joint Coordinating Committee

Annex 5 Summary of Ex-Ante Evaluation

A handwritten signature in black ink, appearing to be 'A. Fel.' with a stylized flourish underneath.

Project Design Matrix (PDM) - Tentative version Drafted on September 12th 2012 by Japanese Study Mission

ANNEX 1

Project Name: Project for the Establishment of Energy Management Training Center in the Socialist Republic of Vietnam
Project Area or Location: General Directorate of Energy, Ministry of Industry and Trade (MOIT) in Hanoi, and Plastic, Rubber and Energy Technology Center (PRET), Department of Industry and Trade (DOIT) in HCMC
Target Group: Direct Beneficiaries: MOIT, DOIT-HCMC, PRET
 Indirect Beneficiaries: Instructors of EMTC in HCMC and Hanoi, and Energy Managers and Energy Auditors of the Designated Enterprises, that annually energy consumption of 1000 ton or more of Oil Equivalent fuel for Industrial Sector and annually energy consumption of 500 ton or more of Oil Equivalent fuel for Commercial Sector
Project Period: From January 1st 2013 to June 30st 2015

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<p>Overall Goal Under the Law on Energy Efficiency and Conservation, energy management in designated enterprises is enhanced.</p>	<p>Energy intensity of designated enterprises is reduced</p>	<p>Government information (by MOIT)</p>	<p>Necessity of energy conservation will not be decreased. Energy Conservation data management system is developed and operated The designated enterprises faithfully report the energy conservation data.</p>
<p>Project Purpose The Energy Management Training Center is established for training Energy Managers and Energy Auditors.</p>	<p>Implementation of trial training course of Energy Manager and Energy Auditor. Establishment of qualification system of energy manager and energy auditor Curriculum and textbook are completed as Guiding Document of the Minister.</p>	<p>Records of trial training course Questionnaire by JICA experts Annual operation reports Mid-term planning on energy conservation Test paper and record sheet of practice examination</p>	<p>The Vietnam Government keeps supporting the energy conservation activities. Necessary support from related institutions are provided. Energy Manager implement energy saving measures with technology provided in training course. Energy Auditor recommends energy saving measures to the enterprise by energy audit report in accordance with Circular 09/2012 TT-BCT.</p>

<p>Outputs</p> <p>1. Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed</p>	<p>1-1 C/P's establish Curriculum and program of practical training course. 1-2 C/P's are able to develop Textbook and materials of practical training course 1-3 C/P's are able to operate Training equipment for practical training course.</p>	<p>1-1 Printed curriculum and program 1-2 Evaluation of developed training materials and textbooks by trainees 1-3 Performance test record and operation record of training equipment</p>	<p>Necessary budget shall be allocated for establishing facilities Necessary supports from related institutions are provided.</p>
<p>2. Human resources for implementation of training for energy manager is developed</p>	<p>2-1 C/P's are assigned for training course. 2-2 C/P's are able to utilize training facilities and equipment efficiently. 2-3 C/P's are able to maintain training facilities and equipment sufficiently.</p>	<p>2-1 Organization chart and training course record 2-2 Information from trainees and JICA experts 2-3 Information from trainees and JICA experts</p>	
<p>3. Human resources for implementation of training for Energy Auditor is developed</p>	<p>3-1 C/P's are stationed for training course. 3-2 C/P's are able to instruct energy audit report of factories and buildings in accordance with Circular 09/2012/TT-BCT 3-3 C/P's are able to implement training courses.</p>	<p>3-1 Organization chart and training course record 3-2 Evaluation of energy audit report of factory and building prepared by C/P. 3-3 Evaluation of training courses by the trainees</p>	
<p>4. Capacity of dissemination of energy conservation activities for enterprises is strengthened.</p>	<p>4-1 C/P's present energy conservation technology and case studies in workshop. 4-2 Network of DOIT, MOIT, universities and factories on energy management is established.</p>	<p>4-1 Record of workshops 4-2 Evaluation of network document</p>	

Activities	Inputs	The Japanese Side	Preconditions
<p>1-1 Appoint the full time instructors of heat, electricity and staff in organization of training center</p> <p>1-2 Establish working group on curriculum, textbook, and qualification tests</p> <p>1-3 Review curriculum and textbooks so far prepared by DANIDA and MOIT</p> <p>1-4 Prepare curriculum and program of practical training course for Energy Manager and Energy Auditor</p> <p>1-5 Install training facilities and equipment</p> <p>1-6 Prepare operation and maintenance manual including spare parts list of training equipment and measurement devices</p> <p>1-7 Prepare textbook of practical training course</p> <p>1-8 Establish examination system and qualification system of Energy Manager and Energy Auditor</p> <p>1-9 Inform the necessary revision contents of regulations on energy management and energy audit</p> <p>2-1 Appoint instructors for training course of Energy Manager in HCMC Training center</p> <p>2-2 Carry out the practical training on its operation and maintenance</p> <p>2-3 Carry out the training on energy conservation by training equipment.</p> <p>2-4 Implement trial training course for Energy Manager</p> <p>3-1 Appoint instructors for training course of Energy Auditor in HCMC training center</p> <p>3-2 Carry out the practical training on its operation and maintenance</p> <p>3-3 Carry out the training on energy conservation by training equipment.</p> <p>3-4 Implement trial training course for Energy Auditor</p> <p>3-5 Implement trial energy audit in factories and buildings</p> <p>4-1 Implement workshop on energy conservation technology and regulations</p> <p>4-2 Establish network of MOIT, DOIT and Universities on energy management and energy audit</p>	<p>The Vietnam Side</p> <p>1. Local personnel</p> <ul style="list-style-type: none"> - Project Director - Project Manager - Project Coordinator - Professors of the universities - Administrative Staff - Trainers and Maintenance Staff <p>2. Land, building(s), rooms and facilities</p> <ul style="list-style-type: none"> - Office & necessary facilities for the Japanese experts and Vietnamese C/P. - Meeting room(s) for the transfer of technology. - Buildings, facilities and space necessary for the equipment and materials to be provided by JICA <p>3. Local cost</p> <ul style="list-style-type: none"> - Allocation of the budget necessary to implement the Project, including the in-land transportation and installation cost for the equipment. 	<p>The Japanese Side</p> <p>1. Personnel</p> <ul style="list-style-type: none"> 1) Long-term expert - Energy Efficiency Policy / Coordinator 2) Short-term experts <ul style="list-style-type: none"> - Expert on Heat Technology - Expert on Electricity Technology - Experts for supervision of installation - Experts on curriculum and textbook - Experts on energy audit - Experts on examination system and qualification of Energy Management and Energy Auditor - Appropriate number of other experts will be dispatched as necessary arises. <p>2. Training of C/P in Japan</p> <ul style="list-style-type: none"> - Approx 5-10 instructors for training course of Energy Manager and Energy Auditor <p>3. Machinery and Equipment including measurement devices</p>	<p>Machinery and equipment provided by the Japanese side will obtain easy custom clearance.</p> <p>Necessary budget, office space and training facilities for the project are allocated.</p>

PLAN OF OPERATION (Provisional)

ANNEX 2

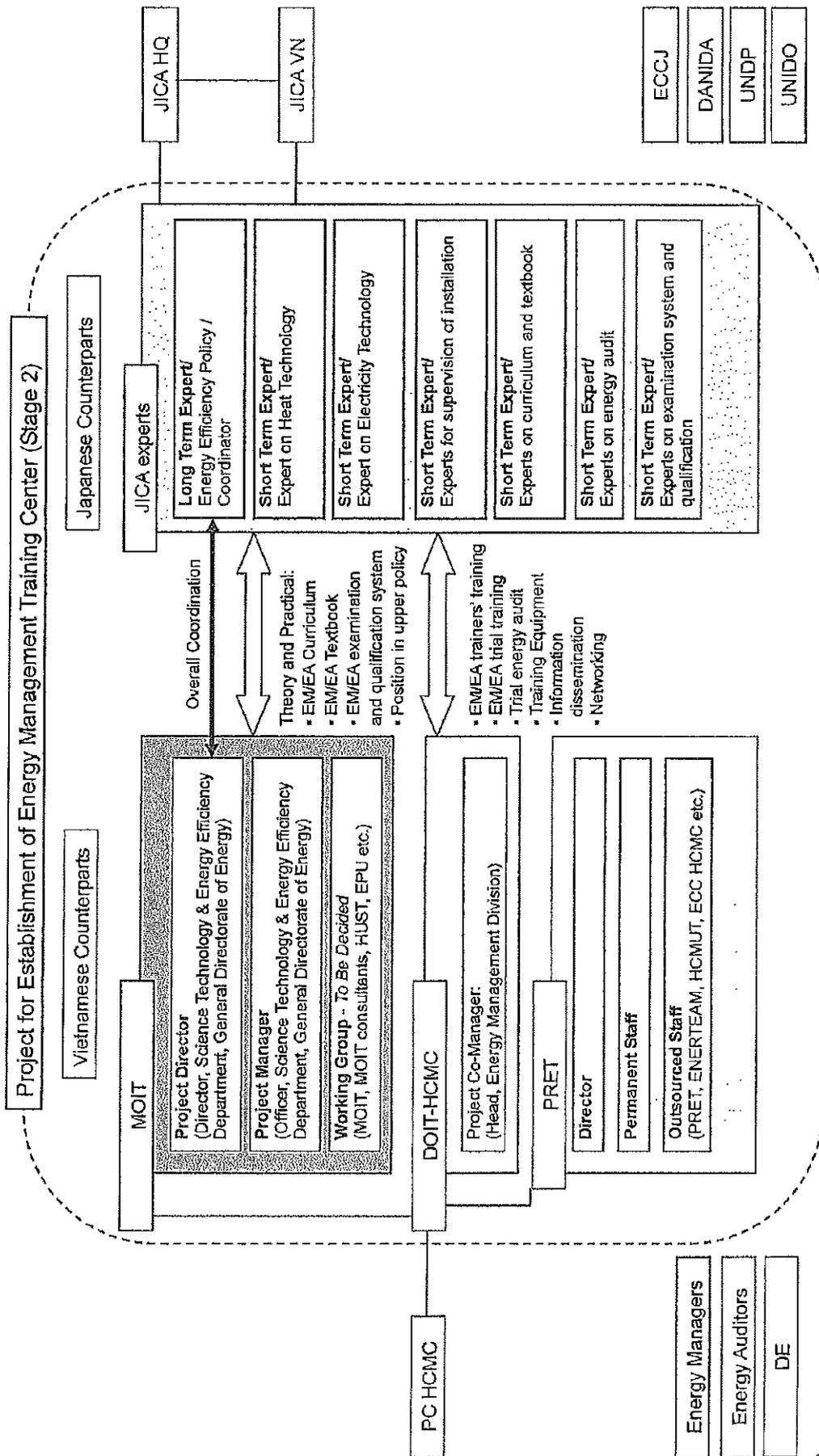
Title: Project for Establishment of Energy Management Training Center in Vietnam

Duration: January 1st 2013 to June 30th 2015 (Tentatively 2.5 years)

Calendar Year	2012				2013				2014				2015	
Japanese Fiscal Year	2012				2013				2014				2015	
Quarter	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q		
Activities														
Preparatory Stage														
Detailed Planning Survey	■													
Signing of MOU		■												
Output 1. Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed														
1-1. Appoint full time instructors of heat, electricity and staff			■											
1-2. Establish working group on curriculum, textbook, and qualification tests		■												
1-3. Review curriculum and textbooks so far prepared		■	■											
1-4. Prepare curriculum and program of practice		■	■											
1-5. Install training facilities and equipment		■		■										
commissioning						■								
Packing and FOB at Japan port						■								
Transport, Custom clearance and inland transport						■								
Installation and commissioning								■						
1-6. Prepare operation and maintenance manual of equipment					■									
1-7. Prepare textbook of practical training course					■									
1-8. Establish examination system and qualification system					■									
1-9. Inform the necessary revision contents of regulations					■									
Output 2. Human resources for implementation of training for energy manager is developed														
2-1. Appoint instructors in HCMC Training center			■	■										
2-2. Carry out the technical training on its operation and maintenance								■						
2-3. Carry out the training on energy conservation by training equipment.								■						
2-4. Implement trial training course for Energy Manager												■	■	■
Output 3. Human resources for implementation of training for Energy Auditor is developed														
3-1. Appoint instructors in HCMC Training center			■	■										
3-2. Carry out the technical training on its operation and maintenance								■						
3-3. Carry out the training on energy conservation by training equipment.								■						
3-4. Implement trial training course for Energy Auditor												■	■	■
3-5. Implement trial energy audit in factories and buildings								■				■	■	■
Output 4. Capacity of dissemination of energy conservation activities for enterprises is strengthened														
4-1. Implement workshop on energy conservation technology								■				■		
4-2. Establish network of DOIT, MOIT and Universities														
Others														
Terminal Evaluation														■
JCC: Joint Coordination Committee			■					■						■
Inputs														
[Long-Term Expert] Energy Efficiency Policy / Coordinator			■	■	■	■	■	■	■	■	■	■	■	■
[C/P Training] TOT for Energy Manager training								■		■				
[C/P Training] TOT for Energy Auditor training								■		■				
[Equipment] Practical training equipment: pump, fan, compressor, furnace, open burner, boiler and steam trap system, lighting system, etc.				■										

Project Implementation Structure (Provisional)

ANNEX 3



MOIT: Ministry of Industry and Trade, PC: People's Committee, DOIT: Department of Industry and Trade, PRET: Plastic Rubber Technology Center, ECC-HCMC: Energy Conservation Center Ho Chi Minh City, HCMUT: HCM University of Technology, HUST: Hanoi University of Science and Technology, EPU: Electric Power University, HN: Hanoi, HCMC: Ho Chi Minh City, DE: Designated Enterprises
EM: Energy Manager, EA: Energy Auditor

List of Proposed Members of Joint Coordinating Committee (JCC)

1. Ministry of Industry and Trade (MOIT)

- Director, Science Technology & Energy Efficiency Department, [Chairman of JCC]
General Directorate of Energy
- Officer, Science Technology & Energy Efficiency Department,
General Directorate of Energy

2. Department of Industry and Trade, Ho Chi Minh City (DOIT HCMC)

- Head, Energy Management Division

3. Plastics - Rubber Technology & Energy Conservation Training Center (PRET)

- Director
- Vice Director
- Trainers
- Related Staff

4. Japan International Cooperation Agency

- Chief Representative, Vietnam Office
- Long-Term Expert, Energy Efficiency Policy / Coordinator
- Short-Term Experts

[END]

SUMMARY OF EX-ANTE EVALUATION

Relevance

This project ensures its relevance from the viewpoints as follows;

- ◆ Overall goal of the project is 'Under the law on energy efficiency and conservation, energy management in the designated enterprises is enhanced'. This project is in accordance with the upper policies of Vietnam's Energy Efficiency and Conservation (EE&C) activities, such as Law on Energy Efficiency and Conservation, and National Power Development Plan, VNEEP(2006-2015).
- ◆ This project will serve to the development assistance program toward Vietnam by the Japanese government such as "Facilitation of Economic growth and strengthen international competitiveness" through EE&C activities. The project will address to the problems such as stable supply of natural resources and energy, and climate change issues.
- ◆ Most of laws and regulations to be introduced in Vietnam have already been implemented in Japan. Moreover, EE&C experiences of Japan in other countries in the past can be best utilized in Vietnam.
- ◆ DANIDA has been supporting VNEEP (Phase 1) with preparing the textbooks and lecture curriculums of the energy management system and the energy audit system. UNDP/UNIDO have been supporting MOIT to disseminate ISO50001. While other institutions have provided theory based support, this project emphasizes on practical aspects of the training. Accordingly, synergetic effects with other donor's support are expected.

Effectiveness

The project purpose is 'The Energy Management Training Center is Established for Training Energy Managers and Energy Auditors'.

If duties and responsibilities of all stakeholders, especially, MOIT, DOIT HCMC and PRET are more clarified, effectiveness of the project will increase.

- ◆ There are several factors that may affect achievement of the project purpose, as follows;
 - Necessary budget, office space and facilities are allocated
 - Cooperation from the related institutions regarding EE&C will be obtained as required
 - Trained energy managers will implement EE&C activities at their work place
 - Trained energy auditors will implement the audit based on data and information analysis to materialize effective energy conservation measures

Efficiency

This project ensures its efficiency as follows;

- ◆ Japanese side will dispatch experts. A long term expert will be in charge of supporting EE&C policies and general project coordination. Short term experts will be in charge of practical training. Training in Japan will be arranged as required.
- ◆ Proper coordination of training materials among MOIT, JICA and DANIDA will be realized.
- ◆ PRET is expected to reinforce its institutional framework by utilizing experts from neighboring universities, energy conservation centers, and consulting companies.

Impact

In order to achieve the overall goal, the following impact can be expected;

- ◆ Impact on institutional aspects
PRET will become one of the energy management training centers designated by MOIT under the law.
- ◆ Impact on technical aspects
This project will be the first attempt in Vietnam to carry out theoretical and practical training in full scale. The trainee will be able to receive higher quality training.
- ◆ The external factor toward achieving the overall goal of the project is that Vietnamese government will continuously support energy management activities.

Sustainability

- ◆ Policy, System/Organization
 - Collaborative efforts towards EE&C activities to be continuously maintained among stakeholders
 - Upgrading of EE&C database to make the EE&C activities more effective
 - Establishment of EE&C target value to help make energy saving efforts more effective
- ◆ Financial issues
At this stage, the demand of Energy manager and Energy auditor's training has not been fully surveyed. It may be a concern for project's sustainability.
- ◆ Technology
Mechanism for EE&C training is to be institutionalized. The update of curriculum, textbook, and qualification system is highly required.



Main Points Discussed

1. Contents of Technical Cooperation

Both parties agreed that the main content of the technical cooperation is to help establishment of an institutional framework for the practical training for energy managers and auditors. The project will include the provision of training equipment and the trainers' training for energy managers and auditors. Further human resource development at the provincial level such as to supervise performances of designated enterprises will be considered by the Vietnamese side.

2. Provision of Equipment

Both parties agreed that the training facilities will be established at premises of the Plastic Rubber Technology & Energy Conservation Training Center (PRET) of the Department of Industry and Trade Ho Chi Minh City (DOIT-HCMC), and the training equipment will be provided to DOIT-HCMC and located at PRET. The necessary infrastructure to accommodate the training equipment and related facilities will be provided by the Vietnamese side. To ensure the smooth property transfer of the equipment from JICA to the Vietnamese side, it is important for both parties to avoid excessive administrative procedures. MOIT and DOIT-HCMC will seek for the most efficient and effective administration for implementation of the smooth transfer of equipment.

3. Capacity Building for Hanoi Staff of Energy Management Training Center

Both parties agreed that the technical cooperation project will primarily focus on the practical training in Ho Chi Minh City and the trainers' training for the energy management training in Hanoi can be accommodated as an integrated part of the training components in Ho Chi Minh City. For this purpose, it is necessary for Hanoi to establish the institutional framework in a timely manner to join the Ho Chi Minh training plan. Travel expenses to participate in the training course in Ho Chi Minh City will be borne by the Vietnamese side.

4. The Practical Training Course in Policy Framework

Both parties acknowledge the importance of the practical training course in policy framework for sustainable capacity building of energy managers and energy auditors. It is strongly recommended that MOIT fully supports the practical training to be included in the certification system of energy managers and auditors.

MEMORANDUM OF UNDERSTANDING
BETWEEN
JAPAN INTERNATIONAL COOPERATION AGENCY
AND
THE MINISTRY OF INDUSTRY AND TRADE
ON
THE PROJECT FOR THE ESTABLISHMENT OF
ENERGY MANAGEMENT TRAINING CENTER

DATE: 28th February 2011
PLACE: Hanoi
The Socialist Republic of
Vietnam

For
Japan International Cooperation
Agency



Motonori Tsuno
Chief Representative
JICA Vietnam Office



For
The Ministry of Industry and Trade



Le Duong Quang
Vice Minister
Ministry of Industry and Trade

For
The Department of Industry and
Trade, Ho Chi Minh City



Nguyen Van Lai
Director
Department of Industry and Trade
Ho Chi Minh City

I. INTRODUCTION

Japan International Cooperation Agency (hereinafter referred to as "JICA") dispatched a survey mission (hereinafter referred to as "the JICA Mission") to the Socialist Republic of Vietnam (hereinafter referred to as "Vietnam") from 26th August to 14th September, 2012 for the purpose of developing a detailed plan for the project for Establishment of Energy Management Training Center (hereinafter referred to as "the Project").

During its stay in Vietnam, the JICA Mission exchanged views and held a series of discussions with the representatives of relevant organizations of Vietnam.

As a result, the JICA Mission and the Ministry of Industry and Trade, the Government of the Socialist Republic of Vietnam, (hereinafter referred to as "MOIT") confirmed that both parties would sincerely cooperate with each other with a view to contributing toward smooth implementation and enhancing development effect of Support Program to Respond to Climate Change (SPRCC) signed on 2nd November, 2011 and Energy Efficiency and Renewable Energy Promoting Project (EEREPP) signed on 10th November, 2009 by attaining the purposes of the Project.

The Project will be carried out within the framework of the Agreement on Technical Cooperation signed on 20th October, 1998 (hereinafter referred to as "the Agreement") and the Notes Verbale exchanged on 7th July 2011 between the Government of Japan (hereinafter referred to as "GOJ") and the Government of Vietnam (hereinafter referred to as "GOV"), and privileges, immunities and other benefits necessary for smooth implementation of the Project will be granted to the Japanese experts, missions and their families accordingly.

Appendix 1: PROJECT DOCUMENT

Appendix 2: MAIN POINTS DISCUSSED

PROJECT DOCUMENT

I. BACKGROUND

In recent years, Vietnam is growing at a GDP growth rate of 6% to 7% per year, yet the energy consumption rate is growing at a faster rate of over 10% per year. In order to secure sustainable economic development, energy utilization including energy efficiency and conservation are seen as an essential issue. GOV has been implementing many activities in the energy efficiency and conservation such as the Vietnam National Energy Efficiency Program (VNEEP) from 2006 to 2015.

From 2008 to 2009, JICA implemented “the study on Master Plan for Energy Conservation and Effective Use” in Vietnam and made recommendations on energy efficiency policy measures. Upon its completion, GOV decided to utilize the recommendations to formulate “the Law on Economical and Efficient Use of Energy” in January 2011.

Under this legal framework, the energy management system and energy audit system is introduced, and designated enterprises have an obligation to appoint energy managers, to submit annual and five year plan and reports; and to receive energy audits. Therefore, the human resource development of energy managers and energy auditors are recognized as one of the key issues for implementation.

GOV had acknowledged the need for human resource development and officially requested “the Project for Establishment of Energy Management Training Center” to GOJ in July 2010. Under the support of JICA, the center is expected to provide not only theoretical program but also practical training to energy managers and energy auditors who will become the key human resource to promote EE&C in designated enterprises in Vietnam.

II. OUTLINE OF THE PROJECT

Details of the Project are described in the Project Design Matrix (PDM) (Annex 1) and the tentative Plan of Operation (Annex 2).

1. Title of the Project

The Project for Establishment of Energy Management Training Center

2. Overall Goal

Under the Law on Energy Efficiency and Conservation, energy management in designated enterprises is enhanced.

3. Project Purpose

The Energy Management Training Center is established and managed for training Energy Managers and Energy Auditors.

4. Outputs

- (1) Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed
- (2) C/Ps are able to implement practical energy manager training
- (3) C/Ps are able to implement practical energy auditor
- (4) C/P's capacity to disseminate energy conservation activities for enterprises is strengthened

5. Activities

- (1) Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed
 - (a) Implement baseline survey
 - (b) Appoint the full time instructors of heat, electricity and staff of training center
 - (c) Establish working group on curriculum, textbook, and qualification tests
 - (d) Review curriculum and textbooks so far prepared by MOIT and DANIDA
 - (e) Prepare curriculum and program of practical training course for Energy Manager and Energy Auditor
 - (f) Install training facilities and equipment
 - (g) Prepare operation and maintenance manual including spare parts list of training equipment and measurement devices
 - (h) Prepare textbook of practical training course
 - (i) Establish examination system and qualification system of Energy Manager and Energy Auditor
 - (j) Inform the necessary revision contents of regulations on energy management and energy audit
- (2) C/Ps are able to implement practical energy manager training
 - (a) Appoint instructors for training course of Energy Manager in HCMC Training center
 - (b) Carry out the practical training on its operation and maintenance
 - (c) Carry out the training on energy conservation by training equipment.
 - (d) Implement trial training course for Energy Manager

- (3) C/Ps are able to implement practical energy auditor training
 - (a) Appoint instructors for training course of Energy Auditor in HCMC training center
 - (b) Carry out the practical training on its operation and maintenance
 - (c) Carry out the training on energy conservation by training equipment.
 - (d) Implement trial training course for Energy Auditor
 - (e) Implement trial energy audit in factories and buildings

- (4) C/P's capacity to disseminate energy conservation activities for enterprises is strengthened
 - (a) Implement workshop on energy conservation technology and regulations
 - (b) Establish network of MOIT, Department of Industry and Trade (DOIT) and Universities on energy management and energy audit

6. Input

(1) Input by JICA

(a) Dispatch of Experts

Long-term expert

- Energy Efficiency Policy / Coordinator

Short-term experts

- Expert on Heat Technology
- Expert on Electricity Technology
- Experts for supervision of installation
- Experts on curriculum and textbook
- Experts on energy audit
- Experts on examination system and qualification of Energy Management and Energy Auditor
- Appropriate number of other experts will be dispatched as necessary arises.

(b) Training

- Training of C/P in Japan

Approx. 5-10 instructors for training course of Energy Manager and Energy Auditor.

(c) Machinery and Equipment

- Practical training equipment: pump, fan, compressor, furnace, open burner, boiler and steam trap system, lighting system, and

measuring equipment etc.

- Spare parts and necessary materials for the commissioning period.

Input other than indicated above will be determined through mutual consultations between JICA and MOIT during the implementation of the Project, as necessary.

(2) Input of MOIT and the co-implementing agency

MOIT and the co-implementing agency will take necessary measures to provide at its own expense:

- (a) Services of the Vietnamese counterpart personnel and administrative personnel as referred to in III-1;
- (b) Suitable space with necessary equipment;
- (c) Supply or replacement of machinery, equipment, instruments, transportation, tools, spare parts and any other materials necessary for the implementation of the Project other than the equipment provided by JICA
- (d) Credentials or identification cards;
- (e) Available data (including maps and photographs) and information related to the Project;
- (f) Running expenses necessary for the implementation of the Project;
- (g) Expenses necessary for transportation within Vietnam of the equipment referred to in II-6 (1) as well as for the installation, operation and maintenance thereof;

7. Project Site

Hanoi and Ho Chi Minh City

8. Duration

The duration of the technical cooperation for the project will be from 2013 to 2015 (2.5 years)

9. Social/Environmental Consideration

MOIT agreed to abide by 'JICA Guidelines for Environmental and Social Considerations' in order to ensure that appropriate considerations will be made for the environmental and social impacts of the Project.

III. IMPLEMENTING ARRANGEMENTS

1. Administration of the Project

MOIT will be the implementing agency and Department of Industry and Trade Ho Chi Minh City (DOIT-HCMC) will be the co-implementing agency to JICA for the Project implementation. The Project organization chart is given in the Annex 3. The roles and assignments of relevant organizations are as follows:

(1) MOIT will assign:

- (a) Project Director: Who will bear overall responsibility for the administration and implementation of the project under the General Directorate of Energy (Director or equivalent)
- (b) Project Manager: Who will bear responsibility on the managerial and technical matters: Officer, Science Technology & Energy Efficiency Department, General Directorate of Energy
- (c) Project Co-Manager: Department of Industry and Trade Ho Chi Minh City (DOIT-HCMC) (Head of division or equivalent)
- (d) Other counterparts

Each responsible personnel will be assigned before the commencement of the Project.

(2) JICA Experts

The JICA experts will give necessary technical guidance, advice and recommendations to MOIT, DOIT HCMC and relevant organizations on any matters pertaining to the implementation of the Project.

(3) Joint Coordinating Committee

Joint Coordinating Committee (hereinafter referred to as "JCC") will be established in order to facilitate inter-organizational coordination. JCC will be held at least once a year and whenever deems it necessary. JCC will approve an annual work plan, review overall progress, conduct monitoring and evaluation of the Project, and exchange opinions on major issues that arise during the implementation of the Project. A list of proposed members of JCC is shown in the Annex 4.

2. Evaluation

(1) Ex-Ante Evaluation

Ex-Ante Evaluation was conducted jointly by JICA and the Vietnamese authority concerned during JICA mission's stay. Summary of the Ex-Ante

Evaluation is as per Annex 5.

(2) Terminal Evaluation and Ex-Post Evaluation

Evaluation of the Project will be conducted jointly by JICA and the Vietnamese authority concerned, during the last six months of the Project (Terminal Evaluation) and after completion (Ex-Post Evaluation) in order to examine the level of achievement and impact of the Project. Ex-Post Evaluation will be conducted three (3) years after the Project completion, in principle.

3. Undertakings of MOIT and the Co-implementing Agency

- (1) MOIT and the co-implementing Agency will provide counterpart personnel and suitable office space with necessary equipment.
- (2) MOIT and the co-implementing Agency will take necessary measures to ensure that the self-reliant operation of the Project will be sustained during and after the period of the Project, through full and active involvement in the Project by all related authorities, beneficiary groups and institutions.
- (3) MOIT and the co-implementing Agency will ensure that the technologies and knowledge acquired by the Vietnamese nationals as a result of the Project will contribute to the economic and social development of Vietnam.
- (4) MOIT and the co-implementing Agency will ensure that the Equipment referred to in II-6 above will be utilized effectively for the implementation of the Project in consultation with the Japanese experts and properly utilized/managed even after completion of the Project.
- (5) MOIT and the co-implementing Agency will take necessary measures to ensure that the knowledge and experience acquired by the Vietnamese personnel from technical training in Japan will be utilized effectively in the implementation of the Project.
- (6) MOIT and the co-implementing Agency will provide security-related information as well as measures to ensure the safety of the experts.
- (7) MOIT and the co-implementing Agency will provide information as well as support in obtaining medical service.
- (8) MOIT and the co-implementing Agency will provide credentials or identification cards.
- (9) MOIT and the co-implementing Agency will take necessary measures to permit the experts to enter, leave and sojourn in Vietnam for the duration of their assignments therein.

4. Mutual Cooperation

JICA, MOIT and the co-implementing Agency will consult each other whenever any major issues arising in the course of Project implementation.

Annex 1 Project Design Matrix

Annex 2 Tentative Plan of Operation

Annex 3 Project Organization Chart

Annex 4 Joint Coordinating Committee

Annex 5 Summary of Ex-Ante Evaluation

Project Design Matrix (PDM) - Tentative version Drafted on September 12th 2012 by Japanese Study Mission and Revised by JICA HQ

Project Name: Project for the Establishment of Energy Management Training Center in the Socialist Republic of Vietnam

Project Area or Location: General Directorate of Energy, Ministry of Industry and Trade (MOIT) in Hanoi, and Plastic, Rubber and Energy Technology Center (PRET), Department of Industry and Trade (DOIT) in HCMC

Target Group: Direct Beneficiaries: MOIT, DOIT-HCMC, PRET

Indirect Beneficiaries: Instructors of EMTC in HCMC and Hanoi, and Energy Managers and Energy Auditors of the Designated Enterprises, that annually energy consumption of 1000 ton or more of Oil Equivalent fuel for Industrial Sector and annually energy consumption of 500 ton or more of Oil Equivalent fuel for Commercial Sector

Project Period: From April 1st 2013 to September 30st 2015 (tentatively 2.5 years)

Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumption
<u>Overall Goal</u> Under the Law on Energy Efficiency and Conservation, energy management in designated enterprises is enhanced.	Energy intensity of designated enterprises is reduced by XX%	Government information (by MOIT)	
<u>Project Purpose</u> The Energy Management Training Center is established and managed for training Energy Managers and Energy Auditors.	Establishment of training and qualification system of energy manager and energy auditor Curriculum and textbook are completed as Guiding Document of the Minister.	Records of trial training course Questionnaire by JICA experts Annual operation reports Mid-term planning on energy conservation Test paper and record sheet of practice examination	Energy data management system is developed and operated by the Government. The designated enterprises properly implement their mandate to assign energy managers, submit energy management reports, and receive energy audits according to the law. Government policy to promote energy conservation activities is maintained.

<p>Outputs</p> <p>1. Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed</p>	<p>1-1 C/P's establish curriculum and program of practical training course. 1-2 C/P's are able to develop textbook and materials of practical training course 1-3 C/P's are able to operate training equipment for practical training course.</p>	<p>1-1 Printed curriculum and program 1-2 Evaluation of developed training materials and textbooks by trainees 1-3 Performance test record and operation record of training equipment</p>	<p>Trainers of the Energy Manager Training and Energy Auditor Training stay within the organization.</p>
<p>2. C/Ps are able to implement practical energy manager training</p>	<p>2-1 C/P's are assigned for training course. 2-2 C/P's are able to utilize training facilities and equipment efficiently. 2-3 C/P's are able to maintain training facilities and equipment sufficiently.</p>	<p>2-1 Organization chart and training course record 2-2 Information from trainees and JICA experts 2-3 Information from trainees and JICA experts</p>	
<p>3. C/Ps are able to implement practical energy auditor training</p>	<p>3-1 C/P's are assigned for training course. 3-2 C/P's are able to instruct energy audit report of factories and buildings in accordance with Circular 09/2012/TT-BCT 3-3 C/P's are able to implement training courses.</p>	<p>3-1 Organization chart and training course record 3-2 Evaluation of energy audit report of factory and building prepared by C/P. 3-3 Evaluation of training courses by the trainees</p>	
<p>4. C/P's capacity to disseminate energy conservation activities for enterprises is strengthened.</p>	<p>4-1 C/P's disseminate energy conservation technology and case studies to designated enterprises. 4-2 Network of DOIT, MOIT, universities and factories on energy management is established.</p>	<p>4-1 Record of workshops 4-2 Evaluation of network document</p>	

<p><u>Activities</u></p> <p>1-1 Implement baseline survey 1-2 Appoint the full time instructors of heat, electricity and staff of training center 1-3 Establish working group on curriculum, textbook, and qualification tests 1-4 Review curriculum and textbooks so far prepared by MOIT and DANIDA 1-5 Prepare curriculum and program of practical training course for Energy Manager and Energy Auditor 1-6 Install training facilities and equipment</p>	<p>Inputs</p> <table border="1"> <tr> <td data-bbox="164 985 558 1406"> <p>The Vietnam Side</p> <p>1. Local personnel - Project Director - Project Manager - Project Coordinator - Professors of the universities - Administrative Staff - Trainers and Maintenance Staff</p> </td> <td data-bbox="164 604 558 985"> <p>The Japanese Side</p> <p>1. Personnel 1) Long-term expert - Energy Efficiency Policy / Coordinator 2) Short-term experts - Expert on Heat Technology - Expert on Electricity Technology</p> </td> </tr> </table>		<p>The Vietnam Side</p> <p>1. Local personnel - Project Director - Project Manager - Project Coordinator - Professors of the universities - Administrative Staff - Trainers and Maintenance Staff</p>	<p>The Japanese Side</p> <p>1. Personnel 1) Long-term expert - Energy Efficiency Policy / Coordinator 2) Short-term experts - Expert on Heat Technology - Expert on Electricity Technology</p>
<p>The Vietnam Side</p> <p>1. Local personnel - Project Director - Project Manager - Project Coordinator - Professors of the universities - Administrative Staff - Trainers and Maintenance Staff</p>	<p>The Japanese Side</p> <p>1. Personnel 1) Long-term expert - Energy Efficiency Policy / Coordinator 2) Short-term experts - Expert on Heat Technology - Expert on Electricity Technology</p>			
	<p>Necessary support from related institutions are provided.</p>			

<p>1-7 Prepare operation and maintenance manual including spare parts list of training equipment and measurement devices</p> <p>1-8 Prepare textbook of practical training course</p> <p>1-9 Establish examination system and qualification system of Energy Manager and Energy Auditor</p> <p>1-10 Inform the necessary revision contents of regulations on energy management and energy audit</p> <p>2-1 Appoint instructors for training course of Energy Manager in HCMC Training center</p> <p>2-2 Carry out the practical training on its operation and maintenance</p> <p>2-3 Carry out the training on energy conservation by training equipment.</p> <p>2-4 Implement trial training course for Energy Manager</p> <p>3-1 Appoint instructors for training course of Energy Auditor in HCMC training center</p> <p>3-2 Carry out the practical training on its operation and maintenance</p> <p>3-3 Carry out the training on energy conservation by training equipment.</p> <p>3-4 Implement trial training course for Energy Auditor</p> <p>3-5 Implement trial energy audit in factories and buildings</p> <p>4-1 Implement workshop on energy conservation technology and regulations</p> <p>4-2 Establish network of MOIT, Department of Industry and Trade (DOIT) and Universities on energy management and energy audit</p>	<p>2. Land, building(s), rooms and facilities</p> <ul style="list-style-type: none"> - Office & necessary facilities for the Japanese experts and Vietnamese C/P. - Meeting room(s) for the transfer of technology. - Buildings, facilities and space necessary for the equipment and materials to be provided by JICA <p>3. Local cost</p> <ul style="list-style-type: none"> - Allocation of the budget necessary to implement the Project, including the in-land transportation and installation cost for the equipment. 	<p>- Experts for supervision of installation</p> <ul style="list-style-type: none"> - Experts on curriculum and textbook - Experts on energy audit - Experts on examination system and qualification of Energy Management and Energy Auditor - Appropriate number of other experts will be dispatched as necessary arises. <p>2. Training of C/P in Japan</p> <p>Approx 5-10 instructors for training course of Energy Manager and Energy Auditor</p> <p>3. Machinery and Equipment including measurement devices</p>	<p>Preconditions</p> <p>Necessary budget, office space and training facilities for the project are allocated.</p>
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PLAN OF OPERATION (Provisional)

ANNEX 2

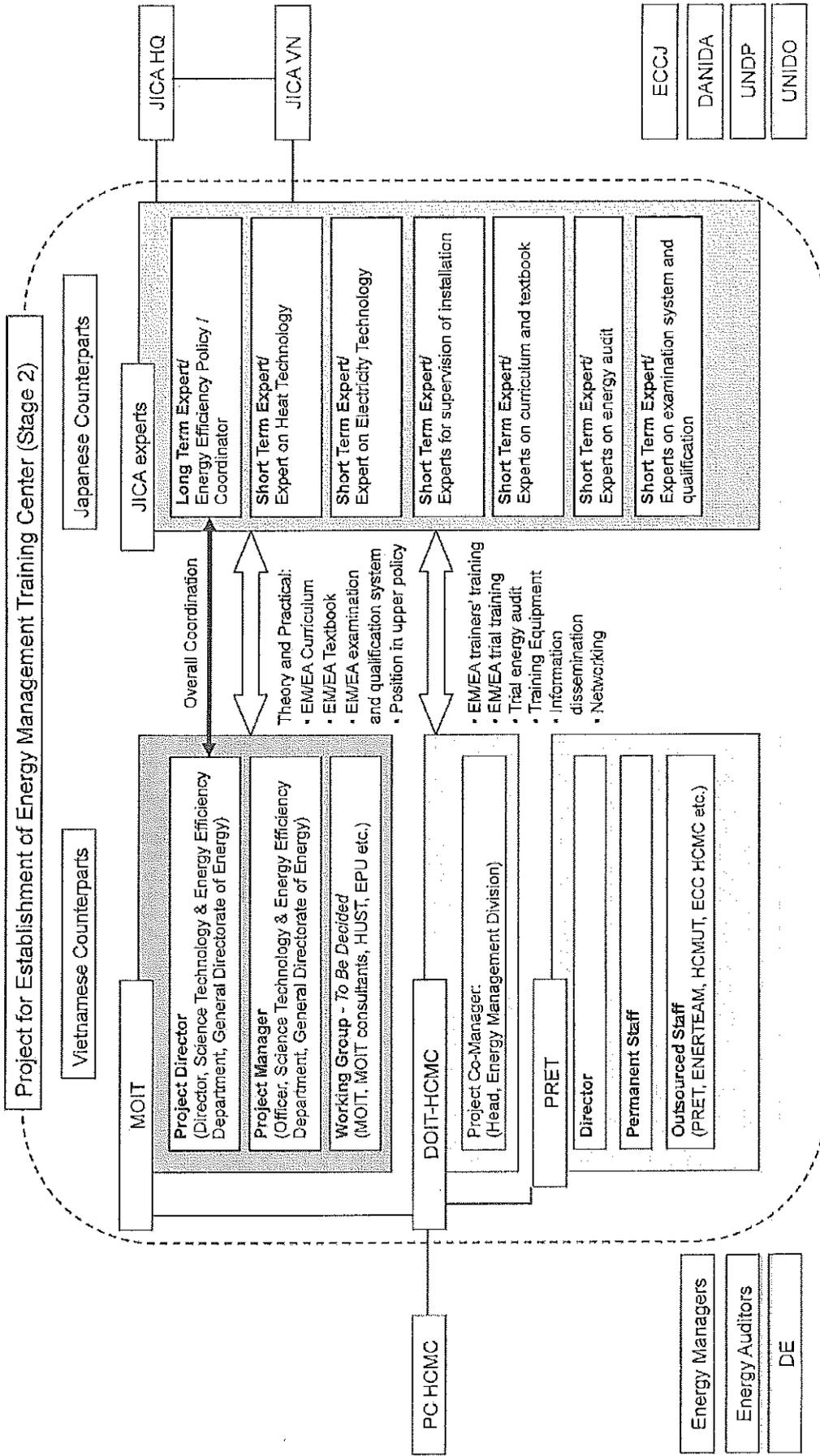
Title: Project for Establishment of Energy Management Training Center in Vietnam

Duration: April 1st 2013 to September 30th 2015 (Tentatively 2.5 years)

Calendar Year	2012		2013				2014				2015		
Japanese Fiscal Year	2012		2013				2014				2015		
Quarter	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q	4Q	1Q	2Q	3Q
Activities													
Preparatory Stage													
Detailed Planning Survey	■												
Signing of MOU			■										
Output 1. Curriculum, textbook and practical training equipment of training course for energy manager and energy auditor are developed.													
1-1. Implement baseline survey			■										
1-2. Appoint the full time instructors of heat, electricity and staff of training center			■										
1-3. Establish working group on curriculum, textbook, and qualification tests			■										
1-4. Review curriculum and textbooks so far prepared by MOIT and DANIDA			■	■									
1-5. Prepare curriculum and program of practical training course for Energy Manager and Energy Auditor			■	■									
1-6. Install training facilities and equipment			■		■	■	■	■	■	■			
Commissioning							■	■	■	■			
Packing and FOB at Japan port							■	■	■	■			
Transport, Custom clearance and inland transport							■	■	■	■			
Installation and commissioning							■	■	■	■			
1-7. Prepare operation and maintenance manual including spare parts list of training equipment and measurement devices							■	■	■	■			
1-8. Prepare textbook of practical training course							■	■	■	■			
1-9. Establish examination system and qualification system of Energy Manager and Energy Auditor							■	■	■	■			
1-10. Inform the necessary revision contents of regulations on energy management and energy audit							■	■	■	■			
Output 2. C/Ps are able to implement practical energy manager training													
2-1. Appoint instructors for training course of Energy Manager in HCMC Training center			■	■	■	■							
2-2. Carry out the practical training on its operation and maintenance								■	■	■	■	■	■
2-3. Carry out the training on energy conservation by training equipment								■	■	■	■	■	■
2-4. Implement trial training course for Energy Manager											■	■	■
Output 3. C/Ps are able to implement practical energy auditor training													
3-1. Appoint instructors for training course of Energy Auditor in HCMC training center			■	■	■	■							
3-2. Carry out the practical training on its operation and maintenance								■	■	■	■	■	■
3-3. Carry out the training on energy conservation by training equipment								■	■	■	■	■	■
3-4. Implement trial training course for Energy Auditor											■	■	■
3-5. Implement trial energy audit in factories and buildings								■	■	■	■	■	■
Output 4. C/Ps capacity to disseminate energy conservation activities for enterprises is strengthened													
4-1. Implement workshop on energy conservation technology and regulations								■	■	■	■	■	■
4-2. Establish network of MOIT, Department of Industry and Trade (DOIT) and Universities on energy management and energy audit								■	■	■	■	■	■
Others													
Terminal Evaluation													■
JCC: Joint Coordination Committee				■				■					■
Inputs													
[Long-Term Expert] Energy Efficiency Policy / Coordinator			■	■	■	■	■	■	■	■	■	■	■
[C/P Training] TOT for Energy Manager training					■	■		■	■				
[C/P Training] TOT for Energy Auditor training					■	■		■	■				
[Equipment] Practical training equipment: pump, fan, compressor, furnace, open burner, boiler and steam trap system, lighting system, etc.					■	■	■	■	■	■			

Project Implementation Structure (Provisional)

ANNEX 3



MOIT: Ministry of Industry and Trade, PC: People's Committee, DOIT: Department of Industry and Trade, PRET: Plastic Rubber Technology Center, ECC-HCMC: Energy Conservation Center, Ho Chi Minh City, HCMUT: HCM University of Technology, HUST: Hanoi University of Science and Technology, EPU: Electric Power University, HN: Hanoi, HCMC: Ho Chi Minh City, DE: Designated Enterprises
 EM: Energy Manager, EA: Energy Auditor

List of Proposed Members of Joint Coordinating Committee (JCC)

1. Ministry of Industry and Trade (MOIT)

- Director, Science Technology & Energy Efficiency Department, [Chairman of JCC]
General Directorate of Energy
- Officer, Science Technology & Energy Efficiency Department,
General Directorate of Energy

2. Department of Industry and Trade, Ho Chi Minh City (DOIT HCMC)

- Head, Energy Management Division

3. Plastics - Rubber Technology & Energy Conservation Training Center (PRET)

- Director
- Vice Director
- Trainers
- Related Staff

4. Japan International Cooperation Agency

- Chief Representative, Vietnam Office
- Long-Term Expert, Energy Efficiency Policy / Coordinator
- Short-Term Experts

[END]

SUMMARY OF EX-ANTE EVALUATION

Relevance

This project ensures its relevance from the viewpoints as follows;

- ◆ Overall goal of the project is 'Under the law on energy efficiency and conservation, energy management in the designated enterprises is enhanced'. This project is in accordance with the upper policies of Vietnam's Energy Efficiency and Conservation (EE&C) activities, such as Law on Energy Efficiency and Conservation, and National Power Development Plan, VNEEP(2006-2015).
- ◆ This project will serve to the development assistance program toward Vietnam by the Japanese government such as "Facilitation of Economic growth and strengthen international competitiveness" through EE&C activities. The project will address to the problems such as stable supply of natural resources and energy, and climate change issues.
- ◆ Most of laws and regulations to be introduced in Vietnam have already been implemented in Japan. Moreover, EE&C experiences of Japan in other countries in the past can be best utilized in Vietnam.
- ◆ DANIDA has been supporting VNEEP (Phase 1) with preparing the textbooks and lecture curriculums of the energy management system and the energy audit system. UNDP/UNIDO have been supporting MOIT to disseminate ISO50001. While other institutions have provided theory based support, this project emphasizes on practical aspects of the training. Accordingly, synergetic effects with other donor's support are expected.

Effectiveness

The project purpose is 'The Energy Management Training Center is Established for Training Energy Managers and Energy Auditors'.

If duties and responsibilities of all stakeholders, especially, MOIT, DOIT HCMC and PRET are more clarified, effectiveness of the project will increase.

- ◆ There are several factors that may affect
- ◆ achievement of the project purpose, as follows;
 - Necessary budget, office space and facilities are allocated
 - Cooperation from the related institutions regarding EE&C will be obtained as required
 - Trained energy managers will implement EE&C activities at their work place
 - Trained energy auditors will implement the audit based on data and information analysis to materialize effective energy conservation measures

Efficiency

This project ensures its efficiency as follows;

- ◆ Japanese side will dispatch experts. A long term expert will be in charge of supporting EE&C policies and general project coordination. Short term experts will be in charge of practical training. Training in Japan will be arranged as required.
- ◆ Proper coordination of training materials among MOIT, JICA and DANIDA will be realized.
- ◆ PRET is expected to reinforce its institutional framework by utilizing experts from neighboring universities, energy conservation centers, and consulting companies.

Impact

In order to achieve the overall goal, the following impact can be expected;

- ◆ Impact on institutional aspects
PRET will become one of the energy management training centers designated by MOIT under the law.
- ◆ Impact on technical aspects
This project will be the first attempt in Vietnam to carry out theoretical and practical training in full scale. The trainee will be able to receive higher quality training.
- ◆ The external factor toward achieving the overall goal of the project is that Vietnamese government will continuously support energy management activities.

Sustainability

- ◆ Policy, System/Organization
 - Collaborative efforts towards EE&C activities to be continuously maintained among stakeholders
 - Upgrading of EE&C database to make the EE&C activities more effective
 - Establishment of EE&C target value to help make energy saving efforts more effective
- ◆ Financial issues
At this stage, the demand of Energy manager and Energy auditor's training has not been fully surveyed. It may be a concern for project's sustainability.
- ◆ Technology
Mechanism for EE&C training is to be institutionalized. The update of curriculum, textbook, and qualification system is highly required.

Main Points Discussed

1. Contents of Technical Cooperation

Both parties agreed that the main content of the technical cooperation is to help establishment of an institutional framework for the practical training for energy managers and auditors. The project will include the provision of training equipment and the trainers' training for energy managers and auditors. Further human resource development at the provincial level such as to supervise performances of designated enterprises will be considered by the Vietnamese side.

2. Provision of Equipment

Both parties agreed that the training facilities will be established at premises of the Plastic Rubber Technology & Energy Conservation Training Center (PRET) of the Department of Industry and Trade Ho Chi Minh City (DOIT-HCMC), and the training equipment will be provided to DOIT-HCMC and located at PRET. The necessary infrastructure to accommodate the training equipment and related facilities will be provided by the Vietnamese side. To ensure the smooth property transfer of the equipment from JICA to the Vietnamese side, it is important for both parties to avoid excessive administrative procedures. MOIT and DOIT-HCMC will seek for the most efficient and effective administration for implementation of the smooth transfer of equipment.

3. Capacity Building for Hanoi Staff of Energy Management Training Center

Both parties agreed that the technical cooperation project will primarily focus on the practical training in Ho Chi Minh City and the trainers' training for the energy management training in Hanoi can be accommodated as an integrated part of the training components in Ho Chi Minh City. For this purpose, it is necessary for Hanoi to establish the institutional framework in a timely manner to join the Ho Chi Minh training plan. Travel expenses to participate in the training course in Ho Chi Minh City will be borne by the Vietnamese side.

4. The Practical Training Course in Policy Framework

Both parties acknowledge the importance of the practical training course in policy framework for sustainable capacity building of energy managers and energy auditors. It is strongly recommended that MOIT fully supports the practical training to be included in the certification system of energy managers and auditors.

THE NATIONAL ASSEMBLY

No: 50/2010/QH12

SOCIALIST REPUBLIC OF VIET NAM

Independence - Freedom – Happiness

Ha Noi, day 17 month 06 year 2010

LAW ON ENERGY EFFICIENCY AND CONSERVATION

Pursuant to the 1992 Constitution of the Socialist Republic of Vietnam, which was amended and supplemented in accordance with the Resolution No. 51/2001/QH12

The National Assembly hereby issues the Law on Energy Efficiency and Conservation.

Chapter I

GENERAL PROVISIONS

Article 1. Scope of governing

This Law sets forth provisions on energy efficiency and conservation; policies and measures to promote energy efficiency and conservation; rights and obligations of organizations, households and individuals in energy efficiency and conservation.

Article 2. Subjects of application

This Law applies to organizations, households and individuals using energy in Vietnam.

Article 3. Interpretation of terms

In this Law, the following terms shall be construed as follows:

1. Energy includes fuel, electricity and heat gained either directly or through processing of both renewable and non-renewable energy sources.
2. Non renewable energy sources include pit coal, coal gas, petroleum, natural gas, uranium ore and other non-renewable energy sources.
3. Renewable energy sources include water power, wind power, 'sunlight, geothermal, bio fuels and other renewable energy sources.
4. Fuel means any material which is either directly used or processed from both renewable and nonrenewable energy sources for combustion.'
5. Energy efficiency and conservation means the application and technological measures to reduce energy losses, reduce energy consumption of machinery equipment, while still satisfy the needs and targets of activities and life.
6. Energy Audits mean the work of measurement, analysis, calculation and assessment to determine the energy consumption level and potential for energy savings energy to energy using entities.
7. Energy label means a label which provides information about the type of energy used, energy consumption level, energy performance efficiency and other information that allow customers to recognize, select energy saving machinery and equipment.

8. Energy labeling means an act of sticking, putting up, printing, carving energy labels. on products and/or boxes.
9. Energy efficiency is the indicator showing the ability of machinery, equipment in transformation of the used energies into useful ones in the course of operation.
10. Minimum energy performance level means the lowest energy efficiency level stipulated by the State competent authorities for machinery, equipment, under which those machinery or equipment shall be subjected to a special supervision.
11. Energy saving products mean the machinery, equipment with high energy efficiency, good insulation materials that satisfy the technical standards and norms promulgated by the State competent authorities.

Article 4. Principles energy efficiency and conservation

1. Must be in conformity with strategies, planning, energy security policies and environmental protection.
2. Must be implemented regularly and consentaneously from the State management, energy resources exploitation and to the final use of energy.
3. It is the responsibility of State management agencies, the right and obligation of organizations, households, individuals and the whole society.

Article 5. State policies for energy efficiency and conservation

1. To apply energy efficiency and conservation measures for sustainable socio-economic development that is regarded as one of the State top priorities.
2. To apply financial supports, energy prices and other necessary incentive policies for promoting energy efficiency and conservation.
3. To enhance investments; mobilization of multi-resources for promoting scientific and technological research; develop and apply advanced technologies for energy efficiency and conservation; expand the use of renewable energies suitably with Vietnamese potential and conditions, to contribute to energy security and the environmental protection.
4. To encourage the use of energy efficient machinery and equipment; implement roadmap for energy labeling; step by step eliminate outdated energy consuming machinery and equipment with low energy efficiencies.
5. To encourage the development of consulting services; rationally - invest for promotion of public awareness and education, for support to organizations, households and individuals dealing with energy efficiency and conservation.

Article 6. Strategy, planning and program on energy utilization

1. Strategies, plan and programs on energy utilization must satisfy the following requirements:
 - a) Stable and safe supply of energies; rational and effective use of energy resources;

- b) Energy supply and demand, forecasts must be in accordance with the socio-economic development strategy, long and short term plans; balanced and harmonious combination of master, plans of coal, petroleum, power industries 'and other sources of energy;
 - c) To promote energy efficiency and conservation, to give priority to the development of clean energy technologies and increase the ratio of renewable energy use.
 - d) To develop and implement roadmaps 'for manufacturing energy-saving machinery, equipment and efficient construction materials.
2. The Prime Minister shall direct formulation and implementation of strategies, plan and programs on energy use.

Article 7. Statistics on energy utilization

The Ministry of Industry and Trade shall preside over coordination with the State management authorities on statistics for submission to the Prime Minister for approval and issuance of statistical indicators on energy consumption as a part of the national statistical indicators system in accordance with this Law and the Law on Statistics.

Article 8. Prohibited acts

1. Deteriorate and cause damages to the national energy sources.
2. Commit frauds or forgery in order to benefit from State incentive policies applicable to energy efficiency and conservation activities.
3. Take advantage of one power and authority in the energy efficiency and conservation for self-benefits.
4. Deliberately provide untruthful information on energy 'of -machinery or equipment in the activities of labeling, inspecting, advertising and other activities that harms the State benefits, legal rights and benefits of organizations, households and individuals.
5. Manufacture, import and distribute energy using machinery which are in the List of eliminated machinery and equipment as regulated by the State competent authorities.

Chapter II

ENERGY EFFICIENCY AND CONSERVATION IN INDUSTRIAL PRODUCTION

Article 9. Responsibilities of industrial production entities in dealing with energy efficiency and conservation

1. Industrial production entities include entities producing, processing, outsourcing goods and products; entities manufacturing and repairing machinery and equipment; mining entities; and energy producers and Suppliers.
2. Industrial production entities shall perform the following responsibilities:
 - a) To formulate and implement annual plans for energy efficiency and conservation; incorporate energy management program with quality control program, cleaner production and the environmental protection programs;
 - b) To apply technical standards, codes and norms on energy utilization as regulated by the State competent authorities; to select for application of advanced production management models and processes, appropriate technological measures and equipment with high energy efficiency; and apply various types of alternative energies with higher efficiency into production lines;
 - c) To apply technical measures and architectural styles to maximize effectiveness of ventilation, cooling and lighting systems; maximize the use of light and ventilation from the natural environment.
 - d) To implement the operation processes, repair and maintenance disciplines for machinery and equipment in the production lines to prevent energy losses.
 - e) To eliminate step by step machinery and equipment with backward technologies and consume much energy in accordance with the Prime Minister regulations.
3. The Ministry of Industry and Trade shall preside over coordination with relevant ministries and ministerial-level agencies in issuing norms and technical regulations on energy use for production lines, machinery and equipment for each industry.

Article 10. Energy efficiency and conservation measures in goods/product processing, outsourcing and producing entities

Based on the technical standards and norms on energy consumption, goods/product processing, outsourcing, producing entities shall select for application of the following technological and management measures:

1. Invest in and modernize goods/product processing, outsourcing, producing lines; renew backward technologies with low energy efficiency to save energy and protect the environment;
2. Renovate and streamline processes of:
 - a) Burning fuels in boilers, smelting furnaces, kilns or drying oven;
 - b) Heat exchanging in cooling and heating equipment;
 - c) Converting heat to electricity, electricity to heat, mechanical and other types of energy conversion.

3. Reuse waste heat of boilers, smelting furnaces, kilns or drying ovens, waste hot water for service in production and life activities;
4. Apply technical measures to reduce energy losses in heat and electricity supply systems;
5. Use electrical motors, boilers and pumps with high efficiency, variable-frequency drives and motor variable speed devices for new replacement or upgraded works;
6. Apply cogeneration technology for goods/product processing, outsourcing, producing entities that have potential for heat and electricity load development.

Article 11. Energy efficiency and conservation measures in machinery, equipment manufacturing and repairing entities

Based on technical standards, regulations and norms on energy consumption those manufacturing or repairing machinery and equipment entities shall select for application of the following technological and management measures:

1. Develop and implement plans for replacement of backward technology and equipment; invest in installation of new generation manufacturing equipment and machines with modern technology and high automation;
2. Apply technological measures for material, baking, refinery, rough drafting, forging, milling, lathing and processing products that have been actually proven of energy savings and high energy efficiency;
3. Install variable-frequency drives and electric motor to meet the capacity variety for bridge cranes, lifting and transport equipment in manufacturing areas; install optimal production lines for energy savings purpose.

Article 12. Energy efficiency and conservation measures in mining entities

Based on technical standards, regulations and norms on energy consumption, mining entities shall select for application of the following technological and management measures:

1. Apply appropriate mining process to reduce water, fuel, electricity consumption of mining machinery and equipment;
2. Select machinery and equipment suitable to the mine field conditions to increase the exploitation capacity and simultaneously save energy;
3. Apply energy-saving technologies in screening, classifying, processing, and transporting minerals;
4. Design and install appropriate ventilation systems in the underground mines to ensure energy efficiency and conservation.

Article 13. Energy conservation measures in energy producing and supplying entities

1. Based on technical standards, regulations and norms on energy consumption, energy producers and suppliers shall select for application. of the following technological and management measures:

- a) Select high efficient technologies; sufficiently install measurement and" control of operational parameters devices; regularly conduct energy audit and maintenance of _boilers,~ turbines and auxiliaries in power plants to ensure the overall efficiency of the power plant equal closely to the designed ones;
 - b) Take use of the waste heat and waste steam with high temperature to supply to the combustion process, drying fuels, heating feed water in order -to increase efficiency of power generation units;
 - c) Power generation units must comply with the mobilization modes of the National power dispatching centre; develop and implement plans for reduction of self-used electricity;
 - d) Hydro power plants must fully comply with operational regulations of reservoirs or inter-reservoirs to ensure the requirements of safe power generation, monitored provision of water for production and life activities.
 - e) Power transmission and distribution units must develop programs, plans, norms and specific roadmaps for reducing 'power losses in power transmission and distribution systems;
 - f) Fuel exploitation and supplying units must use appropriate 'and' safe storages and means of transportation to reduce losses and prevent environmental pollution and waste of energy;
 - g) Coal and petroleum exploitation units must have plans to exhaust for use of associated gas and other energy products.
2. Not to build new coal, petroleum, gas power with backward technologies and low efficiency as stipulated by the Prime Minister.

Article 14. Energy efficiency and conservation measures in small scale handicraft industrial establishments

Small scale handicraft industrial establishments shall select for application of the technological and managing measures to deal with energy efficiency and conservation as stipulated in Article 9, 10 and 11 of this Law, appropriately to ones production scale and jobs.

Chapter III

ENERGY EFFICIENCY AND CONSERVATION IN CONSTRUCTION AND PUBLIC LIGHTING

Article 15. Energy efficiency and conservation measures in construction works

1. Apply planning solutions and architectural design which take advantage of natural conditions in order to reduce energy consumption for lighting, ventilation, cooling and heating;
2. Use insulation materials manufactured and tested in accordance energy efficiency standards or the international ones which are accepted and announced for application by the, State competent authorities in order to limit the heat transfer through walls, roofs, doors and windows;
3. Use and install machinery and equipment with high energy efficiency which was designed, manufactured and produced in accordance with national standards or the international ones which are accepted and announced for application by the State competent authorities;
4. Apply management and automatic control system in the -operation of energy consuming machinery and equipment appropriately to the size of works;
5. Install electricity and heat measurement devices, room-temperature control devices and electricity and heat supply monitoring systems in buildings suitable with climate conditions and the purposes of use.
6. Use energy efficient construction materials, non-burnt materials; install solar, and biogas used equipment in construction works.
7. Apply technical standards, regulations and norms on energy efficiency and conservation for construction work.

Article 16. Responsibility of State management over energy efficiency and conservation in construction activities

1. The Ministry of Construction presides over coordination with Ministry of Industry and Trade, other relevant ministries and ministerial-level agencies to issue norms on energy consumption, technical codes on design, construction and construction materials in order to use energy effectively and economically.
2. People's Committees of provinces and centrally run cities (hereafter refers to as People's Committees at the provincial level) shall be responsible for applying synchronized management measures to control and monitor strictly the implementation of regulations on energy efficiency and conservation in construction works in the locality.
3. State management agencies in charge of construction shall be responsible for checking and handling violations on energy efficiency and conservation in in-progress construction works and renovating works; not issue the licence for works that is constructed not in accordance with the norms and regulations on energy efficiency and conservation.

Article 17. Responsibilities over energy efficiency and conservation in public lighting

Investors and heads of agencies managing public lighting systems must implement the following requirements:

1. To ensure that the public lighting system is designed in accordance technical standards and regulations applicable to each works and lighting area; to give priority to the use of lighting equipment with high efficiency; lighting equipment using renewable energy, and salvaging natural lighting sources;
2. To use the lighting equipment which are defined as energy saving products upon repair, replacement or installation of a new public lighting equipment;
3. To operate the public lighting system in accordance with appropriate timing regime during a day or seasons, locality and areas.

Article 18. Responsibility of State management over-energy efficiency and conservation in public lighting

1. The Ministry Construction shall issue technical standards and regulations on public lighting that meet the requirements of energy efficiency and conservation.
2. The Ministry of Science and Technology shall carry out publicity of the national standards on energy efficiency in public lighting.
3. The People's Committees at provincial level shall be responsible for application of synchronized management measures and strictly monitor the regulations on electricity saving in public lighting; People's Committees in suburban districts, districts, towns, 'cities under management of provinces, People's Committee of wards, communes and townships shall be responsible for implementing public lighting management to the extent as assigned.

Chapter IV

ENERGY EFFICIENCY AND CONSERVATION IN TRANSPORTATION

Article 19. Energy efficiency and conservation measures in transport activities

1. Organizations and individuals are encouraged to engage in consulting, designing, and investing in public transport; produce and use energy saving means of transport; exploit and expand the application of liquefied petroleum gas (LPG), natural gas, electricity, hybrid fuel, biogas fuel for replacement of petroleum.
2. Organizations and individuals who are involved in business services of transport must select and implement the following measures:
 - a) Optimize the route and means of transport to increase efficient use of energy.
 - b) Formulate and apply internal maintenance, repair of transport means that belong to their management to reduce energy consumption
 - c) Apply due technological, management and organizational solutions to use energy efficiently and economically
3. Investors, contractors during renovation of transport works shall be responsible for:
 - a) Implementing energy efficiency measures that have been approved for the projects;
 - b) Applying energy efficiency and conservation measures. in project construction.

Article 20. Responsibilities of organizations and individuals in producing and importing equipment and means of transport

1. Organizations and individuals producing equipment and means of transport shall be responsible:
 - a) To comply with the technical codes and norms on fuel consumption issued by the State competent authorities.
 - b) To apply advanced technologies; enhance research and manufacture of fuel saving equipment and means of transport; or those using clean fuels, renewable energies and other alternative fuels.
2. Organizations and individuals importing equipment and means of transport are responsible to comply with provisions on energy consumption norms issued by the State competent authorities.

Article 21. Responsibilities of State management over energy efficiency and conservation in transport activities

1. The Ministry of Transport shall be responsible for:
 - a) Implementing energy efficiency and conservation measures in master planning road, railway, waterway and airway transport systems.

- b) Presiding over coordination with relevant ministries, ministerial-level agencies to formulate and issue to the extent of its authority the technical standards, norms of energy consumption for means of transport.
 - c) Giving instruction and guidance for eliminating of expired means of transport which do not reach the minimum energy performance level.
 - d) Providing guidelines to transport service enterprises in optimizing public transport service system to increase efficiency in energy use of transport means;
 - e) Making plans for investment and use of public transport system, increasing the use of railway and waterway service systems with multi-mode transport,
 - f) Checking the compliance with energy consumption norms for means of transport
2. The Ministry of Industry and Trade shall instruct transport service enterprises to comply with technical standards, regulations and norms on energy consumption for means of transport.
 3. The Ministry of Science and Technology shall preside over coordination with relevant ministries, ministerial-level agencies' to publicize the national energy efficiency standards for transport means and environment friendly fuels to be used in transport.
 4. The People's Committees at various levels to the extent of their authority and obligations shall be responsible for:
 - a) Applying energy-saving measures in planning for and development of transportation system in the locality;
 - b) Organizing the separation of traffic lanes and roads in a reasonable manner; determining time periods per a day when certain means of transport can operate in order to reduce traffic jams, save energy and protect the environment.
 - c) Implementing other tasks on energy efficiency and conservation in transport as specified.

Chapter V

ENERGY EFFICIENCY AND CONSERVATION IN AGRICULTURAL PRODUCTION

Article 22. Energy efficiency and conservation measures in agricultural production

1. The planning and organizing of agricultural production in satisfaction of requirements on energy efficiency and conservation
2. Organizations, households and individuals dealing with agricultural production shall select the following measures for energy conservation:
 - a) Apply scientific research results and improve technologies to aim at higher energy efficiency of the equipment in production, processing, outsourcing, preservation and transportation of agricultural products;
 - b) Use clean energy, renewable energy equipment and technologies in production, processing, outsourcing, preservation and transportation of agricultural products and development of careers;
 - c) Implement the roadmap for elimination of old and outdated, low energy efficiency agricultural machinery, equipment, and aquiculture catching equipment and machines as regulated by the State competent authorities;
 - d) Implement the dissemination and popularization of knowledge and consultancy in the effective and economical use of energy.

Article 23. Energy efficiency and conservation measures in irrigation

1. Implement rational planning of optimization of water reservoirs and channel systems by taking the advantage of natural water flow.
2. Operate and use of pump units in the water feeding and drainage pumping stations.

Article 24. Reduction of electricity losses and use of renewable energies in agricultural production and in the rural areas.

1. Invest, improve rural electricity grids in accordance with the technical standards and codes to ensure electric safety and reduce losses of electricity.
2. Encourage the production and use of in-site energy recourses such as wind power, water -power, sun light, biogas, agricultural by-products and other renewable resources.
3. Develop rationally the industrial crops areas for bio fuels production.

Article 25. Responsibilities of State management over energy efficiency and conservation in agricultural production.

1. The Ministry of Agricultural and Rural Development shall be responsible for:
 - a) Providing guidelines for implementation of regulation ad stipulated in Article 22, 23 and clause 2, clause 3 in Article 24 of this law;

- b) Presiding over coordination with relevant ministries, ministerial level agencies, People's Committees at provincial level to make planning of the material crops area for production in bio fuels and submit to the Minister for approval.
2. The Peoples Committees at provincial level shall be responsible for:
- a) Instructing the setting up and organization of the implementation irrigation system plans in the locality;
 - b) Instructing the implementation of material crops area plans for production of bio fuels as approved by the Prime Minister;
 - c) Strengthening monitoring and control of the implementation of regulations on energy efficiency and conservation in agricultural production.

Chapter VI

ENERGY EFFICIENCY AND CONSERVATION IN SERVICE ACTIVITIES AND HOUSEHOLDS

Article 26. Responsibilities over energy efficiency and conservation in services activities

The owners of hotels, supermarkets, restaurants, shops, entertainment establishments, Sport centers and other kinds of service activities shall be responsible for:

1. Implementing energy efficiency and conservation in construction, lighting and managing of machinery and equipment;
2. Limiting the Use of high capacity equipment which uses' much electricity in the peak hours for lighting, decoration and advertisement.
3. Controlling, maintaining, and repairing energy consuming machinery and equipment in order to reduce energy losses in service activities.

Article 27. Energy efficiency and conservation measures in households

The State encourages households to take the following measures for energy efficiency and conservation:

1. Design and build houses so as to take advantages of natural light and ventilation;
2. Use heat insulation materials, energy saving electrical appliances which are certified as energy saving products; fostering the use of renewable energy machinery and equipment;
3. Limit the use of high capacity equipment which uses much electricity in the peak hours;
4. Build up the energy saving styles of life and habits in use of lighting equipment and household appliances.

Article 28. Responsibilities of State management over energy efficiency and conservation in service activities, and households

1. Ministries, ministerial-level agencies to the extent of their authority' and obligations shall provide guidelines for implementing regulations stipulated in this Law on energy efficiency and conservation for service activities and households.
2. People's Committees of all levels to the extent of their authority and obligations shall implement the following assignments:
 - a) To disseminate, and encourage service establishments and households to take measures for energy efficiency and conservation;
 - b) To control the service establishments in locality about their conformity with regulations on energy efficiency and conservation.
 - c) To encourage households building up energy efficiency and conservation household models; and responding to the activities on efficient use of energy.

Chapter VII

ENERGY EFFICIENCY AND CONSERVATION IN THE INVESTMENT PROJECTS AND IN AGENCIES, UNITS USING STATE BUDGET

Article 29. Energy efficiency and conservation in the investment projects using State budget

Investors of new projects, infrastructure renovated projects, and construction works that use State budget must comply with regulations stipulated in this Law suitable with each respective fields of activities and the other relevant legal regulations on energy efficiency and conservation through all stages of project implementation.

Article 30. Energy efficiency and conservation measures in the agencies and units using State budget

1. Annually, Ministers, Heads of ministerial-level agencies, Chairmen of People's Committees at provincial level shall be responsible for instructing the directly under units and organizations which use budget to implement energy efficiency and conservation plans including objectives, measures, energy consumption norms applicable to their professional working offices, construction works and reporting on energy consumption status; formulating and implementing internal energy saving rules, ensuring the smooth operation of energy consuming machinery and equipment in accordance with technical standards and regulations.
2. Agencies, organizations that have under leadership designated energy-using units must carry out energy audit.
3. The Prime Minister shall promulgate the list of energy saving machinery and equipment which are allowable for the said agencies and units to purchase and equip with; publicize the list of agencies and units that are rewarded or violation treated in relation to energy efficiency and conservation.

Article 31. Responsibilities of the Heads of agencies and units using State budget on the implementation of energy and conservation plans

1. To establish annually plan and measures for energy efficiency and conservation; issue internal regulations on energy utilization.
2. To register energy using plan with the State management authorities in the locality; popularize plans, measures and regulations for implementing such plans to all staff.
3. To monitor, evaluate and apply the forms of reward and punishment to under order officers and workers in the implementation of energy efficiency and conservation.

Chapter VIII

ENERGY EFFICIENCY AND CONSERVATION IN DESIGNATED ENERGY-USING UNITS

Article 32. Designated energy using units

Designated energy using units refer to entities that annually use high volume of energy as defined by the Government.

The Ministry of Industry and Trade shall preside over coordination with ministries and ministerial-level agencies and People's Committees at the provincial level to make a list of designated energy-using units and submit to The Prime Minister for approval.

Article 33. Obligations of designated energy-using units

1. In addition to those obligations provided in this Law applicable specifically to the various respected fields of jobs, the designated energy-using units shall have to perform the following obligations:
 - a) To develop and implement annual and 5-year plans for energy efficiency and conservation in conformity with their business and production ones; to report results of the implementation of energy efficiency and conservation plans to the State competent authorities at the locality;
 - b) To establish internal regulations for collectives and individuals concerning the implementation of energy efficiency and conservation plans;
 - c) To appoint an energy manager in accordance with Article 35 of this Law;
 - d) To adopt a compulsory energy audit once every 3 years;
 - e) To apply energy management models set out by the State competent authorities;
 - f) To comply with the provisions on energy efficiency and conservation during the construction, upgrading or expansion of construction works.
2. The Ministry of Industry and Trade shall preside over Coordination with ministries and ministerial-level agencies and People's Committees at the provincial level to provide guidelines to designated energy-using units in the development and implementation of their annual and 5-year plans; provide samples of annual and 5-year reports.

Article 34. Energy audit in designated energy using units

1. Designated energy-using units implement energy audit regime by the way of self-made or hiring energy audit organizations.
2. Energy audit organization must meet the following conditions:
 - a) Being established under the law;
 - b) Having a team of certified energy auditors;
 - c) Having appropriate technical equipment and machinery for energy audit.

3. Designated energy-using units shall only itself audit energy if meeting conditions provided in point b and point c of item 2 in this Article.
4. The Ministry of Industry and Trade shall stipulate in detail energy audit order, procedures; the contents, program of training, competency on certification, grant and withdrawal of the certificates for energy auditors.

Article 35. Requirements and tasks of energy manager in designated energy using units

1. The person appointed to be an energy manager must have the following qualifications:
 - a) He/she must have a College (or equivalent) degree on energy specialty or related technical for designated energy-using units in the field of industrial production, construction works and business service; for designated energy-using units in the field of transportation and agricultural production, he/she must have an intermediate level technical certificate or higher;
 - b) He/she has been trained on energy management and has a certificate issued by the competent agency.
2. The energy manager is responsible to assist heads of designated energy-using units in carrying out the following tasks:
 - a) To develop annual and 5-year plans for energy efficiency and conservation;
 - b) To organize the management network over the use of energy and apply energy management models;
 - c) To organize the implementation of measures for energy efficiency and conservation according to the approved objectives and plans;
 - d) To monitor and evaluate the implementation of measures for energy efficiency and conservation;
 - e) To manage energy demand-side in relation to new installation, repair and upgrade of energy consuming equipment, and the entire production line and implement the regular reporting regime as stipulated;
 - f) To organize the dissemination, education, training and consideration of the proposals on rewards and penalties concerning energy efficiency and conservation activities at the establishment.
3. The Ministry of Industry and Trade shall provide for the contents and training process as well as the competency on issuing and certifying energy management certificates.

Article 36. Responsibilities of State management for designated energy using units

1. The state competent authority in charge of the State management is responsible for:
 - a) Regularly examining the energy efficiency and conservation status of designated energy-using units; receiving and keeping records of annual- and 5-year reports for energy efficiency and conservation as regulated.
 - b) Based on periodical reports on energy use of the designated energy-using units as described in Article 33 of this Law, to ask and direct entities to adjust their annual and 5-year plans for energy efficiency and conservation, as well as their energy consumption norms in conformity with their business and production plans.

2. In the case of failure to comply with the regulation as described in Article 33, 34 and 35 of this Law and other relevant laws, the designated energy-using units shall be charged a violation penalty in accordance with the law.

Chapter IX

MANAGEMENT OVER ENERGY CONSUMING EQUIPMENT AND MACHINERY

Article 37. Energy efficiency and conservation measures for energy consuming machinery and equipment

The State implements the following management measures on energy efficiency and conservation for energy-consuming machinery and equipment:

1. Formulate and publicize energy efficiency standards, and the minimum energy performance levels for energy consuming machinery and equipment;
2. Conduct energy labeling for energy consuming machinery and equipment;
3. Open to public necessary information about energy consumption of machinery and equipment;
4. Eliminate machinery and equipment that is under minimum energy performance levels;
5. Handle with violation acts as prescribed in this Article.

Article 38. The formulation and publication of Energy Efficiency Standards, and the Minimum Energy Performance Levels

1. The formulation of Energy Efficiency Standards, and Minimum Energy Performance Levels for energy-consuming machinery and equipment must satisfy the following requirements:
 - a) To realize the goal of energy savings and environmental protection;
 - b) To be sustainable to socio-economic development requirements, technological level of the country, and to meet requirements of regional and international integration;
 - c) To encourage invest to research, production and supply to market the products with high energy efficiency and energy saving ones;
2. The Ministry of Science and Technology shall publicize once every five year Energy Efficiency Standards, and the Minimum Energy Performance Levels

Article 39. Energy labeling

1. Energy-consuming machinery and equipment in the list of the subjected to energy labeled ones must be labeled before circulating in the market.
2. Manufacturers, importers of machinery and equipment must carry out energy labeling to machinery and equipment after receiving the energy labeling certificates for those ones from the competent agency;
3. The Energy Labeling Certificates will be issued after machinery and equipment being tested and met Energy Efficiency Standards in an authorized testing laboratory.
4. The Ministry of ~Industry and Trade shall be responsible for:
 - a) Developing and submitting to the Prime Minister to issue the List of machinery and- equipment which is subjected to energy labeling and the roadmap for implementation;

- b) Defining the contents and formats of energy labels;
- c) Assigning eligible testing laboratories to be tested and issued the certificate about the energy efficiency level of the tested machinery and equipment in comparison with the relevant energy efficiency standard;
- d) Stipulating order, procedures for issuance of energy label certification to tested machinery and equipment;
- e) Stipulating the recognition of energy labels which are labeled at imported machinery and equipment.

Article 40. Management of machinery and equipment below the minimum energy performance level

1. Energy consuming machinery and equipment that have energy efficiency below the minimum energy performance level must be eliminated according to the list and roadmap the Prime Minister.
2. Not to produce, import machinery and equipment with energy efficiency under minimum energy performance level and those included in the list of machinery and equipment that need to be eliminated.
3. The Ministry of Science and Technology shall preside over and coordinate with the Ministry of Industry and Trade, the relevant ministries, and the ministerial-level agencies to develop and submit to the Prime Minister for issuance of the List of and the roadmap for machinery and equipment elimination suitable with social economic development conditions, and progress of science and technologies of the country by period.

Chapter X

MEASURES FOR PROMOTION OF ENERGY EFFICIENCY AND CONSERVATION

Article 41. Incentives for energy efficiency and conservation

1. The energy efficiency and conservation projects could be considered for financial support from national target programs on energy efficiency and conservation.
2. Organizations and individuals investing in producing energy saving products; or investing in building new production lines, expanding production scale that use energy saving technologies could gain the following incentives and support:
 - a) Incentives on import and export taxes, tax on enterprises income as stipulated in the Law on tax;
 - b) Incentives as prescribed in the Law on land;
 - c) To get preferential loans from the Development Bank, the Science and. Technology Development Assistance Fund, the Fund for National Technology Innovation, the Fund for environmental protection; and get support from National programs for hi-tech development and National target programs on energy efficiency and conservation;
 - d) Other incentives as in this Law and other relevant laws.
3. The machinery, equipment, accessories and materials used for research on the development of energy saving technology; energy saving products, types of fuel saving transport means, using liquefied petroleum gas (LPG), natural gas, electricity, combined or bio fuels that are not yet domestically produced and given to the Government stipulated list could get exemption from or reduction of import duties as stipulated regulations of Law on tax.

Article 42. Scientific and technology development on energy efficiency and conservation

1. The State encourages and creates favorable conditions for organizations and individuals to conduct scientific research, apply and develop energy saving technologies.
2. Ministries, ministerial-level agencies, People's Committees at the provincial level are responsible to allocate funds and formulate programs for scientific and technological research on energy efficiency and conservation.
3. Energy efficiency and conservation scientific application and development to be given priority, are:
 - a) The application and development of appropriate technologies to improve energy efficiency in industries, construction, agriculture and transport;
 - b) The application of technological solutions to manufacture new machinery and equipment with high energy efficiency; improve, renovate and upgrade energy consuming equipment;
 - c) The application of energy efficiency and conservation solutions in designing, building construction works and producing construction materials;
 - d) The development of power and heat cogeneration technology, improvement of working coefficient of thermal turbines units, and the technological solutions to increase the overall coefficient of thermal energy use;

- e) The development and application, of clean coal technology, coal gasification, and gas liquefaction technologies with high efficiency, and reduction of environmental pollutions.
- f) The research and development of alternative types of energies for replacement of traditional fuels.

Article 43. Dissemination; education and development of energy efficiency and conservation consultancy services

The State encourages and creates favorable conditions to organizations and individuals carrying out the following activities:

- 1. To organize dissemination, popularization in order to increase public awareness, and to implement regulations of Law on energy efficiency and conservation;
- 2. To bring the contents of energy efficiency and conservation and incorporate them into school educational programs in appropriate forms;
- 3. To organize energy consulting services to conduct the following activities:
 - a) Energy audit;
 - b) Transfer of energy-saving and environment friendly technologies;
 - c) Training and consulting on the application of advanced energy management models;
 - d) Consulting on the implementation of energy saving measures to energy using entities;
 - e) Information provision and popularization of energy efficiency and conservation;
 - f) Other services related to energy efficiency and conservation.

Chapter XI

RESPONSIBILITIES OF STATE MANAGEMENT OVER ENERGY EFFICIENCY AND CONSERVATION

Article 44. Responsibilities of State management over energy efficiency and conservation

1. The Government shall exercise uniform on State management of the energy efficiency and conservation throughout the country.
2. The Ministry of Industry and Trade shall be responsible to the Government for carrying out the State management for energy efficiency and conservation.
3. Ministries and ministerial-level agencies within the scope of their authority and obligations 'are responsible to carry out State management for energy efficiency and conservation in accordance with the assignments of the Government.
4. People's Committees at all levels within the scope of their authority and obligations shall carry out State management for energy efficiency and conservation as arranged in ranks by the Government.

Article 45. Responsibilities of the Ministry of Industry and Trade over energy efficiency and conservation

1. To issue in the extent of its authority or submit to the State competent authorities for issuance of legislative documents, strategies, policies, programs, national plans on energy efficiency and conservation and organize the implementation as assigned by the Government.
2. To preside over coordination with Ministries, ministerial-level agencies, People's Committees at provincial level for State management on energy efficiency and conservation.
3. To organize the system of national energy database
4. To be involved in dissemination and education of legal regulations on energy efficiency and conservation.
5. To organize scientific research, technology transfer and application in the field of energy efficiency and conservation.
6. To inspect, monitor and handle complaints, denounce and resolve violation in energy efficiency and conservation activities in accordance with regulations of the law.

Article 46. Responsibilities of People's Committees at provincial level for energy efficiency and conservation

1. To formulate plans for energy efficiency and conservation in accordance with and combined in the local social-economical development plans.
2. To organize the implementation of mechanism, policies and plans for energy efficiency and conservation.
3. To inspect, monitor and handle complaints, denounce and handle with legislation violation in energy efficiency and conservation activities at the locality in accordance with the regulations of the law.

Chapter XII

IMPLEMENTATION PROVISIONS

Article 47. Validation of implementation

This Law shall be of full force and effect as of 01 January 2011.

Article 48. Detailed regulations and guidelines for implementation

The Government shall detail the regulations and provide guidelines for implementation of Articles and Clauses of this Law; and other necessary issues of this Law to meet requirements of the State management.

This Law was passed by the XII National Assembly of the Socialist Republic of Vietnam at its 7th session on 17 June 2010.

CHAIRMAN OF THE NATIONAL ASSEMBLY

(Signed)

Nguyen Phu Trong

GOVERNMENT

No: 21 /2011/ND-CP

SOCIALIST REPUBLIC OF VIETNAM

Independence – Freedom – Happiness

Hanoi, 29 March, 2011

DECREE

**On detailed regulations and implementation measures
of the Law on Energy Efficiency and Conservation**

Pursuant to the Law on Organization of the Government on December 25, 2011;

Pursuant to the Law on Energy Efficiency and Conservation on June 28, 2010;

At proposal of Minister of Industry and Trade

CHAPTER I

GENERAL PROVISION

Article 1. Scope of governing

This Decree provides statistical work on energy use; designated energy using units; energy efficiency and conservation in units and agencies using State budget; energy labeling of energy-consuming devices and equipment; measures to promote energy efficiency and conservation, and examination and inspection of energy efficiency and conservation.

Article 2. Subjects of application

This Decree applies to organizations and individuals using energy in Vietnam.

CHAPTER II

STATISTICAL INDICATORS ON ENERGY USE

Article 3. Statistical indicators on energy use

Statistical indicators on energy use within the system of national statistical indicator shall be applied uniformly throughout the country and are updated annually, including the following the following indicators:

1. Group of indicators on quantity and volume of energy use classified by:
 - a) Economic sector
 - b) Designated energy using unit
 - c) Purpose of use
 - d) Type of energy
2. Indicators on energy consumption modulus classified according to a number of key products.
3. Indicators on quantity and type of energy consuming facilities and equipment on the List of must-be-energy-labeled energy consuming facilities, equipment which are produced or imported
4. Ministry of Investment and Planning presides over coordinator with Ministry of Industry and Trade to submit the Prime Minister to add statistical indicators on energy use to the National statistical indicators; to periodically organize and direct the implementation of publication the information of energy use

Article 4. Responsibilities of collecting, analyzing statistic information on energy use

1. Ministry of Industry and Trade presides Ministry of Investment and Planning to instruct to collect, synthesis, analyze the statistical information of energy use
2. Ministries, ministerial-level agencies, provinces and cities directly under the central government are responsible for submitting report on statistical information on energy use

Article 5. Organization of the National energy database system

1. Ministry of Industry and Trade is responsible for organization and formulation of the National energy database system
2. Information of National energy database system include:
 - a) Statistical indicators on energy use are stipulated in the Article 3 of this Decree.
 - b) Quantity and volume of primary energy which are domestically produced and imported includes: coal, crude oil, natural gas, hydropower, electricity, renewable energy, nuclear energy.
 - c) Quantity and volume of primary energy which are domestically produced includes: electricity, fuel from petroleum and coal products.
 - d) Indicators on price index of some key energy

**Chapter III
DESIGNATED ENERGY USING UNITS**

Article 6. Identification of designated energy using units

1. Designated energy using units are units that have the following energy consumption levels:
 - a) Production facilities in industry, agriculture, transportation that have total annual energy consumption of total of one thousand tons of oil equivalent (1,000 TOE) or higher
 - b) Construction works used as offices and houses; educational, medical, entertainment, physical training and sports establishments; hotels, supermarkets, restaurants and shops which annually consume energy of a total of five hundred tons of oil equivalent (500 TOE) or higher.
2. Ministry of Industry and Trade presides over coordination with the related Ministries and sectors to submit to the Prime Minister the adjustment of defining the designated energy using units in satisfaction with socio-economic development of the country.

Article 7. List of designated energy using units

1. Economic groups, state-own corporation are responsible for examining, reviewing and making the list of designated energy using units in the area under their own management to send to Ministry of Industry and Trade before February 1 every year.
2. People's Committees of provinces and cities directly under the central government shall direct the local specialized agencies to examine, review and make list of designated energy using units
3. Ministry of Industry and Trade presides over coordination with related Ministries and sectors and People's Committees of provinces and cities directly under the central government to propose the Prime Minister to promulgate List of designated energy using units nationwide before March 31 every year.

Article 8. Energy management model

Designated energy-using units must apply the energy management model with the following contents:

1. To announce objectives and policies on energy efficiency and conservation in their facilities.
2. To make the annual and five-year report on energy efficiency and conservation in their facilities; to formulate and implement the measures on energy efficiency and conservation according to the set objectives, policies and plans; to define the responsibility of each collective and person to implement energy efficiency and conservation.
3. To set up network of energy managers based on the criteria provided in the Clause 1, Article 35 of the Law on energy efficiency and conservation.

4. To regularly check and monitor the energy consumption demands of devices and equipment of entire production chains, and the installation, upgrading, repair of the energy consuming equipment at the units.
5. To implement energy audit; to propose managerial and technological solutions for energy efficiency and conservation.
6. To periodically conduct training and re-training for labors on energy efficiency and conservation
7. To adopt the reward and discipline regimes to promote energy efficiency and conservation.

Article 9. Energy audit

1. Energy audit covers the following major contents:
 - a) To survey, measure and collect data on energy use at the units.
 - b) To analyze, calculate and evaluate the energy use efficiency
 - c) To assess the energy saving potentials
 - d) To propose the energy saving solutions
 - e) To analyze the investment effectiveness of the proposed energy saving solutions
2. Designated energy-using units shall submit the energy audit reports to the Department of Industry and Trade within 30 days after conducting energy audit.

Article 10. Planning on energy efficiency and conservation

1. Designated energy-using units are responsible for making annual and five-year plan on energy efficiency and conservation
 - a) Annual plan shall be made annually
 - b) Five-year plan shall be made for each five-year period
3. Annual and five-year plan covers the following major contents:
 - a) Evaluation and implementation of the previous year (for annual plan) or the previous five years (for five-year plan)
 - b) Planning on energy efficiency and conservation for the planning year (for annual plan) or the next five years (for five-year plan)

- c) The Ministry of Industry and Trade shall guide contents and forms, time, order and procedure for submitting the report specified in Clauses 1 and 2 of this Article.

CHAPTER IV

ENERGY EFFICIENCY AND CONSERVATION IN AGENCIES, UNITS

USING STATE BUDGET

Article 11. Energy efficiency and conservation in agencies, units using State budget

1. Heads of agencies, units using State budget are responsible for:
 - a) Strictly complying with the regulations in the Article 30, Article 31 of the Law on Energy Efficiency and Conservation
 - b) Setting the goals, registering the targets on energy saving in the agencies or units; directing the formulation and implementation of annual energy use plan.
 - c) Examining the implementation of energy efficiency and conservation in the agencies and units; organizing the dissemination and education about the energy saving to the employees of the agencies and units
 - d) Making statistics and report on annual energy use situation as regulated in the Clause 1, Article 13 of this Decree.
 - e) Rewarding the organizations and individuals for good performance; promptly handling violations of regulations on energy efficiency and conservation in agencies and units.
2. Heads of agencies, units using State budget in the List of Designated energy-using units are responsible for fully implementing the regulations to the designated energy-using units in Law on Energy Efficiency and Conservation and this Decree.
3. Ministry of Industry and Trade presides over with coordination with Ministries, sectors, People's Committees of provinces and cities directly under the central government to propose the Prime Minister the list of agencies or units rewarded, or handled for violations of regulations on energy efficiency and conservation.

Article 12. Procurement of devices and equipment in the agencies, units using State budget

1. When replacing and buying new devices and equipment, agencies, units using State budget must buy the devices and equipment in the List of energy-saving equipment permitted for furnishing and procurement by the Prime Minister.
2. Ministry of Industry and Trade presides over coordination with related Ministries, sectors to submit the List of devices and equipment
3. Ministry of Finance provides detailed instruction for the procurement of devices and equipment in the List of energy-saving devices and equipments permitted for furnishing and procurement.

Article 13. Report on energy use of agencies and units using State budget

1. Annually, agencies or units using State budget make report on energy use and submit to the competent state management agency. The report's content includes:
 - a) Name and address
 - b) Annual plan on energy use; plan on replacement, procurement and repair of devices and equipment; annual targets and solutions for energy saving
 - c) Situation of energy use; replaced or newly bought or repaired devices and equipment and energy saving solutions carried out in the year, comparison with plan.
2. People's Committees of provinces and cities directly under the government are responsible for decentralizing the receipt, examination, evaluation and summarization of reports as regulated in Clause 1 of this Article for submission to the Ministry of Industry and Trade.
3. Ministry of Industry and Trade shall guide the form and deadline to submit the report as specified in this Article

CHAPTER V

ENERGY LABELING FOR ENERGY-CONSUMING DEVICES AND EQUIPMENT

Article 14. Energy labeling

1. Devices and equipment in the list of devices and equipments subject to energy labeling must be labeled before being put on the market.

2. Ministry of Industry and Trade presides over coordination with related Ministries, sectors to make the List of devices and equipment subject to energy labeling and roadmap of implementation and submit the Prime Minister for decision.

Article 15. Classification of energy labels

1. Energy labels include two types:
 - a) Comparative label, providing information on energy consumption rate, type of energy, energy efficiency and other information to enable consumers to compare the products of the same type on the market for recognition and selection the energy-saving devices and equipment.
 - b) Certification label certifies that devices and equipment has the highest energy efficiency compared with others of the same types
2. Based on the National Standard of Energy efficiency, Ministry of Industry and Trade regulates the energy efficiency level in the comparative label and certification label.

Article 16. Testing laboratories of energy efficiency

Testing laboratory is awarded the certificate of testing energy efficiency standard conformity of devices and equipments for energy labeling when it meets the following conditions:

1. It is a specified laboratory recognized according to the standards of the Vietnam Laboratory Accreditation Scheme (VILAS) or a laboratory recognized by the International Laboratory Accreditation Cooperation (ILAC) or the Asia-Pacific Laboratory Accreditation Cooperation (APLAC).
2. It is not recognized according to the standards of the Vietnam Laboratory Accreditation Scheme but qualified for testing energy efficiency as examined, evaluated and designated by the Ministry of Industry and Trade to test energy efficiency standard conformity of energy-consuming devices and equipment when satisfying the following requirements:
 - a) Having testing personnel who are technically trained in energy-consuming devices and equipment to be tested
 - b) Having testing equipment which is examined and calibrated under regulations and capable of accurately testing norms.
3. Ministry of Industry and Trade announces the List of testing laboratories qualified for energy efficiency testing

Article 17. Registration dossiers for energy labeling and competence to issue the energy label certificate for devices and equipment

1. Registration dossier for energy labeling for devices and equipment includes:
 - a) Technical specifications of the device or equipment:
 - b) Testing results of energy efficiency of the devices and equipment issued by the laboratory stipulated in the Article 16 of this Decree.
 - c) Written Request for energy labeling
2. Ministry of Industry and Trade organizes the implementation of issuing the Certificate of energy labeling for devices and equipment.
3. Ministry of Finance regulates the fee of issuing the Certificate of energy labeling

Article 18. Implementation of energy labeling

1. Energy labels comply with the forms as the regulation of Ministry of Industry and Trade and shall be stuck on devices and equipment.
2. Manufacturers and importers themselves print the and stick the energy labels for the devices and equipments obtaining the Certificate of energy label
3. Sixty working days before the invalidity of the Certificate of energy label, the manufacturers and importers have to make the registration. Manufacturers and importers are not allowed to stick the energy label on devices and equipment with expired Certificate of energy label.

Article 19. Termination of energy label and withdrawal of the Certificate of energy label

1. Energy labeling shall be terminated in the following cases:
 - a) Sticking false energy labels
 - b) Energy labeling without Certificate of energy label or with expired or tampered Certificate of energy label
 - c) Energy labeling does not comply with the contents and form issued by Ministry of Industry and Trade or with incorrect of energy efficiency of devices and equipment.
2. Certificate of energy label shall be withdrawn in the following cases:
 - a) Frauds are detected in the registration dossier for energy labeling

- b) Testing results do not match the actual energy efficiency of the devices or equipment
 - c) Sanctions have been imposed twice for violations of Clause 1 of this Article.
3. Ministry of Industry and Trade shall guide the implementation of regulations in Clause 1, 2 of this Article.

Article 20. Report by manufacturers of energy-consuming devices and equipment in the List of devices and equipment subject to energy labeling

1. Manufacturers of energy-consuming devices and equipment in the List of devices and equipment subject to energy labeling are responsible for submitting the annual report to local Department of Industry and Trade with the following contents:
- a) Name, address
 - b) Type of devices, equipment and quantity of each device and equipment which are sold.
 - c) Energy efficiency of each device and equipment
2. Department of Industry and Trade receives and summarize reports of manufacturers of devices and equipment in the List of devices and equipment subject to energy labeling in their localities for submission to Ministry of Industry and Trade before March 31 of the subsequent year.
3. Ministry of Industry and Trade shall guide the form of report specified in this Article.

Article 21. Report by importers of energy-consuming devices and equipment in the List of devices and equipment subject to energy labeling

1. Importers of energy-consuming devices and equipment in the List of devices and equipment subject to energy labeling are responsible for submitting the annual report to local Department of Industry and Trade with the following contents:
- a) Name and address of importers
 - b) Type of devices, equipment; countries of manufacture and quantity of each imported device and equipment
 - c) Energy efficiency of each device and equipment
 - d) Type of devices, equipment with energy efficiency certificate awarded by the countries of manufacture

2. Department of Industry and Trade receives and summarizes reports of importers of devices and equipment in the List of devices and equipment subject to energy labeling in their localities for submission to Ministry of Industry and Trade before March 31 of the subsequent year.
3. Ministry of Finance is responsible for providing the information on type, quantity and origin of the imported devices and equipment in the List of devices and equipment subject to energy labeling proposed by the Ministry of Industry and Trade.
4. Ministry of Industry and Trade shall guide the form of report specified in this Article.

Article 22. Inspection, reporting of the implementation of energy labeling

1. Annually, manufacturers and importers awarded with the Certificate of energy labeling for devices and equipment are responsible for making statistic on quantity, types of devices and equipment sold on the market in the year and sending to Ministry of Industry and Trade before March 1 of the subsequent year.
2. Manufacturers and importers violating the regulations on energy labeling shall be handled under the Law.
3. Ministry of Industry and Trade presides over coordination with related Ministries, sectors, People's Committees of provinces and cities directly under central government to examine the testing of the devices and equipment for energy labeling at laboratories; to inspect the printing and labeling of energy labels; and regularly or irregularly inspect the labeled devices and equipment circulated in the market.

Article 23. Energy-consuming devices and equipment subject to elimination

1. Bases of defining devices and equipment in the List of devices and equipment that must be eliminated include:
 - a) Failure to reach the safety standards of devices and equipment
 - b) Energy efficiency of devices and equipment is lower than the minimum energy performance
 - c) Conformity with national socio-development and state management requirements in each period.
2. Ministry of Science and Technology announces the Minimum Energy Performance level in the energy efficiency standards for devices and equipment

3. Ministry of Science and Technology presides over coordination with the related Ministries, sectors to make and propose the Prime Minister for promulgating List of devices and equipment subject to elimination as stipulated in the Clause 1, 2 of this Article.
4. Import and circulation of devices and equipment on the list of those subject to elimination are prohibited.

CHAPTER VI

PROMOTION MEASURES FOR ENERGY EFFICIENCY AND CONSERVATION

Article 24. Application of managerial and technological measures for energy efficiency and conservation

1. Ministry of Industry and Trade presides over coordination with related Ministries, ministerial-level agencies to promulgate regulations on managerial and technological measures to encouraged or compulsory for application in industrial production stipulated in the Article 9, 10, 11, 12, 13 of the Law on Energy Efficiency and Conservation.
2. Ministry of Construction presides over coordination with related Ministries, ministerial-level agencies to promulgate regulations on managerial and technological measures to encouraged or compulsory for application in construction stipulated in the Article 15 of the Law on Energy Efficiency and Conservation.
3. Ministry of Transport presides over coordination with related Ministries, ministerial-level agencies to promulgate regulations on managerial and technological measures to encouraged or compulsory for application in transportation stipulated in the Article 19 of the Law on Energy Efficiency and Conservation.
4. Ministry of Agriculture and Rural Development presides over coordination with related Ministries, ministerial-level agencies to promulgate regulations on managerial and technological measures to encouraged or compulsory for application in transportation stipulated in the Article 22, 23 of the Law on Energy Efficiency and Conservation.

Article 25. Energy audit and report on energy use situation in units not in List of designated energy-using units

1. Units not in List of designated energy-using units are encouraged to periodically conduct the energy audit and report on their energy use.

2. State management agencies in charge of energy efficiency and conservation are responsible for guiding and supporting the units to conduct the energy audit and report on their energy use like the designated energy-using units.

Article 26. National Target Program on Energy Efficiency and Conservation

1. National Target Program on Energy Efficiency and Conservation includes the main following contents:
 - a) Completion of the legal framework, updating of the standards and technical regulations related to energy saving.
 - b) Propaganda, dissemination, guidance and education to raise public awareness about energy efficiency and conservation
 - c) Study and development of projects to apply science and technology for improving energy efficiency in industrial production, construction, transport, agriculture and services
 - d) Support for projects to promote energy efficiency and conservation
2. **Financial sources for National Target Program on Energy Efficiency and Conservation come from:**
 - a) State budget funds for the National Target Program on Energy Efficiency and Conservation outside the State budget funds for science and technology.
 - b) Funds originated from and outside the State budget
 - c) Contributions and donations of Vietnamese organizations and individuals, overseas Vietnamese and foreign organizations and individuals
 - d) Other legal sources under the law
3. **Implementation of the National Target Program on Energy Efficiency and Conservation is provided as follows:**
 - a) Prime Minister shall approve and direct the implementation, examination, evaluation of the implementation of the National Target Program on Energy Efficiency and Conservation.
 - b) The standing body for the National Target Program on Energy Efficiency and Conservation is based in the Ministry of Industry and Trade. The Ministry of Industry and Trade presides over coordination with related Ministries, ministerial-level

agencies to formulate contents, tasks and management mechanisms of the National Target Program on Energy Efficiency and Conservation

- c) Ministry of Finance presides over coordination with Ministry of Industry and Trade to formulate financial mechanism of National Target Program on Energy Efficiency and Conservation
- d) Based on the National Target Program on Energy Efficiency and Conservation, ministers, heads of ministerial-level agencies and chairperson of People's Committees of provinces and cities directly under the central government are responsible for performing their assigned and decentralized tasks.

Article 27. Investment incentives

Investment projects to manufacture energy-saving devices and equipment; and upgrade the production chains and expand production scales with energy-saving technologies are entitled to support under the current regulations on investment credit and investment incentives.

Article 28. Support for the manufacture and import of energy-saving devices and equipment; renewable energy-consuming devices and equipment and energy audit

1. The State provides tax incentives and supports in capital and land for manufacture of domestic energy-saving products and renewable energy-consuming products to build manufacture facilities.
2. Energy-saving and renewable energy-consuming devices and equipment, parts and components which are not domestically produced yet are entitled to import duty exemption and reduction under the tax law, including:
 - a) Devices, equipment, parts and supplies for research into development and renovation of energy-saving technologies, programs on survey, research, trial manufacture and formulation of typical projects to use renewable energy
 - b) Parts and components for the manufacture of energy-saving lighting devices and equipment; devices and equipment using solar and wind power
 - c) Energy-saving products, fuel-saving vehicles and vehicles running on liquefied gas, natural gas, electricity, mixed fuel or bio-fuel which are not domestically produced yet
3. Partly supporting funds from the National Target Program on Energy Efficiency and Conservation for the energy entities to conduct energy audit for the first time

4. Ministry of Industry and Trade presides over coordination with Ministry of Finance and related Ministries, sectors and agencies to make a detailed list of imported devices, equipment, parts and components provided in Clause 2 of this Article to submit to the Government for promulgation.
5. Ministry of Finance presides over coordination with Ministry of Industry and Trade and related ministries, sectors to provide guidance on tax exemption and reduction and financial support as stipulated in Clauses 1, 2 and 3 of this Article

Article 29. Raising awareness about energy efficiency and conservation

1. Ministries, sectors and People's Committees of provinces and cities directly under the central government may conduct public information and propaganda activities in the mass media to raise public awareness about encourage people's participation in the field of energy efficiency and conservation
2. **Measures to raise awareness about energy efficiency and conservation include:**
 - a) To train and develop energy management personnel for units, sectors and localities
 - b) To popularize energy saving through the educational system of all levels and the mass media;
 - c) To organize showrooms of energy-saving products and competitions on energy saving initiatives

CHAPTER VII

EXAMINATION AND INSPECTON OF ENERGY EFFICIENCY AND CONSERVATION

Article 30. Content of examination, inspection on energy efficiency and conservation

1. Reporting regimes and contents and planning of energy efficiency and conservation and energy audit at designate energy-using units
2. Operations of energy audit consultancy institution
3. Reporting regimes and statistics on manufacture and import of devices and equipment subject to energy labeling
4. Compliance with regulations on energy labeling
5. Compliance with regulations on energy efficiency and conservation in units and agencies using State budget

6. Provisions on prohibited acts as stipulated in Article 8 of the Law on Energy Efficiency and Conservation

Article 31. Powers and responsibilities for examination and inspection of energy efficiency and conservation

1. Competent energy state management agencies shall regularly examine energy use of the designated energy-using units; and examine energy labeling for devices and equipment as provided by the Prime Minister.
2. When inspecting energy efficiency and conservation, inspection teams and inspectors are responsible for:
 - a) Complying with the inspection law regarding their powers and inspection order and procedures, not harass, trouble and obstruct production and business activities of inspected entities
 - b) Promptly taking legal measures to stop and handle violations of the law on energy and conservation; taking responsibility before law for their inspection conclusions and handling measures

Article 32. Rights and obligations of entities subject to inspection of energy efficiency and conservation

Entities subject to inspection of energy efficiency and conservation have the following rights and obligations:

1. To provide related inspection documents to inspection teams and inspectors
2. To create conditions for inspection teams and inspectors to perform their tasks
3. To observe handling decisions of inspection teams and inspectors
4. To perform other rights and obligations under the inspection law

CHAPTER VIII

ORGANIZATION OF IMPLEMENTATION

Article 33. Responsibilities of ministries in State management of energy efficiency and conservation

- 1. Ministry of Industry and Trade:**

- a) To take responsibility before the Government for its State management of energy efficiency and conservation according to the tasks as stipulated in the Law on Energy Efficiency and Conservation
- b) To coordinate with Ministries, sector, People's Committees of provinces and cities directly under the central government to supervise, inspect and urge the implementation of the Law on Energy Efficiency and Conservation and this Decree, and annually report to the Prime Minister;
- c) To appropriately organize and arrange personnel to assist the Minister in performing the State management of energy efficiency and conservation

2. Ministry of Science and Technology

To perform the tasks as stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

- a) To preside over coordination with related Ministries, sectors to formulate and announce National standards on energy efficiency and minimum energy efficiency level for popular energy-consuming devices and equipment according to the energy labeling roadmap; National standards on energy efficiency for architectural structures, construction, lighting, heating and cooling materials, and energy supply levels for key areas within buildings; and National standards on energy management systems in industrial and agricultural production units, buildings and transport businesses
- b) To coordinated with related Ministries, sectors to formulate policies on technology transfer and study and apply scientific and technological advances in energy efficiency and conservation

3. Ministry of Construction:

To perform the tasks as stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

- a) To promulgate according to its competence or propose competent agencies to promulgate standards and technical regulation on energy efficiency and conservation in designing construction works and construction materials
- b) To preside over coordination with Ministry of Industry and Trade to guide the designated energy-using units in construction activities; to direct and guide the implementation of solutions for energy efficiency and conservation in construction activities

- c) To organize training and retraining in energy efficiency and conservation in construction activities

4. Ministry of Transport:

To perform the tasks stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

- a) To promulgate according to its competence or propose competent agencies to promulgate standards, technical regulations and norms on energy consumption for a number of vehicles suitable to each period and inspect the observance of these regulations
- b) To promulgate regulations on technical management and guide transport businesses in formulating norms and conducting regular technical maintenance during the operation and use of vehicles in order to energy efficiency and conservation
- c) To preside over coordination with Ministry of Industry and Trade to guide the designated energy-using units in managing energy use in transport activities, to guide the implementation of solutions for energy efficiency and conservation in the organization and operation of the transport system
- d) To study and apply scientific and technological advances in order to energy efficiency; to study and develop renewable fuels and energies to replace traditional fuels used in transport

5. Ministry of Agriculture and Rural Development:

To perform the tasks stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

- a) To promulgate according to its competence or propose competent agencies to promulgate standards and technical regulations on energy efficiency and conservation in agriculture production and irrigation
- b) To preside over coordination with Ministry of Industry and Trade to guide the designated energy-using units in managing energy use in agriculture production; to direct and guide the implementation of solutions for energy efficiency and conservation in agricultural production and irrigation
- c) To organize training and retraining in energy efficiency and conservation, irrigation and rural areas

6. Ministry of Finance

To perform the tasks stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

- a) To preside over coordination with related Ministries and sectors to formulate and promulgate or propose competent agencies to promulgate detailed guidance on financial incentives for energy efficiency and conservation and energy-saving products
- b) To preside over coordination with related agencies to guide procedures for import of devices and equipment subject to energy labeling; to issue regulations on collection, remittance, management and use of fee for energy label certificates.

7. Ministry of Investment and Planning

To coordinate with the Ministry of Industry and Trade to provide statistical indicators on energy use to be included in the National system of statistical indicators on energy use; to organize and direct the regular public announcement of statistical information on energy use

8. Ministry of Education and Training

To introduce energy efficiency and conservation into educational and training activities suitable to each educational level

9. Ministry of Information and Communications

To preside over coordination with Ministry of Industry and Trade to organize and direct the mass media in implementing public programs to raise social awareness about energy efficiency and conservation

Article 34. Responsibilities of People's Committees of provinces and cities directly under the central government

To perform the tasks stipulated in the Law on Energy Efficiency and Conservation and the following tasks:

1. To formulate programs on energy efficiency and conservation for inclusion in their local socio-development plans and inspect and evaluate their implementation
2. To direct local specialized agencies in examining, checking and listing designated energy-using
3. To examine, evaluate and summarize reports and plans on energy use of units and agencies using state budget and designated energy-using units in their localities

Article 35. Effect of implementation

1. This Decree takes on May 15, 2011
2. This Decree replaces the Government's Decree No. 102/2003/ND-CP of September 3, 2003 on energy efficiency and conservation

Article 36. Implementation responsibilities

Ministers, heads of ministerial-level agencies, heads of government-attached agencies, heads of chairpersons of People's Committees of provinces and cities directly under the central government and related organizations and individuals are responsible for implementing this Decree.

Recipients:

- Party Central Committee's Secretariat
- The Prime Minister, Deputy PMs
- Ministries, ministerial-level agencies, Government agencies,
- Office of National Steering Committee on Corruption Prevention and Control,
- People's Councils, People's Committees of provinces, centrally-run cities,
- Office of Party Central Committee and other Party Commissions,
- Office of the State President,
- National Council and NA Committees,
- Office of the National Assembly,
- People's Supreme Court,
- People's Supreme Procuracy,
- National Financial Supervising Committee,
- State Audit,
- Bank for Social Policies,

PRIME MINISTER

(Signed)

Nguyen Tan Dung

- Vietnam Development Bank,
- Vietnam Fatherland Front's Central Committee,
- Central agencies of mass organizations,

THE GOVERNMENT

No. 73/2011/ND-CP

SOCIALIST REPUBLIC OF VIETNAM
Independence - Freedom - Happiness

Hanoi, August 24, 2011.

DECREE
**Regulating administrative breaches against
energy thrifty and efficient use**

THE GOVERNMENT

Based on Law on Organization of the Government dated December 25, 2001;
Pursuant to Law on Energy Thrifty and Efficient Use dated June 28, 2010;
Based on Ordinance on Dealing with Administrative Breaches dated July 2, 2002
and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on
Dealing with Administrative Breaches dated April 2, 2008;
Pursuant to Decree No. 21/2011?ND-CP, dated March 29, 2011, regulating
enforcing details and measures for the Law on Energy Thrifty and Efficient Use:
Considering proposal from the Minister of Ministry of Industry and Trade,

DECICE:

Chapter I

GENERAL REGULATIONS

Article 1. Governing scope

1. This decree regulates administrative breaching acts, punishing forms, punishing levels, pushing authority and measures to overcome consequences regarding thrifty and efficient energy use.
2. Thrifty and efficient energy use breaching acts are acts that breach regulations of State management of thrifty and efficient energy use in Vietnam committed by individuals, organizations in either an intentional or unintentional manner that are not subjected to the level of criminal prosecution, will be dealt with administrative punishments regulated in this Decree.
3. Thrifty and efficient energy use breaching acts include:
 - a) Energy auditing regulation breaches;
 - b) Thrifty and efficient energy use regulation breaches in industrial production, construction, transportation, agricultural production;

- c) Thrifty and efficient energy use regulation breaches in focal energy using establishments;
 - d) Energy brand name regulation breaches;
 - e) Breaches in energy production and import, means commuting, energy consumption equipments in the List of means, equipments that should be eliminated;
 - f) Breaches that hinder public activities in thrifty and efficient energy use;
4. Acts that damage national energy sources; falsifications and frauds aimed at State preferential policies on thrifty and efficient energy use; abuse of designation and authority in thrifty and efficient energy use management for self-interest and other breaching acts shall be dealt with according to regulations specified in related laws.

Article 2. Punishing objects

1. Domestic individuals, organizations (hereinafter referred to as individuals, organizations) committing thrifty and efficient energy use administrative breaches in Vietnam's territory.
2. Adolescents committing thrifty and efficient energy use administrative breaches shall be dealt with according to regulations specified in Article 7 of the Ordinance on administrative punishment breaches.
3. Should officials, civil servants commit thrifty and efficient energy use legal breaches while fulfilling their public services relating to thrifty and efficient energy use, these objects shall not be punished according to stipulations of this Decree, but dealt with according to regulations of the law on officials, civil servants.

Article 3. Punishing principle

1. Principle on dealing with thrifty and efficient energy use administrative breaches shall be enforced according to legal regulations on dealing with administrative breaches.
2. Dealing with thrifty and efficient energy use administrative breaches shall be done by competent authorities according to stipulations specified in Articles 25, 25, 27 and 28 of this Decree.

Article 4. Mitigating, aggravating circumstances

Mitigating, aggravating circumstances applied in dealing with thrifty and efficient energy use administrative breaches shall be carried out according to the law on administrative breach punishment and this Decree.

Article 5. Administrative breach punishing prescription

1. Prescription for punishment of thrifty and efficient energy use administrative breaches shall be one year, starting from the day thrifty and efficient energy use administrative breaches are discovered.

Should it be over the above prescription, objects shall not be punished, but consequence overcoming measures shall still be applied as regulated in this Decree.

2. Individuals, who have already been brought to court of first instance, prosecuted or decided to be tried according to criminal procedures but later on have their investigations or cases suspended while their acts bear signs of thrifty and efficient energy use administrative breaches, then these objects shall be subjected to thrifty and efficient energy use administrative breach punishment. Within a time limit of 3 working days, starting from issuance of investigation or case suspension, criminal prosecuting agencies shall have to send investigation or case suspension decisions along with breaching dossiers and proposal for administrative punishment to competent administrative punishing authorities. Prescription for dealing with administrative breaches shall be three months, starting from the day the competent administrative punishing authorities receive suspension decision and breach dossiers.

3. During the time regulated in items 1, 2 of this Article, should individuals, organizations commit new thrifty and efficient energy use administrative breaches or intentionally avoid, obstruct punishment enforcement, the prescription regulated in items 1, 2 of this Article shall not be applied. Prescription for punishment of administrative breaches in the above cases shall be counted from the time new administrative breaches are committed or the time when intentional acts to avoid, obstruct punishment end.

Article 6. Prescription considered as not having been punished for administrative breaches

Individuals, organizations that have been punished for thrifty and efficient energy use administrative breaches shall be considered as not having been punished for administrative breaches if they do not repeat what they did a year after having fulfilled their punishment decisions or punishment decisions expire.

Article 7. Punishing forms and consequence overcoming measures

1. For every thrifty and efficient energy use administrative breach, individuals or organizations shall be subjected to one of following main punishing forms:

a) Criticism;

b) Cash punishment.

2. Depending on nature, infringing level, individuals and organizations committing administrative breaches shall also be subjected to one or more following additional punishing forms:

a) Being deprived of the right for use of energy labeling certificates; certificates for being qualified energy auditor, energy management training establishments; or deprived of their energy management, energy auditing certificates.

b) Objects, means used to commit thrifty and efficient energy use administrative breaches shall be confiscated.

3. In addition to punishing forms regulated in items 1, 2 of this Article, individuals, and organizations committing thrifty and efficient energy use administrative breaches shall also be subjected to one or more consequence overcoming measures stipulated in Chapter II of this Decree.

Article 8. Compensation for damage caused by thrifty and efficient energy use administrative breaches

Individuals, organizations committing thrifty and efficient energy use administrative breaches that cause damage to interest of the State, legal right and interest of other individuals, organizations shall have to compensate for such damage according to legal stipulations.

Article 9. Responsibility of competent administrative breach dealing authorities

1) In discovering administrative breaches, on-duty competent personnel have to make minutes, stop those breaches at once, and conduct administrative breach punishment according to regulated procedure stipulated in Chapter VI of the Ordinance on Dealing with Administrative Breaches. Should the breaches be out of or beyond their punishing authority, dossiers on breaches should be sent to competent authorities in a timely manner.

2) Competent thrifty and efficient energy use administrative breach dealing authorities shall have to impose a punishment according to their authority. Should these authorities be absent, authority shall be delegated to their deputies to personally deal with punishment according to regulations in Article 41 of the Ordinance on Dealing with Administrative Breaches.

3) Should the competent thrifty and efficient energy use administrative breach dealing authorities cause difficulties, protect, not deal with, keep cases of criminal signs so as to deal with them with administrative punishment, split breaches out in order to deal with within their authority, untimely or improper dealing, or dealing beyond their authority, they shall be disciplined depending on nature, infringing levels of specific cases or charged of criminal obligation. Should there be any damage, they shall have to compensate for it according to legal regulations.

4. Cases which have been decided for punishment by improper authority, against wrong objects or infringing acts; wrong application, punishing level and wrong consequence overcoming measure; being punished not according to punishing prescription, punishing term shall have to be revised or cancelled in illegally wrong cases.

5. Dealing with competent personnel that decide punishment against thrifty and efficient energy use administrative breaches shall follow legal regulations on officials, civil servants and related legal documents.

Chapter II
BREACHING ACTS,
DISCIPLINING FORMS, PUNISHING LEVELS

Section 1
ENERGY REGULATION BREACHES

Article 10. Energy auditing breaches committed by focal energy using establishments

1. Criticism punishment shall be applied to inadequate observation of auditing reports made according to regulated samples.

2. Cash fines from VND 50,000,000 to 70,000,000 shall be imposed on avoiding carrying out energy auditing as regulated.

Article 11. Breaches against regulations on training and issuance of certificates on energy auditing

1. Regarding conducting of training course to issue certificates for completion of an energy auditor training course that fails to ensure necessary conditions regulated by the Ministry of Industry and Trade:

a) Cash fine from VND 10,000,000 to 15,000,000 against breaches relating to the contingent of trainers;

b) Cash fine from VND 15,000,000 to 20,000,000 against breaches relating to training materials;

c) Cash fine from VND 15,000,000 to 20,000,000 against breaches relating to material bases;

d) Cash fine from VND 25,000,000 to 30,000,000 against breaches relating training conducting before having permission from competent authorities;

2. Improper issuance of certificates for energy auditors shall be dealt with according to the ordinance on officials, civil servants and related legal documents.

3. Additional disciplining forms:

Being deprived of the right to use certificates for being qualified energy auditor training establishments for acts that breach stipulations in points b, c of item 1 of this Article.

4. Consequence overcoming measures:

- a) Forced confiscation of issued certificates for completion of energy auditor training course on acts that breach stipulations in points b, c, d of item 1 of this Article;
- b) Forced return of all collected fees and being responsible for all expenses relating to return of collected fees on acts that breach stipulations in points b, c, d of item 1 of this Article;
- c) Forced confiscation of issued certificates for energy auditor on acts that breach stipulations in item 2 of this Article.

Article 12. Breaches committed by organizations, individuals doing energy auditing

1. Cash fine from VND 10,000,000 to 15,000,000 against following breaches:

- a) Use of fake auditor certificates;
- b) Hire, lending of auditor certificates to conduct auditing.

2. Cash fine from VND 15,000,000 to 30,000,000 on breaches against stipulations in Article 34 of the Law on Energy Thrifty and Efficient Use for energy auditing.

3. Additional punishment forms:

Depriving of the right to use energy auditor certificates for second-time breaches stipulated in point b, item 1 of this Article.

Section 2

THRIFTY AND EFFICIENT ENERGY USE BREACHES IN INDUSTRIAL PRODUCTION, CONSTRUCTION TRANSPORTATION, AGRICULTURAL PRODUCTION

Article 13. Thrifty and efficient energy use breaches in industrial production

1. Cash fine from VND 10,000,000 to 30,000,000 on acts that do not comply with technical standards, compulsory managerial thrifty and effective energy use technologies regulated in Article 24 of Decree No. 21/2011/ND-CP, dated March 29, 2011, regulating details and measures to implement the Law on Energy Thrifty and Efficient Use.

2. Consequence overcoming measures:

It is compulsory to strictly comply with technical standards, compulsory managerial thrifty and effective energy use technologies stipulated in item 1 of this Article.

Article 14. Thrifty and efficient energy use breaches in production, energy supply establishments

1. Cash fine of VND 100,000,000 on intentional acts of not eliminating electric generator clusters of backward technologies and low efficiency according to the roadmap regulated by the Prime Minister.

2. Cash fine of VND 100,000,000 on intentional acts of building new electric generator clusters of backward technologies and low efficiency regulated as not allowed to be used by the Prime Minister.

3. Additional punishment forms:

Confiscation of construction permits in cases that breach regulations in item 2 of this Article.

4. Consequence overcoming measures:

Forced elimination of the electric generator cluster as result of the acts that breach stipulations in item 1 of this Article.

Article 15. Thrifty and efficient energy use breaches in public lighting

1. Cash fine from VND 5,000,000 to 10,000,000 on public lighting system managerial and operation acts that let the system be switched on out of regulated seasonal times or regions regulated by the Prime Minister hoar People's Committee Chairman of provinces, centrally-managed cities.

2. Cash fine from VND 10,000,000 to 20,000,000 on acts wrongly repair, replace lighting facilities that are not technically qualified for thrifty and efficient energy use in public lighting promulgated by the Ministry of Construction.

3. Cash fine from VND 20,000,000 to 30,000,000 on acts of installing public lighting system that does not use technically qualified facilities for thrifty and efficient energy use in public lighting promulgated the Ministry of Construction.

4. Consequence overcoming measures:

Compulsory use of technically qualified lighting equipments that meet thrifty and efficient energy use requirements in public lighting stipulated in point 2, item 3 of this Article.

Article 16. Thrifty and efficient energy use breaches in construction activities

1. Cash fine from VND 20,000,000 to 30,000,000 on acts of not complying with regulations on energy use level, design technical standards, construction standards, use of energy saving construction materials promulgated the Ministry of Construction.

2. Approval and grant of construction license without observing regulations on thrifty and efficient energy use level, design technical standards, construction standards, use of energy saving construction materials promulgated the Ministry of Construction will be dealt with according to legal stipulations on officials, civil servants and related legal documents.

3. Consequence overcoming measures:

a) Forced confiscation of issued construction licenses out of breaches against regulations stipulated in item 2 of this Article.

b) Forced observance of regulations on energy use level, design technical standards, construction standards, use of energy saving construction materials with an aim to save energy promulgated by the Ministry of Construction.

Article 17. Thrifty and efficient energy use breaches in transportation activities

1. Cash fine from VND 20,000,000 to 30,000,000 on acts of using transport means included in the List of transport means, equipments that have to be eliminated as regulated by the Prime Minister.

2. Cash fine from VND 50,000,000 to 70,000,000 on acts of producing transport means, equipments which do not meet technical standards, energy consumption allowance regarding thrifty and efficient energy use in production of equipments, transport means.

3. Cash fine from VND 80,000,000 to 100,000,000 on acts of importing equipments, transport means without observing technical standards, energy consumption allowance regarding thrifty and efficient energy use regulated for these equipments, transport means.

4. Consequence overcoming measures:

a) Forced distribution end or destruction of equipments, transport means in breaching cases regulated in item 1 of this Article.

b) Forced re-export or destruction of imported equipments, transport means in breaching cases regulated in item 3 of this Article.

Article 18. Thrifty and efficient energy use breaches in agricultural production

Acts relating to use of aquatic product catching equipments and facilities, agricultural machineries of obsolete technologies, low efficiency that are included in the List of equipments and facilities that have to be eliminated upon the roadmap promulgated by competent State agencies.

1. Criticism punishment shall be applied to first-time breaching acts of organizations, individuals.
2. Cash fine from VND 1,000,000 to 5,000,000 on individuals' acts of continued breaching six months after the criticism punishment.
3. Cash fine from VND 10,000,000 to 20,000,000 on organizations' acts of continued breaching six months after the criticism punishment.
4. Consequence overcoming measures:

Forced termination of operation of facilities, equipments, machineries six months after being imposed with a cash fine.

Section 3

THRIFTY AND EFFICIENT ENERGY USE BREACHES IN FOCAL ENERGY USING ESTABLISHMENTS

Article 19. Breaches on energy managerial training, certificate issuance

1. Conducting of training courses and grant of energy management training course certificates that do not meet conditions regulated by the Ministry of Industry and Trade will be subjected to:
 - a. Cash fine from VND 10,000,000 to 15,000,000 on acts that violate regulations on the contingent of trainers;
 - b) Cash fine from VND 15,000,000 to 20,000,000 on acts that violate regulations on teaching materials;
 - c) Cash fine from VND 20,000,000 to 25,000,000 on acts that violate regulations on material bases;
 - d) Cash fine from VND 25,000,000 to 30,000,000 on acts of conducting training courses before being allowed by competent authorities.
2. Grant of energy management certificates without following regulations shall be dealt with according to legal stipulations on officials, civil servants and related legal documents.
3. Additional punishment forms:

Confiscation of certificates for being qualified energy management training establishments as per acts that violate regulations in points b, c of item 1 of this Article.
4. Consequence overcoming measures:

- a) Forced confiscation of issued certificates for completion of energy management training course on acts that breach stipulations in points b, c, d of item 1 of this Article;
- b) Forced return of all collected fees and being responsible for all expenses relating to return of collected fees on acts that breach stipulations in points b, c, d of item 1 of this Article;
- c) Forced confiscation of issued certificates for energy management on acts that breach stipulations in item 2 of this Article.

Article 20. Breaches against application of energy management model

1. Criticism punishment against heads of focal energy using establishments for failing to fully comply with all contents of the energy management model with regard to focal energy using establishments regulated in Article 8 of Decree No. 21/2011/ND-CP, dated March 29, 2011 regulating details and measures for implementation of the Law on Energy Thrifty and Efficient Use.
2. Cash fine from VND 5,000,000 to 10,000,000 on acts that do not appoint or appoint unqualified personnel to take the position of energy managers regulated in Article 35 of the Law on Energy Thrifty and Efficient Use.
3. Cash fine from VND 5,000,000 to 10,000,000 on acts that fail to formulate one-year and 5-year thrifty and efficient energy use plans.

Section 4

BREACHES ON ENERGY LABEL REGULATIONS

Article 21. Breaches against regulations on certificates for energy labeling and energy label use

1. Grant of certificates for energy labeling that does not follow regulations of the Ministry of Industry and Trade will be dealt with according to legal stipulations on officials, civil servants and related legal documents.
2. Cash fine from VND 5,000,000 to 10,000,000 on acts that fail to report or submit false reports to competent State agencies on volume, types of means, equipments that should have produced, imported energy labels.
3. Cash fine from VND 5,000,000 to 10,000,000 on acts that use wrong energy labels.
4. Cash fine from VND 10,000,000 to 30,000,000 on continued labeling for facilities, equipments when certificates for labeling those facilities, equipments have already expired.
5. Acts that do not label facilities, equipments that have to be energy labeled:
 - a) Criticism punishment on first-time breach;

- b) Cash fine from VND 10,000,000 to 20,000,000 on second-time breach;
 - c) Cash fine from VND 30,000,000 to 50,000,000 on third-time breach;
6. Cash fine from VND 30,000,000 to 50,000,000 on acts that provide false information on energy efficiency printed on energy labels compared to Certificates for energy labeling granted by competent agencies for labeling of facilities, equipments.
7. Cash fine from VND 50,000,000 to 70,000,000 on acts that provide energy labels to facilities, equipments that do not match with those listed in the Certificates for energy labeling or before obtaining certificates for energy labeling.
8. Consequence overcoming measures:
- a) Forced confiscation of issued certificates for energy labeling on acts that violate regulations in item 1 of this Article;
 - b) Suspension of energy labeling on acts that violate regulations in items 3. 4 of this Article;
 - c) Forced confiscation of used energy labels on acts that violate regulations in item 7 of this Article.

Article 22. Breaches against regulations on grant of certificates for qualified standards, efficiency test results

1. Acts of granting certificates for qualified standards, efficiency test results to unqualified means, equipments shall be dealt with as follows:
- a) Cash fine from VND 5,000,000 to 10,000,000 on first-time breach;
 - b) Cash fine from VND 10,000,000 to 20,000,000 on second-time breach;
 - c) Cash fine from VND 20,000,000 to 30,000,000 on third-time breach.
2. Consequence overcoming measures:
- a) Forced confiscation of issued certificates, test results out of acts that violate regulations in item 1 of this Article;
 - b) Name erasure from List of qualified test labs of energy efficiency out of acts that violate regulations in point c, item 1 of this Article.

Section 5
BREACHES ON MEANS, EQUIPMENT ELIMINATING
REGULATIONS

Article 23. Breaches against regulations on production, import of energy using means, equipments in the List of eliminated means, equipments

1. Cash fine from VND 50,000,000 to 70,000,000 on acts of producing, importing energy using means, equipments in the List of means, equipments that should be eliminated.
2. Measures to overcome consequences of acts regulated in item 1 of this Article:
 - a) Forced re-export or destruction of imported means, equipments;
 - b) Ban on distribution of domestically produced means, equipments.
3. Infringing organizations, individuals shall bear all expenses for implementation of consequence overcoming measures regulated in item 2 of this Article.

Section 6

ACTS THAT OBSTRUCT PUBLIC ACTIVITIES IN THRIFTY AND EFFICIENT ENERGY USE

Article 24. Dealing with acts that obstruct public activities of competent personnel

1. Cash fine from VND 1,000,000 to 3,000,000 imposed on one of following acts:
 - a) Acts that obstruct cause difficulties to public activities of competent personnel;
 - b) Words, acts that threaten, humiliate, sentimentally hurt honor of personnel who are conducting public activities.
2. Cash fine from VND 3,000,000 to 5,000,000 imposed on one of following acts:
 - a) Failing to list, declare or falsely list, declare; list, declare in an untimely manner as requested by competent personnel who are responsible for dealing with administrative breaches or competent State agencies;
 - b) Failing to provide, or provide inadequate amount of receipts, documents relating to inspection, check and dealing with breaches conducted by competent personnel who are responsible for dealing with administrative breaches or competent State agencies.
3. Cash fine from VND 5,000,000 to 10,000,000 imposed on one of following acts:
 - a) Removal of seals from evidences, infringing means, equipments; temporary hold of or change of violating site on one's own will;
 - b) Dispersing, changing, exchanging evidences, means, equipments that are under inspection, check or temporary hold;

c) Storing, holding, selling dispersed evidences, means, equipments that are under inspection, check or temporary hold.

4. Cash fine from VND 10,000,000 to 20,000,000 on acts of delaying, avoiding enforcement of administrative punishment decisions on inspection, check and administrative breach dealing of competent personnel or State agencies.

5. Additional punishment forms:

Confiscation of dispersed evidences, means, equipments out of acts that violate regulations in point b, c of item 3 of this Article.

Chapter III PUNISHMENT AUTHORITY, PROCEDURE

Article 25. Administrative breach dealing authority identifying principle

Administrative breach dealing authority identifying principle is done according to Article 42 of the Ordinance on Dealing with Administrative Breaches.

Article 26. Administrative breach dealing authority of specialized inspectors of sectors such as industry and trade, construction, transportation and market control agency.

1. On-duty specialized inspectors of the industry and trade sector have the right to:

- a) Impose criticism punishment;
- b) Impose cash fine of up to VND 500,000;
- c) Confiscate evidences, means, equipments that are used for administrative breaches having values of up to VND 2,000,000.

2. Chief Inspector of Industry and Trade Department has the right to:

- a) Impose criticism punishment;
- b) Impose cash fine of up to VND 30,000,000;
- c) Definitely and indefinitely cancel validity of certifying papers, certificates on thrifty and efficient energy use;
- d) Confiscate evidences, means, equipments that are used for administrative breaches;
- e) Impose additional punishment forms as regulated in item 3, Article 12 of this Decree;

f) Impose consequence overcoming measures as regulated in points a and b of item 4 of Article 11; item 2 of Article 13; item 4 of Article 15; point a of item 4 of Article 17; item 4 of Article 18; points a and b of item 4 of Article 19; point b of item 8 of Article 21; point a of item 2 of Article 22 of this Decree and other consequence overcoming measures stipulated by laws.

3. Chief Inspector of Construction Department has the right to:

a) Punish administrative breaches on thrifty and efficient energy use in construction regulated in Articles 15, 16, 24 of this Decree;

b) Impose consequence overcoming measures as regulated in item 4 of Article 15; item 3 of Article 16 of this Decree;

4. Chief Inspector of Transport Department the right to:

a) Punish administrative breaches on thrifty and efficient energy use in transportation regulated in Articles 15, 16, 24 of this Decree;

b) Impose consequence overcoming measures as regulated in point a of item 4 of Article 17 of this Decree;

5. Chief Inspector of Industry and Trade Department has the right to:

a) Impose criticism punishment;

b) Impose cash fine of up to VND 100,000,000;

c) Definitely and indefinitely cancel validity of licenses, certifying papers, certificates on thrifty and efficient energy use;

d) Confiscate evidences, means, equipments that are used for administrative breaches;

e) Impose all additional punishment forms and consequence overcoming measures as regulated in this Decree.

6. Chief Inspector of Construction Ministry has the right to:

Impose administrative breach punishment, additional punishment forms and consequence overcoming measures relating to thrifty and efficient energy use in construction as regulated in Articles 15, 16, 24 of this Decree.

7. Chief Inspector of Transport Ministry has the right to:

Impose administrative breach punishment, additional punishment forms and consequence overcoming measures relating to thrifty and efficient energy use in transportation as regulated in Articles 17, 24 of this Decree.

8. Competent personnel of Market Control Agency, within scopes of their functions, tasks and authority as regulated in Article 37 of the Ordinance on Dealing with

Administrative Breaches and other related legal regulations, have the right to impose administrative breach punishment on following acts that infringe:

- a) Regulations on production, import, distribution of energy using means, equipments in the List of means, equipments that have to be eliminated;
- b) Regulations on items 3, 4, 5, 6, 7 of Articles 21, 24 of this Decree.

Article 27. Administrative breach dealing authority of People's Committee of different levels

1. Chairman of commune-level People's Committee has the right to:

- a) Impose criticism punishment;
- b) Impose cash fine of up to VND 2,000,000;
- c) Confiscate evidences, means, equipments having value of up to VND 2,000,000 that are used for administrative breaches.

2. Chairman of district-level People's Committee has the right to:

- a) Impose criticism punishment;
- b) Impose cash fine of up to VND 30,000,000;
- c) Confiscate evidences, means, equipments that are used for administrative breaches.

3. Chairman of provincial-level People's Committee has the right to:

- a) Impose criticism punishment;
- b) Impose cash fine of up to VND 100,000,000;
- c) Definitely and indefinitely cancel validity of licenses, certifying papers, certificates on thrifty and efficient energy use;
- d) Confiscate evidences, means, equipments that are used for administrative breaches;
- e) Impose all additional punishment forms and consequence overcoming measures regulated in this Decree and other related legal regulations.

Article 28. Administrative breach dealing authority of other agencies

Other agencies, within scopes of their assigned functions, tasks and authority, have the right to impose administrative breach punishment according to regulations in the Ordinance on Dealing with Administrative Breaches and regulations of this Decree should they discover acts that infringe thrifty and efficient energy use.

Article 29. Administrative breach punishment procedure and punishment decision enforcement

1. Administrative breach punishment procedure for thrifty and efficient energy use shall be done according to regulations in the Ordinance on Dealing with Administrative Breaches and Decree No. 128/2008/ND-CP, dated December 16, 2008 regulating details for implementation of a number of articles of the Ordinance on Dealing with Administrative Breaches. Samples for minutes and decisions to be used for administrative punishment are regulated in attached annexes of this Decree.

2. All punished administrative breaches should have dossiers and be fully archived in punishing agencies for a regulated period.

Minutes making, punishing decision should comply with the procedures regulated in Articles 54, 55, 56 of the Ordinance on Dealing with Administrative Breaches.

3. Cash fining and cash paying should comply with the procedures regulated in Articles 57, 58 of the Ordinance on Dealing with Administrative Breaches.

4. Procedure to definitely and indefinitely cancel validity of certifying papers, certificates on thrifty and efficient energy use shall be done upon regulations in Article 59 of the Ordinance on Dealing with Administrative Breaches.

5. Procedures to confiscate and deal with infringed evidences, means, equipment for administrative breaches in thrifty and efficient energy use shall be done upon regulations in Articles 60, 61 of the Ordinance on Dealing with Administrative Breaches.

Article 30. Punishment decision observance and forced enforcement of administrative breach decisions in thrifty and efficient energy use

1. Individuals, organizations committing administrative breaches against thrifty and efficient energy use that are imposed with administrative punishment according to regulations of this Decree shall have to fulfill punishment decisions within a period of 10 days, starting from the day punishment decisions are received, except cases regulated in Article 65 of the Ordinance on Dealing with Administrative Breaches.

2. Should it exceed the period regulated in item 1 of this Article but the individuals, organizations punished for administrative thrifty and efficient energy use breaches are not willing to observe or intentionally try to avoid fulfilling punishing decision, forced enforcement shall be applied. The enforced individuals, organizations shall bear all expenses for implementation of all enforcing measures. Forced enforcement of administrative breach punishing decisions and decision making authority shall be done upon regulations in Articles 66, 67 of the Ordinance on Dealing with Administrative Breaches, Decree No. 37/2005/ND-CP, dated March 18, 2005 of the Government regulating procedures for application of forced enforcement measures in administrative breach punishment.

Chapter IV

IMPLEMENTATION PROVISION

Article 31. Transfer of dossiers of breaches having criminal signs for criminal responsibility prosecution

When considering a breach for punishing decision, should the breach be seen with criminal signs, the competent personnel shall have to transfer dossiers of the case at once to competent prosecuting agencies.

Article 32. Collecting, paying, managing and using cash fine

1. Individuals, organizations committing administrative breaches against thrifty and efficient energy use imposed with cash fines have to pay for the fines according to legal stipulations.
2. Cash fine paying, collecting shall be done according to regulations in the Ordinance on Dealing with Administrative Breaches. Individuals, organizations committing administrative breaches are allowed to pay for their fines via deductions in their bank accounts.
3. Administrative breach cash fines collected according to this Decree shall go to temporary holding account of the financial agencies opened at the State Treasury and shall be totally used for thrifty and efficient energy use administrative breach punishment activities.
4. The Ministry of Finance is responsible for taking charge, coordinating with relevant ministries, agencies in guiding cash fine collection, payment, management and use according to regulations of this Decree.

Article 33. Implementation effect

This Decree takes effect from October 15, 2011.

Article 34. Implementation Responsibility

1. The Minister of Industry and Trade is responsible for guiding in detail and organizing implementation of this Decree.
2. Relevant Ministers, Heads of ministerial-level agencies, Heads of Government agencies, Chairmen of People's Committees of provinces and centrally-run cities are responsible for implementation of this Decree.

**FOR THE GOVERNMENT
THE PRIME MINISTER**

Consignees:

- Party Central Committee's Secretariat

- The Prime Minister, Deputy PMs
- Ministries, ministerial-level agencies, Government agencies,
- Office of National Steering Committee on Corruption Prevention and Control,
- People's Councils, People's Committees of provinces, centrally-run cities,
- Office of Party Central Committee and other Party Commissions,
- Office of the State President,
- National Council and NA Committees,
- Office of the National Assembly,
- People's Supreme Court,
- People's Supreme Procuracy,
- National Financial Supervising Committee,
- State Audit,
- Bank for Social Policies,
- Vietnam Development Bank,
- Vietnam Fatherland Front's Central Committee,
- Central agencies of mass organizations,
- Government Office
- Archive.

Nguyen Tan Dung.

ANNEXES
SAMPLES OF MINUTES AND DECISIONS USED IN
THRIFTY AND EFFICIENT ENERGY USE ADMINISTRATIVE
BREACHES

*(Issued in attachment to Decree No. 73/2011/ND-CP,
dated August 24, 2011 of the Government)*

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1. Minutes sample No. 1: Minutes on thrifty and efficient energy use breaches.
 2. Minutes sample No. 2: Minutes on temporary seizure of evidences, means, equipments violating thrifty and efficient energy use.
 3. Minutes sample No. 3: Minutes on checking transport means, belongings according to administrative procedure.
 4. Minutes sample No. 4: Minutes on checking establishments violating thrifty and efficient energy use regulations, where administrative breach evidences, means, equipments are hidden.
 5. Decision sample No. 1: Decision on temporary seizure of evidences, means, equipments violating thrifty and efficient energy use.
 6. Decision sample No. 2: Decision on checking establishments violating thrifty and efficient energy use regulations, where administrative breach evidences, means, equipments are hidden.
 7. Decision sample No. 3: Decision on administrative breach punishment by criticism punishment on thrifty and efficient energy use with simple procedure.
 8. Decision sample No. 4: Decision on administrative breach punishment by cash fine on thrifty and efficient energy use with simple procedure.
 9. Decision sample No. 5: Decision on administrative breach punishment against thrifty and efficient energy use.
 10. Decision sample No. 6: Decision on forced enforcement of decisions on administrative breach punishment against thrifty and efficient energy use.
 11. Decision sample No. 7: Decision on application of measures to overcome consequences from administrative breaches in cases thrifty and efficient energy use administrative breach punishment is not applied.

Minutes sample No. 1

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /BB-VPHC

A², Date:

**MINUTES ON
thrifty and efficient energy use breach**

At hour(s) of this date, in
We, including³:

1. Mr./Ms.: Designation:

2. Mr./Ms.: Designation:

With witness of⁴:

1. Mr./Ms.: /Occupation/Designation:

Permanent address (temporary address):

ID number: Issued on: Place of issue:

2. Mr./Ms.: /Occupation/Designation:

Permanent address (temporary address):

ID number: Issued on: Place of issue:

Are making minutes on thrifty and efficient energy use breach committed by:

Mr. (Ms.)/Organization⁵: Occupation/Operation field:

Address:

ID number/Establishing Decision or Business Registration:

Date of issue: Place of issue:

Having committed following administrative breach(es)⁶:

The above acts violate Article(s), item(s), point(s) of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es).

¹ Should the minutes be made by People's Committee Chairman of different levels, it should only be specified as People's Committee of provinces, centrally-run cities; districts, district towns, cities of province; communes, precincts, townships without necessity of writing down name of management agency; should the minutes be made by members of an inspecting or checking unit, then name of agency that forms this unit should be mentioned.

² Specify geographical name of provincial level.

³ Clearly specify full name, designation of minutes maker.

⁴ Specify full name(s) of witness(es). Should there be representatives from authorities, specify their full names, designations.

⁵ For an organization, full name, designation of its representatives should be specified.

⁶ Clearly specify time, date, place breach(es) is committed; describe breach(es).

Damaged individuals/damaged organizations (if any)⁷:
 Full name/name of organization:
 Address:
 ID number/Establishing Decision or Business Registration:
 Date of issue: Place of issue:
 Explanations from administrative breaching individual(s)/representative(s) from breaching organization(s):
 Explanations from witness(es):
 Explanations from individual(s)/representative(s) of administrative breach damaged organization(s) (if any):
 Competent personnel have requested Mr. (Ms.)/organization(s) to stop breaching acts at once.
 Applied administrative breach preventing measures include:
 Acts against public mission implementing personnel (if any)⁸:
 We temporarily seize evidences, means, equipments (if any) that cause administrative breach(es) and following documents for transfer to: for decision from competent authorities.

No.	Temporarily held evidence(s), means, equipment(s)	Q'ty	Type, brand name, origin, status ⁹	Remarks

Beside the above evidence(s), means, equipment(s), documents, we do not temporarily hold any other objects.
 Mr. (Ms.) is requested to be present in¹¹ at hour(s) of date to breach settlement.
 The minutes are made in copies with equal contents and validity, and a copy is handed to breaching individual/representative of breaching organization, and¹²
 After reading the minutes, people present agree on the content(s) and have no other different opinion(s) and jointly sign in the minutes, or have following different opinion(s):

⁷ Should it be an organization, specify full name, designation of the person that represents the organization.

⁸ Clearly describe specific act(s).

⁹ If being a means, specify registered number.

¹⁰ Clearly specify whether evidence(s), means, equipments should be sealed or not, if yes, the seal should bear signature of breaching individual(s) (or representative of breaching organization) in witness of representative of family, representative of organization or representative of authority or not, if not, it should be clearly specified that in witness of Mr. (Ms.)

¹¹ Clearly specify address of office where breaching individual, organization should be present.

¹² Clearly specify people, organization(s) are given minutes copy.

Other additional opinion(s) (if any)¹³:

The minutes consist of page(s), being signed in every page by people present.

**BREACHING INDIVIDUAL/
ORGANIZATION**
(Signature/full name)

**DAMAGED INDIVIDUAL/
ORGANIZATION**
(Signature/full name)

WITNESS
(Signature/full name)

AUTHORITY REPRESENTATIVE (IF ANY)
(Signature/full name)

MINUTES MAKER
(Signature/full name)

**COMPETENT ADMINISTRATIVE BREACH
PUNISHING PERSONNEL**
(Signature/full name)

Reasons that breaching individual, organization do not sign in minutes¹⁵

Reasons that damaged individual, organization do not sign in minutes¹⁶

¹³ People having different opinions on minutes contents have to write down their own opinions, reasons for having different opinions, sign and specify their full names.

¹⁴:In the event minutes maker does not have punishing authority, his or her superior shall have the punishing right and sign in the minutes.

¹⁵ The minutes maker should clearly specify the reasons why these people refuse to sign in the minutes.

¹⁶ The minutes maker should clearly specify the reasons why those people refuse to sign in the minutes.

Minutes sample No. 2

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /BB-TGTVPT A², Date:

**MINUTES ON
temporary seizure of thrifty and efficient energy use
breaching evidences, means, equipments**

Based on Article 45, Article 46 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Based on temporary seizure of thrifty and efficient energy use breaching evidences, means, equipments decision No., date signed by⁴.... designation

In order to have basis for additional confirmation on administrative breach/or immediate prevention of administrative breach(es),

At hour(s) of this date, in
We, including⁵:

1. Mr./Ms.: Designation:
2. Mr./Ms.: Designation:

With main breaching individual is:

Mr. (Ms.)/Organization⁶:
Occupation (Operation field):
Address (temporary address):
ID number/Establishing Decision or Business Registration: Date of issued: Place of issue:

In the witness of⁷:

1. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:
2. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

Are making minutes on temporary seizure of administrative breaching thrifty and efficient energy use that include:

No.	Temporarily held evidence(s), means, equipment(s)	Q'ty	Type, brand name, origin, status ⁸	Remarks ⁹

Beside the above evidence(s), means, equipment(s), documents, we do not temporarily hold any other objects.

The minutes are made in copies with equal contents and validity, and a copy is handed to breaching individual/representative of breaching organization.

The minutes consist of page(s), being signed in every page by people present.

After reading the minutes, people present agree on the content(s) and have no other different opinion(s) and jointly sign in the minutes, or have following different opinion(s):

¹ Should the minutes be made by People's Committee Chairman of different levels, it should only be specified as People's Committee of provinces, centrally-run cities; districts, district towns, cities of province; communes, precincts, townships without necessity of writing down name of management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Ordinance on punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name and designation of people who sign the decision on temporary seizure of evidences, means, equipments that commit administrative breaches.

⁵ Specify their full name, designation of minutes maker.

⁶ Should it be an organization, specify full name, designation of people who represent the breaching organization.

⁷ Specify full name(s) of witness(es). Should there be representatives from authorities, specify their full names, designations.

⁸ If being a means, specify registered number.

⁹ Clearly specify whether evidence(s), means, equipments should be sealed or not, if yes, the seal should bear signature of breaching individual(s) (or representative of breaching organization) in witness of representative of family, representative of organization or representative of authority or not, if not, it should be clearly specified that in witness of Mr. (Ms.)

Other additional opinion(s) (if any)¹⁰:

BREACHING INDIVIDUAL
(Signature/full name)

**TEMPORARY SEIZURE
DECIDING PERSON**
(Signature/full name)

WITNESS
(Signature/full name)

MINUTES MAKER
(Signature/full name)

AUTHORITY REPRESENTATIVE
(Signature/full name)

¹⁰ People having different opinions on minutes contents have to write down their own opinions, reasons for having different opinions, sign and specify their full names.

Minutes sample No. 3

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /BB-KPTVTDV A², Date:

**MINUTES ON
checking transport means, belongings
according to administrative procedure**

Based on Article 45, Article 48 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

At hour(s) of this date, in
We, including⁴:

1. Mr./Ms.: Designation:
2. Mr./Ms.: Designation:

In the witness of⁵:

1. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:
2. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

Are checking following transport means, belongings⁶:.....

¹ Should the minutes be made by People's Committee Chairman of different levels, it should only be specified as People's Committee of provinces, centrally-run cities; districts, district towns, cities of province; communes, precincts, townships without necessity of writing down name of management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Ordinance on punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name and designation of minutes maker.

⁵ Specify full name(s), designation(s) of witness(es).

⁶ Specify type of transport means, belongings, plate numbers (transport means).

As there are proofs that there are administrative breaching evidences hidden in this transport means, belonging.

Owner of transport means, belonging (or transport means driver)⁷:

1. Mr./Ms.: /Occupation/Designation:
 Permanent address (temporary address):
 ID number: Issued on: Place of issue:
2. Mr./Ms.: /Occupation/Designation:
 Permanent address (temporary address):
 ID number: Issued on: Place of issue:
 Are subjected to breach checking:
 Discovered administrative breaching evidences include:

No.	Temporarily held evidence(s), means, equipment(s)	Q'ty	Type, brand name, origin, status ⁸	Remarks ⁹

The check of transport means (belongings) according to administrative procedure is completed at hour(s) on day month year

The minutes are made in 2 copies with equal contents and validity, and a copy is handed to breaching individual/representative of breaching organization.

The minutes consist of page(s), being signed in every page by people present.

After reading the minutes, people present agree on the content(s) and have no other different opinion(s) and jointly sign in the minutes, or have following different opinion(s):

Other additional opinion(s) (if any)¹⁰:

CHECK DECIDING PERSON
(Signature/full name)

**TRANSPORT MEANS,
 BELONGING OWNER OR
 TRANSPORT MEANS DRIVER**
(Signature/full name)

CHECKING PERSON
(Signature/full name)

WITNESS
(Signature/full name)

WITNESS
(Signature/full name)

MINUTES MAKER
(Signature/full name)

⁷ Specify full name of transport means owner, belongings or transport means driver.

⁸ People having different opinions on minutes contents have to write down their own opinions, reasons for having different opinions, sign and specify their full names.

Minutes sample No. 4

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /BB-TGTVPT A², Date:

MINUTES ON
checking establishments violating thrifty and
efficient energy use regulations, where administrative breach evidences,
means, equipments are hidden.

Based on Article 45, Article 49 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Based on decision to check establishments that violate regulations on thrifty and efficient energy use, where breaching evidences, means, equipments are hidden No., date signed by⁴.... designation

At hour(s) of this date, in

We, including⁵:

1. Mr./Ms.: Designation:
2. Mr./Ms.: Designation:

¹ Should the minutes be made by People's Committee Chairman of different levels, it should only be specified as People's Committee of provinces, centrally-run cities; districts, district towns, cities of province; communes, precincts, townships without necessity of writing down name of management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name and designation of person who signs decision on checking where thrifty and efficient energy use breaching evidences, means, equipments are hidden.

⁵ Specify full name and designation of minutes maker.

In the witness of⁶:

1. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

2. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

Are checking following transport means, belonging⁷:

As there are proofs that there are administrative breaching evidences hidden in this transport means, belonging.

Owner of transport means, belonging (or transport means driver)⁸:

1. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

2. Mr./Ms.: /Occupation/Designation:
Permanent address (temporary address):
ID number: Issued on: Place of issue:

Are checking⁹:.....

As an establishment that violates regulations on thrifty and efficient energy use (or where thrifty and efficient energy use breaching evidences, means, equipments are hidden and checking minutes are made).

Owner of checked establishment is¹⁰:

Mr. (Ms.)/Organization¹¹:

⁶ Specify full name and designation of witness.

⁷ Specify type of transport means, belongings, plate numbers (transport means).

⁸ Specify full name of transport means or belonging owner or transport means driver.

⁹ Specify address of the checked place.

¹⁰ Specify full name of manager or operator, or people of highest responsibility of the breaching establishment; if this person is absent, the name of the deputy, or who personally operates the breaching means, equipments should be specified. Should the owner of the checked establishment be absent, specify full name of members of his/her family.

¹¹ Should the checked place belongs to an organization, specify full name, designation of the person that represents that organization.

Occupation (Operation field):
 Address (temporary address):
 ID number/Establishing Decision or Business Registration:
 Date of issued: Place of issue:

Description of thrifty and efficient energy use regulation breaching establishment.

Thrifty and efficient energy use regulation breaching acts¹²:

Actual status of main energy using means, equipments:

Actual energy using in the establishment: (other circumstances, if any).

Acts against public mission implementing personnel (if any)¹³:

After checking the site, we seize following main administrative breaching evidences, means, equipments:

No.	Temporarily held evidence(s), means, equipment(s)	Q'ty	Type, brand name, origin, status ¹⁴	Remarks ¹⁵

Beside the above evidence(s), means, equipment(s), documents, we do not temporarily hold any other objects.

The check ends at hour(s) on day month year

The minutes are made in 2 copies with equal contents and validity, and a copy is handed to breaching individual/representative of breaching organization.

The minutes consist of page(s), being signed in every page by breaching individual/breaching organization representative, witnesses present.

¹² Describe type, capacity, utilization; type of input raw material and fuel, and efficiency.

¹³ Describe specific acts.

¹⁴ Should there be any transport means, its plate number should be specified.

¹⁵ Clearly specify whether evidence(s), means, equipments should be sealed or not, if yes, the seal should bear signature of breaching individual(s) (or representative of breaching organization) in witness of representative of family, representative of organization or representative of authority or not, if not, it should be clearly specified that in witness of Mr. (Ms.)

After reading the minutes, people present agree on the content(s) and have no other different opinion(s) and jointly sign in the minutes, or have following different opinion(s):

Other additional opinion(s) (if any)¹⁶:

OWNER OF CHECKED SITE OR
ADULT IN THE FAMILY
(Signature/full name)

TEMPORARY HOLD
DECIDING PERSON
(Signature/full name)

CHECKING MINUTES MAKER
(Signature/full name)

WITNESS
AUTHORITY REPRESENTATIVE
(Signature/full name)

Reasons that breaching individual, organization do not sign in minutes¹⁷

Reasons that damaged individual, organization do not sign in minutes¹⁸

¹⁶ People having different opinions on minutes contents have to write down their own opinions, reasons for having different opinions, sign and specify their full names.

¹⁷ The minutes maker should clearly specify the reasons why these people refuse to sign in the minutes.

¹⁸ The minutes maker should clearly specify the reasons why those people refuse to sign in the minutes.

Decision Sample No. 1

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-TGTVPT A² , Date:

**DECISION ON
temporary seizure of evidences, means, equipments violating thrifty and
efficient energy use.**

Based on Article 45 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Considering:⁴;
I myself:⁵; Designation:
Unit:

DECIDE:

To temporarily hold:⁶. (Main administrative breaching evidences, means, equipments) of

¹ If being a decision on temporary seizure of evidences, means, equipments signed by Chairman of People's Committee of commune, township, just write People's Committee of commune, township without having to mention management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify reasons for temporary seizure of administrative breaching evidences, means, equipments as proofs for decision on administrative breach punishment or immediate prevention of breaching acts. In the case the ones who temporarily seize the above are not authorized as per regulations in Article 45 of the Ordinance on Dealing with Administrative Breaches, additional basis should be specified to depend the reason for immediate seizure of administrative breaching evidences, means, equipments, otherwise, they will be dispersed or destroyed.

⁵ Specify full name of decision maker.

⁶ Clearly specify evidences, means, equipments; describe details, type, basic technical specifications of seized means, evidences. If it is an organization, specify full name, designation of representative of breaching organization.

Mr. (Ms.)/Organization⁷:
Occupation (Operation field):
Address (temporary address):
ID number/Establishing Decision or Business Registration:
Date of issued: Place of issue:

Reasons:
Having committed administrative breaching acts⁸:

As regulated in point item Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)⁹.

This decision shall be dispatched to:

1. Mr. (Ms.)/Organization: for enforcement;
2.¹⁰
3.

This decision consists of page(s), with stamp printed between two pages.

DECISION MAKING PERSON
(Full name, designation)

Opinion of decision making person's superior¹¹:

⁸ In the event of more than one acts, clearly specify everyone of them.

⁹ Specify every point, item, article, punish level specified in the Decree regulating punish on thrifty and efficient energy use administrative breaches (follow explanation 3) regarding breaching individuals, organizations.

¹⁰ In the event the person who decides to temporary hold of thrifty and efficient energy use administrative breaching evidences, means, equipments is not authorized as per regulations in Article 45 of the Ordinance on Dealing with Administrative Breaches, this Decision should be sent as report to superior of the decision making person.

¹¹ The superior of the person who makes decision on temporary hold (in the case the person who temporarily holds the above is not authorized as per regulations in Article 45 of the Ordinance), shall have opinion on the temporary hold, either agrees or disagrees with such a decision.

Decision Sample No. 2

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-KNCGTVPT A², Date:

DECISION ON

checking establishments violating thrifty and efficient energy use regulations, where administrative breach evidences, means, equipments are hidden.

Based on Article 45, Article 49 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Considering:⁴.
I myself:⁵; Designation:
Unit:

DECIDE:

To check:⁶.

Owner of the site to be checked is: Mr. (Ms.)/Representative of an organization⁸: _____

¹ If being a decision on checking establishments that breach or hide evidences, means, equipments signed by Chairman of People's Committee of commune, township, just write People's Committee of commune, township without having to mention management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify basis to consider that thrifty and efficient energy use administrative breaching evidences, means, equipments are hidden in these places.

⁵ Specify full name of decision maker.

⁶ Specify name of the site to be checked.

⁷ In the event the owner of the site to be checked is absent, specify an adult in the family as...

Occupation (Operation field): Address):
ID number/Establishing Decision or Business Registration:
Date of issued: Place of issue: Reasons:

(Checking of the establishment that breaches regulations on thrifty and efficient energy use, where administrative breaching evidences, means, equipments are hidden, is made into the minutes (attached to this Decision).

This decision is

1. Handed to Mr. (Ms.) as representative for organization: for implementation;
2. Sent to⁸;
3. Sent to

This decision consists of page(s), with stamp printed between two pages.

DECISION MAKING PERSON
(Full name, designation)

Approving opinion from People's Committee Chairman of district level before checking the site that evidences, means, equipments are hidden, which is residence of:

⁸ In the event the person who decides to temporary hold of thrifty and efficient energy use administrative breaching evidences, means, equipments is not authorized as per regulations in Article 45 of the Ordinance on Dealing with Administrative Breaches, this Decision should be sent as report to superior of the decision making person.

Decision Sample No. 3

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-TGTVPT A², Date:

**DECISION ON
administrative breach punishment by criticism punishment on thrifty and
efficient energy use with simple procedure**

Based on the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Considering administrative breaches committed by

I myself:⁴; Designation:
Unit:

DECIDE:

Article 1. Impose criticism punishment against:

Mr. (Ms.)/Organization⁵:

Occupation (Operation field):

Address:

ID number/Establishing Decision or Business Registration:

Date of issued: Place of issue:

Reason(s):

- Having committed administrative breaching acts⁶:

¹ If being a decision on administrative punishment signed by Chairman of People's Committee of commune, township, it is not necessary to mention management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on administrative punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name of decision maker.

⁵ If being an organization, specify full name, designation of the representative of the organization.

⁶ If there are more than one act, specify everyone of these breaching acts.

Regulated at point, item of Article ... of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)⁷.

Circumstances relating to solving breaching acts:

Article 2. This decision takes effect from the day of signature.

This decision is sent to:

1. Mr. (Ms.)/organization⁸ for implementation;

2.

This decision consists of page(s), with stamp printed between two pages.

DECISION MAKING PERSON
(Full name, designation, stamp)

⁷ Specify every point, item, article, punish level specified in the Decree regulating punish on thrifty and efficient energy use administrative breaches (follow explanation 3) regarding breaching individuals, organizations.

⁸ If being an organization, specify full name, designation of the representative of the organization.

Decision Sample No. 4

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-XPHC A², Date:

**DECISION ON
administrative breach punishment by cash fine on
thrifty and efficient energy use with simple procedure**

Based on the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Considering administrative breaches committed by⁴

I myself:⁵; Designation:
Unit:

DECIDE:

Article 1. Impose criticism punishment of simple procedure against:
Mr. (Ms.)/Organization⁶:
Occupation (Operation field):
Address:
ID number/Establishing Decision or Business Registration:
Date of issued: Place of issue:
In cash fine at the punishing level of: VN dong
(In words:)

¹ If being a decision on administrative punishment signed by Chairman of People's Committee of commune, township, it is not necessary to mention management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on administrative punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name of breaching individual/representative of the organization.

⁵ Specify full name of decision maker.

⁶ If being an organization, specify full name, designation of the representative of the breaching organization.

Reason:

- Having committed administrative breaching acts⁷:

The act(s) committed by Mr. (Ms.)/organization violates regulations stipulated in point, item of Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)⁸.

Circumstances relating to solving breaching acts:

Article 2. Mr. (Ms.)/organization is responsible for strict observance of the punishing Decision within a period of ten days, starting from the day the punishing Decision is handed over on month year, except cases⁹. Should it be beyond this time limit, if Mr. (Ms.)/organization intentionally try not to fulfill this punishing Decision, forced enforcement shall be applied.

The fined sum, regulated in Article 1, should be paid at once to the punishing decision making person and receipt for fine payment shall be given, or to be received at fine collecting site No. of the State Treasury¹⁰. within ten days, from the day the punishing Decision is handed over.

Mr. (Ms.)/organization is entitled for petitioning, filing a lawsuit against this administrative punishing Decision according to legal regulations.

Article 3. This decision takes effect from its signing day.

This decision is sent to:

1. Mr. (Ms.)/organization for implementation;
2. Treasury for fine collection.
3.

This decision consists of page(s), with stamp printed between two pages.

DECISION MAKING PERSON
(Full name, designation, stamp)

⁷ If there are more than one act, specify everyone of these breaching acts.

⁸ Specify every point, item, article, punish level specified in the Decree regulating punish on thrifty and efficient energy use administrative breaches (follow explanation 3) regarding breaching individuals, organizations.

⁹ Specify reasons.

¹⁰ Specify name, address of the treasury.

Decision Sample No. 5

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-XPHC A², Date:

**DECISION ON
administrative breach punishment against thrifty and efficient energy use**

Based on the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Based on the administrative breach minutes made by⁴ at hour(s) on day, month, year at

I myself:⁵; Designation:
Unit:

DECIDE:

Article 1. Impose criticism punishment of simple procedure against:
Mr. (Ms.)/Organization⁶:
Occupation (Operation field):
Address:
ID number/Establishing Decision or Business Registration:
Date of issued: Place of issue:

¹ If being a decision on administrative punishment signed by Chairman of People's Committee of commune, township, it is not necessary to mention management agency.

² Specify geographical name of provincial level.

³ Clearly specify article, item of the Decree on administrative punishment against thrifty and efficient energy use administrative breaches.

⁴ Specify full name, designation of minutes maker.

⁵ Specify full name, designation of punishing decision making person.

⁶ If being an organization, specify full name, designation of the representative of the breaching organization.

With following forms:

1. Administrative punishing forms:

Criticism/cash fine punishment with the sum of: VN Dong (In words:)

2. Additional punishing form(s) (if any):

a) Taking of the right to use license, occupational certificate:

b) Confiscation of evidences, means, equipments used in administrative breaching, including:

3. Consequence overcoming measures and time for implementation of these measures (if any):

Reasons:

- Having committed administrative breaching acts⁷:

Which go against regulations in point, item of Article ... of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)⁸.

Circumstances relating to solving breaching acts:

Article 2. Mr. (Ms.)/organization is responsible for strict observance of the punishing Decision within a period of ten days, starting from the day the punishing Decision is handed over on month year, except cases for enforcement suspension or.....⁹.

Should it be beyond this time limit, if Mr. (Ms.)/organization intentionally try not to fulfill this punishing Decision, forced enforcement shall be applied.

The fined sum, regulated in Article 1, should be paid at once to the punishing decision making person and receipt for fine payment shall be given, or to be received at fine collecting site No. of the State Treasury¹⁰. within ten days, from the day the punishing Decision is handed over.

Mr. (Ms.)/organization is entitled for petitioning, filing a lawsuit against this administrative punishing Decision according to legal regulations.

⁷ If there are more than one act, specify everyone of these breaching acts.

⁸ Specify every point, item, article, punish level specified in the Decree regulating punish on thrifty and efficient energy use administrative breaches (follow explanation 3) regarding breaching individuals, organizations.

⁹ Specify reasons.

¹⁰ Specify name, address of the treasury.

Article 3. This decision takes effect from day, month year¹¹...

This decision is sent to:

1. Mr. (Ms.)/organization for implementation;
2. Treasury for fine collection.
3.

This decision consists of page(s), with stamp printed between two pages.

DECISION MAKING PERSON
(Full name, designation, stamp)

¹¹ The day Decision is signed or decided by the competent punishing decision making person.

Decision Sample No. 6

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
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No. /QD-CC A², Date:

**DECISION ON
forced enforcement of decisions on administrative breach punishment
against thrifty and efficient energy use**

Based on Article 66 of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

In order to ensure enforcement of administrative breach punishing decision No., dated day, month, year of

I myself:³; Designation:
Unit:

DECIDE:

Article 1. Impose forced enforcement of administrative breach punishing decision No. dated day, month, year of on.....;

Against

Mr. (Ms.)/Organization⁴:

Occupation (Operation field):

Address:

ID number/Establishing Decision or Business Registration:

Date of issued: Place of issue:

* Forced enforcement measure(s)⁵:

¹ If being a decision on forced punishment enforcement signed by Chairman of People's Committee of commune, township, it is not necessary to mention management agency.

² Specify geographical name of provincial level.

³ Specify full name, designation of the forced enforcement decision making person.

⁴ If being an organization, specify full name, designation of the representative of the breaching organization.

⁵ Specify enforced enforcement measure(s), fine sum to be paid, or overcoming measures that should be taken.

Article 2. Mr. (Ms.)/organization is responsible for strict enforcement of this Decision and bearing all expenses for implementation of forced enforcement measures.

Article 3. This decision takes effect from day, month year..

This decision consists of page(s), with stamp printed between two pages.

This decision is sent to Mr. (Ms.)/organization for implementation.

This decision is sent to:

1..... for⁶.

2..... for⁷.

DECISION MAKING PERSON
(Full name, designation, stamp)

⁶ If forced enforcement measure is deduction from salary or part of income, deduction from bank account, the Decision shall be sent to office, organization where the individual is employed or the bank for coordinated implementation.

⁷ If forced enforcement measure is asset confiscation or other forced enforcement methods so as to confiscate evidences, means, equipments used in administrative breaching, initial status shall be forced to be restored after being altered by administrative breach, or illegally construction work shall be removed, or forced methods to overcome environmental pollution, spread of epidemics, forced to be taken out of Vietnam's territory; forced re-export of goods, produce, means, forced destruction of produce that are hazardous to human health, raised animals, planted trees, hazardous cultural products, the Decision shall be sent to Chairman of People's Committee of commune level for coordinated forced enforcement.

Decision Sample No. 7

MANAGEMENT AGENCY ¹ MINUTES MAKING AGENCY -----	SOCIALIST REPUBLIC OF VIETNAM Independence - Freedom - Happiness -----
No. /QD-KPHQ	A ² , Date:

DECISION ON

application of measures to overcome consequences from
administrative breaches in cases thrifty and efficient energy use
administrative breach punishment is not applied.

Based on Article ...³. of the Ordinance on Dealing with Administrative Breaches, dated July 2, 2001 and Ordinance on Amendments, Supplements to a number of articles of the Ordinance on Dealing with Administrative Breaches dated April 2, 2008;

Pursuant to Article of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)³.

Because of⁵. administrative punishment is not applied;
In order to overcome consequences caused by administrative breaches,
I myself:⁶; Designation:
Unit:

DECIDE:

Article 1. Impose measure(s) to overcome consequences caused by administrative breach(es) against Mr. (Ms.)/Organization⁷:
Occupation (Operation field):
Address:

¹ If being a decision on forced punishment enforcement signed by Chairman of People's Committee of commune, township, it is not necessary to mention management agency.

² Specify geographical name of provincial level.

³ Specify Decision to overcome consequences in the case of validity expiry, the Article 10 shall prevail; if time for punishing decision issue expires, Article 56 of the Ordinance on Dealing with Administrative Breaches shall prevail.

⁴ Specify article, section of Decree on administrative breaches on thrifty and efficient energy use regulations.

⁵ Specify reasons for not being punished.

⁶ Specify full name, designation of the forced enforcement decision making person.

⁷ If being an organization, specify full name, designation of the representative of the breaching organization.

ID number/Establishing Decision or Business Registration:

Date of issued: Place of issue:

Reasons:

- Having committed administrative breaching acts⁸:

Which go against regulations in point, item of Article ... of Decree No. 73/2011/ND-CP, dated August 24, 2011 of the Government regulating thrifty and efficient energy use administrative breach(es)⁸.

Circumstances relating to solving breaching acts:

Reasons for not being imposed with administrative punishment:

Consequences that must be overcome:

Consequence overcoming measures are:

Article 2. Mr. (Ms.)/organization is responsible for strict observance of the punishing Decision within a period of ten days, starting from the day the punishing Decision is handed over on month year, except cases for enforcement suspension or.....¹⁰.

Should it be beyond this time limit, if Mr. (Ms.)/organization intentionally try not to fulfill this punishing Decision, forced enforcement shall be applied.

Mr. (Ms.)/organization is entitled for petitioning, filing a lawsuit against this administrative punishing Decision according to legal regulations.

Article 3. This decision takes effect from day, month year¹¹...

This decision consists of page(s), with stamp printed between two pages.

Within a period of three days, this Decision shall be sent to:

1. Mr. (Ms.)/organization for implementation;
2.
3.

DECISION MAKING PERSON
(Full name, designation, stamp)

⁸ If there are more than one act, specify everyone of these breaching acts.

⁹ Specify every point, item, article, punish level specified in the Decree regulating punish on thrifty and efficient energy use administrative breaches (follow explanation 3) regarding breaching individuals, organizations.

¹⁰ Specify reasons.

¹¹ The day Decision is signed or decided by the competent punishing decision making person.