
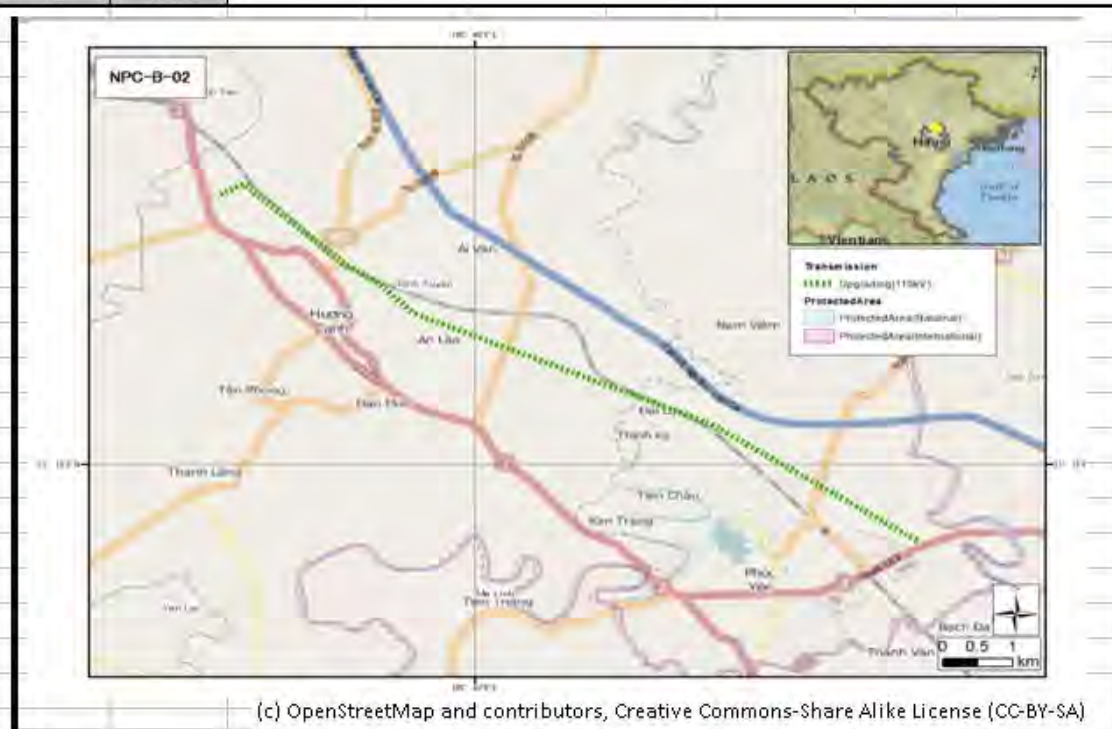



添付資料 5 : SP サマリーシート (計 7 5 枚)  
(NPC/HPC/CPC/SPC/HCMCPC)

No	NPC_B01	Name	110kV Tam Dao substation and T/L				
Purpose	Meet the demand on power supply for the load, Improve the power quality, the reliability and convenience in the management and operation						
Scope	Construction of 5,0 km double circuit AC185 T/L and 2x 40MVA-110/35/22kV Sub. (Phase 1, installation of 01 Transformer); Construction of 3,4 km 35kV T/L and 8,5 km 22kV T/L						
Province	Vinh Phuc	FS Approval	Pre-FS only	FIRR	31.60%		
Total Investment (VND billion)	106	Total Investment (JPY million)	517	Peak Load Status	98% *No evidence		
Number of Japanese Tenants	7	Contracted Capacity of Japanese Tenant(kW)	4,867	Average Load Factor	76% *No evidence		
Transmission Line	Voltage	110	Start	110kV line supply Tam Duong 110kV substation		End	Tam Dao 110kV sustation
	Circuit	2	Length (km)		5.0	Conductor	ACSR 185
	New	Yes	Upgrade	No	Replace	No	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect
MV	New	3.4 km 35kV T/L and 8.5 km 22kV T/L					
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		20 people		
Protected area	Tam Dao National Park			Land acquisition (sqm)		11,867	

No	NPC_B02	Name	Improving the transmission capacity of 110kV Vinh Yen - Phuc Yen T/L				
Purpose	Meet the demand on power supply, Improve the general power quality, Improve the reliability and convenience in the management and operation						
Scope	Rehabilitation and Improvement of the transmission capacity for 23km 110kV T/L from conductor AC 185 to AC 300						
Province	Vinh Phuc	FS Approval	Pre-FS only	FIRR	32.20%		
Total Investment (VND billion)	115	Total Investment (JPY million)	561	Peak Load Status	102% *No evidence		
Number of Japanese Tenants	10	Contracted Capacity of Japanese Tenant(kW)	42,559	Average Load Factor	78% *No evidence		
Transmission Line	Voltage	110	Start	Vinh Yen 220kV substation		End	Phuc Yen 110kV substation
	Circuit	1	Length (km)		23.0	Conductor	ACSR 300
	New	No	Upgrade	Yes	Replace	No	Connect
Sub Station	Voltage	0					
	New	0	Upgrade	0	Replace	0	Connect
MV	New	-					





EIA report	Under preparation/ yet to be approved	Number of Resettlement	0
Protected area	-	Land acquisition (sqm)	13,800

No	NPC_B03	Name	110kV Nam Son - Hap Linh substation and branch				
Purpose	New establish of substation						
Scope	- Construction of 4,0 km branch of 110kV double circuit line. - Construction of 2x63MVA-110/35/22kV Sub. (at first, installation of 01 Transformer) - Construction of 4,7 km 35kV T/L and 9,5 km 22kV T/L						
Province	Bắc Ninh	FS Approval	Pre. FS	FIRR	54.70%		
Total Investment (VND billion)	104.152066	Total Investment (JPY million)	508	Peak Load Status	91% *No evidence		
Number of Japanese Tenants	5	Contracted Capacity of Japanese Tenant(kW)	9,398	Average Load Factor	70% *No evidence		
Transmission Line	Voltage	110	Start	tower 41 - 110kV line : 178E276 -178E11 and 177E276-177E11.	End	Poctic 110kV – Nam SON Hap Linh 110kV transformer station	
	Circuit	2	Length (km)		4.0	Conductor	ACSR300
	New	Yes	Upgrade	No	Replace	No	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect
MV	New	4.7 km 35kV T/L and 9.5 km 22kV T/L					
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		30 People		
Protected area			Land acquisition (sqm)		12,033		




No	NPC_B04	Name	110kV Que Vo 3 substation and branch				
Purpose	Expansion						
Scope	Construction of 1,919 km 110kV double circuit line; Construction of 2 x 63MVA-110/35/22kV (Phase 1, installation of 01 Transformer);						
Province	Bắc Ninh	FS Approval	FS approval	FIRR	29.80%		
Total Investment (VND billion)	74.990089	Total Investment (JPY million)	366	Peak Load Status	93% *No evidence		
Number of Japanese Tenants	10	Contracted Capacity of Japanese Tenant(kW)	64,150	Average Load Factor	72% *No evidence		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	0					
	New	0	Upgrade	0	Replace	0	Connect
MV	New	-					
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area	-			Land acquisition (sqm)	11,400		


No	NPC_B05	Name	110kV Quang Chau substation and branch				
Purpose	ensure the capacity of power supply Station, reliability of power supply, creating the favorable investment environment for enterprises						
Scope	Construction of 1km 110kV double circuit line; 01 S/s 1x40MVA-110/22kV (at first, installation of 01 Transformer); Construction of 7,9 km 22kV T/L and 4,2 km 35kV T/L						
Province	Bắc Giang	FS Approval	Pre FS		FIRR	30.70%	
Total Investment (VND billion)	82.1940184	Total Investment (JPY million)	401		Peak Load Status	89% *No evidence	
Number of Japanese Tenants	6	Contracted Capacity of Japanese Tenant(kW)	19,700		Average Load Factor	69% *No evidence	
Transmission Line	Voltage	110	Start	Bac Giang – Quang Chau double circuit wireline		End	Poctic 110kV – Quang Chau 110kV transformer station
	Circuit	2	Length (km)		1.0	Conductor	ACSR185
	New	Yes	Upgrade	No	Replace	No	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect
MV	New	7.9 km 22kV T/L and 4.2 km 35kV T/L					
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		8,133		

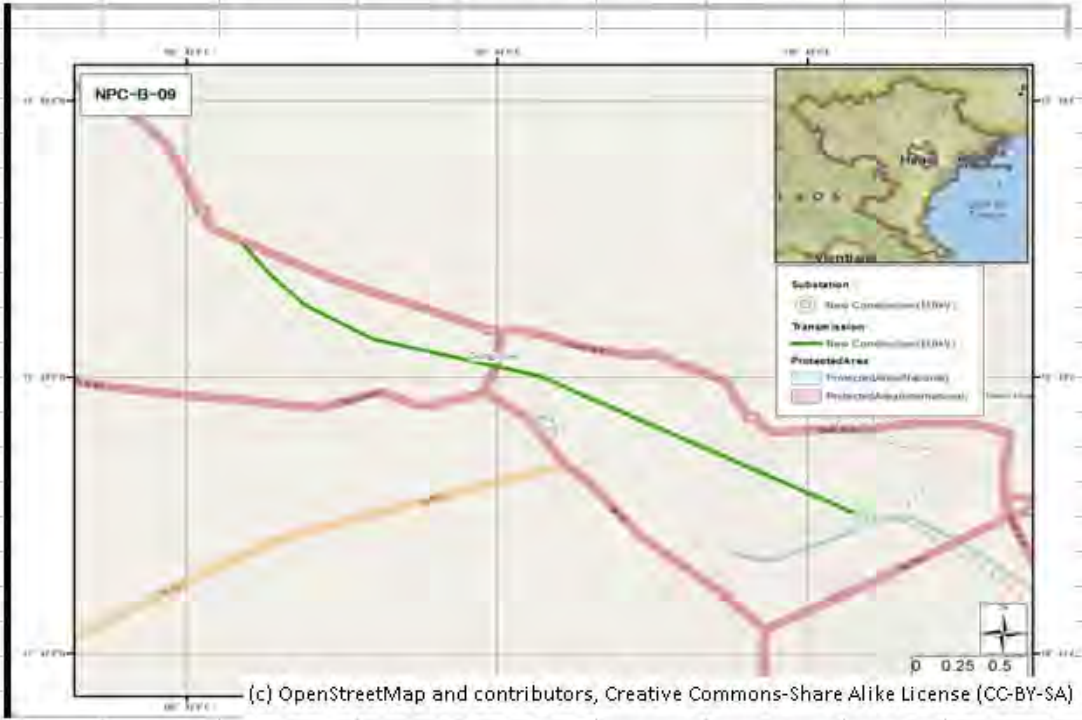
No	NPC_B06	Name	110kV T/L of Thái Bình -Thái Thụy Thermo-Electric Factory				
Purpose	Satisfy power demand,Improve power quality, the reliability and the flexibility of the power system operation - Transmit the power to Thai Binh power plant after this plant going into operation.						
Scope	11,376 km 110kV double circuit line AC 300, there is one part of fourth-circuit: 1,978 km; the third-circuit: 1,668 km, the second: 7,927 km						
Province	Thái Bình	FS Approval	FS approval	FIRR	20% to 30%		
Total Investment (VND billion)	150.02859	Total Investment (JPY million)	732	Peak Load Status	78% *No evidence		
Number of Japanese Tenants	2	Contracted Capacity of Japanese Tenant(kW)	1,410	Average Load Factor	60% *No evidence		
Transmission Line	Voltage	110	Start	Thái Binh Power plant	End	110kV Thai Thụy Substation	
	Circuit	2	Length (km)		15.0	Conductor	ACSR300/39
	New	Yes	Upgrade	No	Replace	No	Connect
Sub Station	Voltage	0					
	New	0	Upgrade	0	Replace	0	Connect
MV	New	-					
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area	Red River Delta (UNESCO-MAB Biosphere Reserve)			Land acquisition (sqm)		9,000	



No	NPC_B07	Name	110kV T/L of Thái Bình -Tiền Hải Thermo-Electric Factory						
Purpose	Rehabilitation and expansion								
Scope	17km 110kV double circuit line AC 300, Rehabilitation of feeder of 110kV Tiền Hải Sub.								
Province	Thái Bình		FS Approval		FS approval		FIRR	29.60%	
Total Investment (VND billion)	150.099118		Total Investment (JPY million)		732		Peak Load Status	82% *No evidence	
Number of Japanese Tenants	2		Contracted Capacity of Japanese Tenant(kw)		27		Average Load Factor	63% *No evidence	
Transmission Line	Voltage	110		Start	Pooctic 110kV –Thai Thuy 220kV transformer station		End	Pooctic 110kV –Tien Hai 110kV transformer station.	
	Circuit	2		Length (km)		17.1		Conductor	ACSR and AACSR300
	New	Yes	Upgrade	No	Replace	No	Connect	Yes	
Sub Station	Voltage	110/22							
	New	Yes	Upgrade	Yes	Replace	No	Connect	No	
MV	New								
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		0		
Protected area	Red River Delta (UNESCO-MAB Biosphere Reserve)				Land acquisition (sqm)		10,200		




No	NPC_B08	Name	110kV Tinh Gia 2 Substation and T/L						
Purpose	to meet the growing demand of load, reduce losses								
Scope	-Construction of 11km 110kV double circuit line, conductor AC240; -Sub. 2x40MVA (at first, installation of 01 Transformer); -Construction of 19,5 km 22kV line and 14,5 km 35kV line								
Province	Thanh Hóa		FS Approval		Pre-FS only		FIRR	26.80%	
Total Investment (VND billion)	145.5		Total Investment (JPY million)		710		Peak Load Status	80% *No evidence	
Number of Japanese Tenants	5		Contracted Capacity of Japanese Tenant(kW)		23,920		Average Load Factor	62% *No evidence	
Transmission Line	Voltage	110		Start	110kV Tinh Gia substation		End	110kV Tinh Gia 2 substation	
	Circuit	2		Length (km)		11.0		Conductor	ACSR240
	New	No		Upgrade	No		Replace	No	
Sub Station	Voltage	110/22							
	New	Yes		Upgrade	No		Replace	No	
MV	New		19.5 km 22kV line and 14.5 km 35kV line						
 <p>PJ area and line length are not identified.</p> <p>(c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)</p>									
EIA report	Under preparation/ yet to be approved				Number of Resettlement		20 People		
Protected area					Land acquisition (sqm)		22,833		

No	NPC_B09	Name	110kV Tay Thanh Pho Substation and T/L				
Purpose	meet the development speed, reduce loss						
Scope	- Construction of 4km 110kV double circuit line, conductor AC240; - Sub. 2x40MVA (at first, installation of 01 Transformer); - Construction of 29,5 km 22kV line and 8,5 km 35kV line						
Province	Thanh Hóa	FS Approval	Pre-FS only	FIRR	28.00%		
Total Investment (VND billion)	121.5	Total Investment (JPY million)	593	Peak Load Status	88% *No evidence		
Number of Japanese Tenants	11	Contracted Capacity of Japanese Tenant(kW)	73,120	Average Load Factor	68% *No evidence		
Transmission Line	Voltage	110	Start	220kV Thanh Hoa substation	End	110kV Tay Thanh Pho substation	
	Circuit	2	Length (km)		4.0	Conductor	ACSR240
	New	No	Upgrade	No	Replace	No	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect
MV	New	29.5 km 22kV line and 8.5 km 35kV line					
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EIA report	Under preparation/ yet to be approved			Number of Resettlement	5 householded		
Protected area				Land acquisition (sqm)	19,967		

No	NPC_B10	Name	110kV Cam Thuy substation and T/L						
Purpose	meet the development speed, reduce loss								
Scope	Construction of 8km 110kV double circuit line, conductor AC240; Sub. 2x40MVA (at first, installation of 01 Transformer); Construction of 5,5 km 22kV line and 6,5 km 35kV line								
Province	Thanh Hóa		FS Approval		Pre-FS only		FIRR	28.60%	
Total Investment (VND billion)	121		Total Investment (JPY million)		590		Peak Load Status	79% *No evidence	
Number of Japanese Tenants	3		Contracted Capacity of Japanese Tenant(kW)		21,000		Average Load Factor	61% *No evidence	
Transmission Line	Voltage	110		Start	110kV Line( Bim Son substation-Ba Thuoc 2 hydropower)		End	110kV Cam Thuy substation	
	Circuit	2		Length (km)		8.0		Conductor	ACSR240
	New	No		Upgrade	No		Replace	No	
Sub Station	Voltage	110/22							
	New	Yes		Upgrade	No		Replace	No	
MV	New		5.5 km 22kV line and 6.5 km 35kV line						
<p>PJ area and line length are not identified.</p> <p>(c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)</p>									
EIA report	Under preparation/ yet to be approved				Number of Resettlement		0		
Protected area					Land acquisition (sqm)		13,700		




No	NPC_B11	Name	110kV Tan Quang substation and T/L						
Purpose	To meet the load demand, To improve power quality, convenience and flexibility in operation management								
Scope	- To be the foundation for development and planning, improvement of the existing power - Construction of 5 km 110kV double circuit line, conductor ACSR 300; - Sub. 2x63MVA (at first, installation of 01 Transformer) Construction of 6,7 km 35kV line and 12,5 km 22kV line								
Province	Hưng Yên		FS Approval		Pre-FS only		FIRR	26.40%	
Total Investment (VND billion)	140		Total Investment (JPY million)		683		Peak Load Status	89% *No evidence	
Number of Japanese Tenants	9		Contracted Capacity of Japanese Tenant(kW)		16,100		Average Load Factor	69% *No evidence	
Transmission Line	Voltage	110		Start	Khoai Chau - Van Giang 110kV Transmission Line		End	Tan Quang 110kV substation	
	Circuit	2		Length (km)		5.0		Conductor	ACSR 300
	New	Yes	Upgrade	No	Replace	No	Connect	Yes	
Sub Station	Voltage	110/35/22							
	New	Yes	Upgrade	No	Replace	No	Connect	No	
MV	New	6.7 km 35kV line and 12.5 km 22kV line							
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		15 People		
Protected area					Land acquisition (sqm)		14,300		

No	NPC_B12	Name	Installation of T2 transformer at 110kV S/s, Hung Yen city					
Purpose	To meet the load demand, To improve power quality, convenience and flexibility in operation management							
Scope	To be the foundation for development and planning, improvement of the existing power Installation of Transformer T2 40MVA-110/35/22kV							
Province	Hưng Yên		FS Approval		Pre-FS only		FIRR	23.90%
Total Investment (VND billion)	40		Total Investment (JPY million)		195		Peak Load Status	100% *No evidence
Number of Japanese Tenants	8		Contracted Capacity of Japanese Tenant(kW)		18,250		Average Load Factor	77% *No evidence
Transmission Line	Voltage	-	Start	-	End	-		
	Circuit	-	Length (km)		-	Conductor	-	
	New	-	Upgrade	-	Replace	-	Connect	-
Sub Station	Voltage	110/35/22						
	New	Yes	Upgrade	No	Replace	No	Connect	No
MV	New	-						
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EIA report	Under preparation/ yet to be approved			Number of Resettlement				0
Protected area				Land acquisition (sqm)				-

No	NPC_B13	Name	Upgrading the capacity of T1 Phố Cao transformer *title name is Dffer.					
Purpose	To meet the load demand, To improve power quality, convenience and flexibility in operation management, improvement of the existing power grid system							
Scope	Installation of Transformer T1 from Installation of Transformer 25MVA to 40MVA-110/35/22kV							
Province	Hưng Yên		FS Approval	Pre-FS only		FIRR	25.80%	
Total Investment (VND billion)	30	Total Investment (JPY million)	146		Peak Load Status	105% *No evidence		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	16,800	Average Load Factor	79% *No evidence			
Transmission Line	Voltage	-	Start	-	End	-		
	Circuit	-	Length (km)		-	Conductor	-	
	New	-	Upgrade	-	Replace	-	Connect	
Sub Station	Voltage	110/35/22						
	New	No	Upgrade	Yes	Replace	No	Connect	
MV	New	-						
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area	-			Land acquisition (sqm)		-		




No	NPC_B14	Name	110kV Kim Bang substation and T/L						
Purpose	To meet the load demand, To improve power quality, convenience and flexibility in operation management, improvement of the existing power grid system								
Scope	<ul style="list-style-type: none"> <li>- Construction of 2,5 km line 110kV double circuit line, conductor AC240;</li> <li>- Sub. 2x63 MVA (at first, installation of 01 Transformer)</li> <li>- Construction of 4,8 km 35kV line and 8,8 km 22kV line</li> </ul>								
Province	Hà Nam		FS Approval		Pre-FS only		FIRR	31.10%	
Total Investment (VND billion)	81		Total Investment (JPY million)		395		Peak Load Status	90% *No evidence	
Number of Japanese Tenants	2		Contracted Capacity of Japanese Tenant(kW)		660		Average Load Factor	70% *No evidence	
Transmission Line	Voltage	110		Start	Ly Nhan - Dong Van 110kV Transmission Line		End	Kim Bang 110kV sustation	
	Circuit	2		Length (km)		2.5		Conductor	ACSR 240
	New	Yes	Upgrade	No	Replace	No	Connect	Yes	
Sub Station	Voltage	110/35/22							
	New	Yes	Upgrade	No	Replace	No	Connect	No	
MV	New	4.8 km 35kV line and 8.8 km 22kV line							
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		30 People		
Protected area					Land acquisition (sqm)		10,933		


No	NPC_B15	Name	110kV Hoa Mac substation and T/L						
Purpose	To meet the load demand, To improve power quality, convenience and flexibility in operation management, improvement of the existing power grid system								
Scope	- Construction of 2,5 km 110kV double circuit line, conductor AC 240; - Sub. 2x25MVA (GB1 lắp 1 transformer); -- Construction of 5,5 km 35kV line and 7,9 km 22kV line								
Province	Hà Nam		FS Approval		Pre-FS only		FIRR	20.70%	
Total investment (VND billion)	95		Total Investment (JPY million)		464		Peak Load Status	81% *No evidence	
Number of Japanese Tenants	3		Contracted Capacity of Japanese Tenant(kW)		15,500		Average Load Factor	63% *No evidence	
Transmission Line	Voltage	110		Start	Phu Ly - Van Dinh 110kV Transmission Line		End	Hoa Mac 110kV sustation	
	Circuit	2		Length (km)		2.5		Conductor	ACSR 240
	New	Yes	Upgrade	No	Replace	No	Connect	Yes	
Sub Station	Voltage	110/35/22							
	New	Yes	Upgrade	No	Replace	No	Connect	No	
MV	New	5.5 km 35kV line and 7.9 km 22kV line							
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		30 People			
Protected area				Land acquisition (sqm)		10,867			

No	NPC_B16	Name	110kV Quán Trữ substation and branch						
Purpose	meet the load demand, reduce the loss								
Scope	- Construction of 2.5 km 110kV double circuit line, conductor AC240; - Sub. 2 x 63 MVA (trước mắt installation of 01 transformer); - Construction of 3.2 km 35kV line and 13.6 km 22kV line								
Province	Hải Phòng		FS Approval		Pre-FS only		FIRR	32.00%	
Total Investment (VND billion)	108		Total Investment (JPY million)		527		Peak Load Status	69% *No evidence	
Number of Japanese Tenants	4		Contracted Capacity of Japanese Tenant(kW)		5,050		Average Load Factor	53% *No evidence	
Transmission Line	Voltage	110		Start	110kV Line Dong Hoa - Kien An - Do Son.		End	110kV Quan Tru substation	
	Circuit	2		Length (km)		2.5		Conductor	ACSR240
	New	No	Upgrade	No	Replace	No	Connect	Yes	
Sub Station	Voltage	110/22							
	New	Yes	Upgrade	No	Replace	No	Connect	No	
MV	New	3.2 km 35kV line and 13.6 km 22kV							
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		5		
Protected area	Do Son (Cultural and Historical Site)				Land acquisition (sqm)		12,000		



No	NPC_B17	Name	Construction of the second circuit of 110kV T/L to 110kV Nghĩa An-Hải Dương substation						
Purpose	Satisfy the increased power demand, Improve the power quality, Improve the reliability and the flexibility of the power system operation.								
Scope	Construction of 110kV second circuit with the length of 12 km + 02 110kV feeders								
Province	Hải Dương		FS Approval		Pre-FS only		FIRR	38.20%	
Total Investment (VND billion)	28.5		Total Investment (JPY million)		139		Peak Load Status	73% *No evidence	
Number of Japanese Tenants	24		Contracted Capacity of Japanese Tenant(kW)		35,530		Average Load Factor	56% *No evidence	
Transmission Line	Voltage	110		Start	The pole number 68 of 110kV Dong Nien - Pho Cao		End	110kV Nghĩa An substation	
	Circuit	1		Length (km)		12.0		Conductor	ACSR240/32
	New	No		Upgrade	Yes	Replace	No	Connect	No
Sub Station	Voltage	110/22							
	New	0		Upgrade	Yes	Replace	0	Connect	Yes
MV	New								
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		0		
Protected area					Land acquisition (sqm)		7,200		

No	NPC_B18	Name	Construction of the second circuit of 110kV Tien Trung-Lai Khe double circuit T/L					
Purpose	Satisfy the increased power demand, Improve the power quality, Improve the reliability and the flexibility of the power system operation - Promote the social economic development of Nam Sach district in particular and Hai Duong							
Scope	Construction of 110kV second circuit with the length of 6.4km + 02 110kV feeders outgoing from 110kV Lai Khê Sub.							
Province	Hải Dương	FS Approval	Pre-FS only	FIRR	42.30%			
Total Investment (VND billion)	25.5	Total Investment (JPY million)	124	Peak Load Status	87% *No evidence			
Number of Japanese Tenants	26	Contracted Capacity of Japanese Tenant(kw)	64,640	Average Load Factor	67% *No evidence			
Transmission Line	Voltage	110	Start	110kV Tien Trung substation		End	110kV Lai Khe substation	
	Circuit	1	Length (km)		6,4	Conductor	ACSR240/32	
	New	No	Upgrade	Yes	Replace	No	Connect	No
Sub Station	Voltage	110/22						
	New	0	Upgrade	Yes	Replace	0	Connect	Yes
MV	New							
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area				Land acquisition (sqm)		3,840		

No	NPC_B19	Name	Installation of T2 transformer at 110kV Ninh Binh substation					
Purpose	Satisfy the increased power demand, Improve the power quality, Improve the reliability							
Scope	Installation of Transformer T2 40MVA-110/35/22kV							
Province	Ninh Binh	FS Approval	0		FIRR	0.00%		
Total Investment (VND billion)	35.2225551	Total Investment (JPY million)	172		Peak Load Status	97% *No evidence		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	140,000		Average Load Factor	75% *No evidence		
Transmission Line	Voltage	110	Start	Ninh Binh 110kV Transformer Station		End	Ninh Binh 110kV Transformer Station	
	Circuit	-	Length (km)		-	Conductor	--	
	New	-	Upgrade	-	Replace	-	Connect	
Sub Station	Voltage	110/22						
	New	Yes	Upgrade	No	Replace	No	Connect	
MV	New	-						
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area	-			Land acquisition (sqm)		-		



No	NPC_B20	Name	Installation of T2 transformer at 110kV Ninh Phúc industrial zone substation				
Purpose	ensure the capacity of power supply for loads						
Scope	Installation of Transformer T2 40MVA-110/35/22kV						
Province	Ninh Binh	FS Approval	0		FIRR	0.00%	
Total Investment (VND billion)	35.4001551	Total Investment (JPY million)	173	Peak Load Status	89% *No evidence		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kw)	150	Average Load Factor	69% *No evidence		
Transmission Line	Voltage	110	Start	Ninh Binh 110kV Transformer Station		End	Ninh Binh 110kV Transformer Station
	Circuit	-	Length (km)		-	Conductor	--
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect
MV	New	-					



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EIA report	Under preparation/ yet to be approved	Number of Resettlement	0
Protected area	-	Land acquisition (sqm)	-

No	NPC_B21	Name	110kV Yen Mo substation and T/L						
Purpose	assure the power supply capacity for loads								
Scope	- Construction of 8,6 km 110kV double circuit line, conductor AC185; - Sub. 2x25MVA (at first, installation of 01 Transformer); - Construction of g 6,5 km 35kV line and 7,6 km 22kV line								
Province	Ninh Binh		FS Approval		Pre-FS only		FIRR	25.50%	
Total Investment (VND billion)	104.10328		Total Investment (JPY million)		508		Peak Load Status	68% *No evidence	
Number of Japanese Tenants	1		Contracted Capacity of Japanese Tenant(kW)		7,300		Average Load Factor	53% *No evidence	
Transmission Line	Voltage	110		Start	Ninh Binh – Kim Son 178-E23.1 wireline		End	Poctic 110kV – Yen Mo 110kV transformer station.	
	Circuit	2		Length (km)		8.6		Conductor	ACSR185
	New	Yes	Upgrade	No	Replace	Yes	Connect	Yen Mo 110kV	
Sub Station	Voltage	110/22							
	New	Yes	Upgrade	No	Replace	No	Connect	No	
MV	New	6.5 km 35kV line and 7.6 km 22kV line							



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EIA report	Under preparation/ yet to be approved	Number of Resettlement	20 people
Protected area		Land acquisition (sqm)	14,760

No	NPC_B22	Name	110kV Luu Kiem substation and T/L						
Purpose	meet the development speed and reduce the loss								
Scope	- Construction of 8,5 km 110kV double circuit line, conductor AC240; - Sub. 2x40MVA (at first, installation of 01 Transformer);								
Province	Hai Phong		FS Approval		Pre-FS only		FIRR	28.60%	
Total Investment (VND billion)	121		Total Investment (JPY million)		590		Peak Load Status	72% *No evidence	
Number of Japanese Tenants	3		Contracted Capacity of Japanese Tenant(kw)		5,650		Average Load Factor	56% *No evidence	
Transmission Line	Voltage	110		Start	220kV Thuy Nguyen substation		End	110kV Luu Kiem substation	
	Circuit	2		Length (km)		8.5		Conductor	ACSR240
	New	No		Upgrade	No		Replace	No	
Sub Station	Voltage	110/22							
	New	Yes		Upgrade	No		Replace	No	
MV	New								
<p>PJ area and line length are not identified.</p> <p>(c) OpenStreetMap and contributors, Creative Commons-Share Alike License (CC-BY-SA)</p>									
EIA report	Under preparation/ yet to be approved				Number of Resettlement		0		
Protected area					Land acquisition (sqm)		16,700		

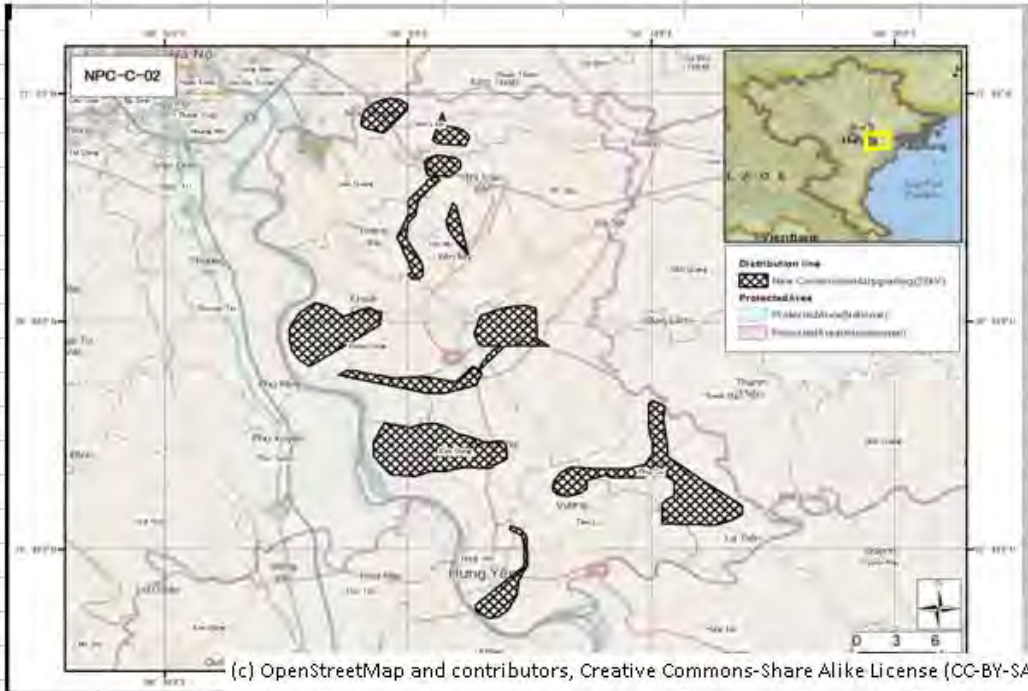


No	NPC_B23	Name	110kV Phuc Son substation and T/L					
Purpose	meet the development speed, reduce the loss							
Scope	- Construction of 2,5 km 110kV double circuit line, conductor AC185; - Sub. 2x25MVA (at first, installation of 01 Transformer);							
Province	Ninh Binh		FS Approval		Pre-FS only		FIRR	25.50%
Total Investment (VND billion)	77.732691		Total Investment (JPY million)		379		Peak Load Status	66% *No evidence
Number of Japanese Tenants	1		Contracted Capacity of Japanese Tenant(kW)		150		Average Load Factor	51% *No evidence
Transmission Line	Voltage	110	Start	Ninh Binh – Kim Son 178-E23.1 wireline		End	Poocitic 110kV – Yen Mo 110kV transformer station.	
	Circuit	2	Length (km)		2.5	Conductor	ACSR185	
	New	Yes	Upgrade	No	Replace	No	Connect	Yen Mo 110KV Transformer
Sub Station	Voltage	110/22						
	New	Yes	Upgrade	No	Replace	No	Connect	No
MV	New							
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EIA report	Under preparation/ yet to be approved				Number of Resettlement		20 people	
Protected area					Land acquisition (sqm)		6,400	

No	NPC_B24	Name	T2 Tam Diep Industrial Park					
Purpose	ensure the capacity of power supply for loads							
Scope	Installation of Transformer T2 40MVA-110/35/22kV							
Province	Ninh Binh		FS Approval	Pre-FS only		FIRR	19,7%	
Total Investment (VND billion)	35.400155	Total Investment (JPY million)	173	Peak Load Status		87% *No evidence		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	7,300	Average Load Factor		67% *No evidence		
Transmission Line	Voltage	110	Start	Tam Diep 110kV Transformer Station		End	Tam Diep 110kV Transformer Station	
	Circuit	-	Length (km)		-	Conductor	--	
	New	-	Upgrade	-	Replace	-	Connect Tam Diep 110kV Transformer Station	
Sub Station	Voltage	110/22						
	New	Yes	Upgrade	No	Replace	No	Connect No	
MV	New	-						
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area	-			Land acquisition (sqm)		-		

No	NPC_C01	Name	Thanh Hoa			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 39,24 km line, rehabilitation of 283,579 km line and 175Subs.					
Province	Thanh Hoa	FS Approval	Pre-FS only	FIRR	13.90%	
Total Investment (VND billion)	566	Total Investment (JPY million)	2,763	Peak Load Status	103% *No evidence	
Number of Japanese Tenants	20	Contracted Capacity of Japanese Tenant(kW)	123,460	Average Load Factor	72% *No evidence	
Distribution line	District	NATHanh Hoa City, Tinh Gia, Quang Xuong, Bim Son town, Nong Cong, Sam Son town, Nga Son, Dong Son , Cam Thuy				
	MV Feeder connected 110/MV Substation	Nui 1, Thanh Hoa, Thieu Yen, Nong Cong, Tinh Gia, Sam Son, Ha Trung substations		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Red River Delta (UNESCO-MAB Biosphere Reserve)		Land acquisition (sqm)	unknown		



No	NPC_C02	Name	Hưng Yên			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 66 km line, rehabilitation of 190,06 km line and 183 Subs					
Province	Hưng Yên	FS Approval	Pre-FS only	FIRR	21.30%	
Total Investment (VND billion)	438	Total Investment (JPY million)	2,139	Peak Load Status	111% *No evidence	
Number of Japanese Tenants	18	Contracted Capacity of Japanese Tenant(kW)	53,130	Average Load Factor	77% *No evidence	
Distribution line	District	Hung Yen City, Kim Dong, Tien Lu, Phu Cu, An Thi, Khoai Chau, Van Lam, Yen My, My Hao				
	MV Feeder connected 110/MV Substation	Lac Dao, Giai Pham, Yen My, Khoai Chau, Kim Dong, Hung Yen, Pho Cao	Transformer (MV/LV) construction/Rehabilitation	Yes		
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		

No	NPC_C03	Name	Thai Binh			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Rehabilitation of 126,164 km line and 172 Subs					
Province	Thai Binh	FS Approval	Pre-FS only	FIRR	20.80%	
Total Investment (VND billion)	158	Total Investment (JPY million)	773	Peak Load Status	98% *No evidence	
Number of Japanese Tenants	4	Contracted Capacity of Japanese Tenant(kW)	1,437	Average Load Factor	68% *No evidence	
Distribution line	District	Thai Binh City, Vu Thu, Quynh Phu				
	MV Feeder connected 110/MV Substation	Thai Binh, Long Boi, Vu Thu, Hung Ha, Kien Xuong, Thai Thuy		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	No	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		




No	NPC_C04	Name	Bac Ninh			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 29,47 km line, rehabilitation of 38,6 km line and 33 Subs					
Province	Bac Ninh	FS Approval	Pre-FS only	FIRR	21.60%	
Total Investment (VND billion)	250	Total Investment (JPY million)	1,219	Peak Load Status	109% *No evidence	
Number of Japanese Tenants	34	Contracted Capacity of Japanese Tenant(kW)	113,393	Average Load Factor	76% *No evidence	
Distribution line	District	Bac Ninh, Tien Du, Yen Phong, Que Vo, Thuan Thanh, Tu Son town				
	MV Feeder connected 110/MV Substation	Vo Cuong, Khac Niem, Tien Son, Thuan Thanh		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	-		Land acquisition (sqm)		unknown	




No	NPC_C05	Name	Hai Duong			
Purpose	<p>-To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>-To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>-To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 55,9 km line, rehabilitation of 30,8 km line and 24 Subs					
Province	Hai Duong		FS Approval	Pre-FS only	FIRR	20.90%
Total Investment (VND billion)	126	Total Investment (JPY million)	615	Peak Load Status	90% *No evidence	
Number of Japanese Tenants	51	Contracted Capacity of Japanese Tenant(kW)	102,170	Average Load Factor	63% *No evidence	
Distribution line	District	Song Cong, Pho Yen, Phu Binh				
	MV Feeder connected 110/MV Substation	Phuc Dien, Hai Duong, Dai An, Thanh Mien, Nghia An		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)		unknown	

No	NPC_C06	Name	Ninh Binh			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 16,26 km line, rehabilitation of 94,69 km line and 167 Subs					
Province	Ninh Binh	FS Approval	Pre-FS only	FIRR	14.50%	
Total Investment (VND billion)	143	Total Investment (JPY million)	698	Peak Load Status	89% *No evidence	
Number of Japanese Tenants	3	Contracted Capacity of Japanese Tenant(kW)	147,450	Average Load Factor	62% *No evidence	
Distribution line	District	Yen Khanh district, Tam Diep town, Gia Vien district, Ninh Binh City				
	MV Feeder connected 110/MV Substation	Ninh Binh, Khanh Phu, KCN Tam Diep		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		



No	NPC_C07	Name	Thai Nguyen			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 5,212 km line, rehabilitation of 60,266 km line and 96 Subs					
Province	Thai Nguyen	FS Approval	Pre-FS only	FIRR	21.90%	
Total Investment (VND billion)	74	Total Investment (JPY million)	361	Peak Load Status	101% *No evidence	
Number of Japanese Tenants	5	Contracted Capacity of Japanese Tenant(kW)	1,018,500	Average Load Factor	70% *No evidence	
Distribution line	District	Song Cong, Pho Yen, Phu Binh				
	MV Feeder connected 110/MV Substation	Go Dam		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		



No	NPC_C08	Name	Ha Nam			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 23,5 km line, rehabilitation of 88,7 km line and 133 Subs					
Province	Ha Nam	FS Approval	Pre-FS only	FIRR	20.40%	
Total Investment (VND billion)	220	Total Investment (JPY million)	1,075	Peak Load Status	99% *No evidence	
Number of Japanese Tenants	5	Contracted Capacity of Japanese Tenant(kW)	16,160	Average Load Factor	69% *No evidence	
Distribution line	District	Kim Bang, Hoa Mac				
	MV Feeder connected 110/MV Substation	Phu Ly, Dong Van		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		

No	NPC_C09	Name	Vinh Phuc			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 39,4 km line, rehabilitation of 246 km line and 246 Subs					
Province	Vinh Phuc	FS Approval	Pre-FS only	FIRR	20.40%	
Total Investment (VND billion)	300	Total Investment (JPY million)	1,464	Peak Load Status	105% *No evidence	
Number of Japanese Tenants	17	Contracted Capacity of Japanese Tenant(kW)	48,002	Average Load Factor	73% *No evidence	
Distribution line	District	Yen Lac, Tam Duong, Tam Dao, Lap Thanh, Song Lo				
	MV Feeder connected 110/MV Substation	Vinh Yen, Lap Thanh, Phuc Yen		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Tam Dao National Park		Land acquisition (sqm)	unknown		



No	NPC_C10	Name	Nghe An			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order To enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied To customers.</p> <p>- To support District electricity in overcoming overload and grid congestion in electricity distribution system in rural regions To ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 47,3 km line, rehabilitation of 345,479 km line and 310 Subs					
Province	Nghe An	FS Approval	Pre-FS only	FIRR	16.70%	
Total Investment (VND billion)	417	Total Investment (JPY million)	2,036	Peak Load Status	97% *No evidence	
Number of Japanese Tenants	10	Contracted Capacity of Japanese Tenant(kW)	65,650	Average Load Factor	67% *No evidence	
Distribution line	District	Quy nh Luu, Hoang Mai, Do Luong, Cua Lo				
	MV Feeder connected 110/MV Substation	Quy nh Luu, Hoang Mai, Do Luong, Cua Lo		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)	unknown		




No	NPC_C11	Name	Quang Ninh			
Purpose	<p>- To reduce the overload of the grid, improve the safety of power supply and reduce power losses, improve the power quality in the grid.</p> <p>- To upgrade and rehabilitation the distribution grid which have been newly handed over in order to enhance the capacity of the distribution grid, meeting the demand of subload development and ensure the electricity quality supplied to customers.</p> <p>- To support District Electricity in overcoming overload and grid congestion in electricity distribution system in rural regions to ensure the quality, reduce power losses and improve the reliability and safety of power supply.</p>					
Scope	Construction of 31,9 km line, rehabilitation of 30,2 km line and 21 Subs					
Province	Quang Ninh	FS Approval	Pre-FS only	FIRR	20.10%	
Total Investment (VND billion)	126	Total Investment (JPY million)	613	Peak Load Status	92% *No evidence	
Number of Japanese Tenants	4	Contracted Capacity of Japanese Tenant(kW)	29,400	Average Load Factor	64% *No evidence	
Distribution line	District	Ha Long, Quang Yen				
	MV Feeder connected 110/MV Substation	Cai Lan, Cai Dam		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Bai Chay (Cultural and Historical Site)		Land acquisition (sqm)	unknown		

No	HAN_B01	Name	Rehabilitating and upgrading the capacity of the 110kV line, 175,176 Chem - Yen Phu, section from 220kV Chem substation to the outgoing pole of the 220/110kV Chem - Tay Ho line				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	to replace the AC185 with AC400 for the 110kV Chèm - Yên Phú line, section from 220kV Chem substation to pole no. 19, length: 3.8 km						
Province	Tay Ho, Tu Liem	FS Approval	2014	FIRR	31.98		
Total Investment (VND billion)	45	Total Investment (JPY million)	222	Peak Load Status	108%		
Number of Japanese Tenants	43	Contracted Capacity of Japanese Tenant(kW)	1,039	Average Load Factor	89%		
Transmission Line	Voltage	110	Start	220kV Chem Sub	End	Tower No. 19	
	Circuit	2	Length (km)		4.0	Conductor	ACSR400
	New	No	Upgrade	Yes	Replace	No	Connect
Sub Station	Voltage	-					
	New	-	Upgrade	-	Replace	-	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		2,648		



No	HAN_B02	Name	New building for the 110kV line, circuit 2 from the 110kV Dong Anh substation to 220/110kV Van Tri substation and reinstating feeder 112 at 110kV Dong Anh substation.				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	to replace the 110kV line and the existing single circuit poles with the double circuit poles with total number of positions: 30 and the length: 5 km from from Dong Anh 110kV substation to 220kV Van Tri substation						
Province	Dong Anh	FS Approval	2014	FIRR	33.38		
Total Investment (VND billion)	173	Total Investment (JPY million)	845	Peak Load Status	104%		
Number of Japanese Tenants	110	Contracted Capacity of Japanese Tenant(kW)	185,912	Average Load Factor	96%		
Transmission Line	Voltage	110	Start	110kV Dong anh Sub	End	220kV Van tri Sub	
	Circuit	2	Length (km)		11.0	Conductor	ACSR400
	New	No	Upgrade	Yes	Replace	No	Connect
Sub Station	Voltage	-					
	New	-	Upgrade	-	Replace	-	Connect
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EIA report	EIA not required/ Approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		2,561		





No	HAN_B03	Name	Rehabilitating 110kV overhead line Hadong - Son Tay (173E1.4 to 172E1.7)					
Purpose	overloading, poor power quality, supply to new industrial zone							
Scope	to replace AC150 with AC400 for the 110kV line from 220kV Ha Dong substation to 110kV Son Tay substation, length: 40km							
Province	Hà Đông, Sơn Tây		FS Approval	2014		FIRR	31.38	
Total Investment (VND billion)	437		Total Investment (JPY million)	2,130		Peak Load Status	112%	
Number of Japanese Tenants	9		Contracted Capacity of Japanese Tenant(kW)	33,209		Average Load Factor	96%	
Transmission Line	Voltage	110	Start	110kV Ha dong Sub		End	110kV Son tay Sub	
	Circuit	2	Length (km)		38.0	Conductor	ACSR400	
	New	No	Upgrade	Yes	Replace	No	Connect	Yes
Sub Station	Voltage	110/22						
	New	-	Upgrade	-	Replace	-	Connect	-
								
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area				Land acquisition (sqm)		20,497		

No	HAN_B04	Name	New building for the 110kv line to supply power for 110kv Mai Lam substation							
Purpose	overloading, poor power quality, supply to new industrial zone									
Scope	building 110kv line to supply power for Mai Lam substation, length: 0.5km									
Province	Gia Lâm		FS Approval	2014		FIRR	30.51			
Total Investment (VND billion)	47		Total Investment (JPY million)	231		Peak Load Status	86%			
Number of Japanese Tenants	116		Contracted Capacity of Japanese Tenant(kw)	199,052		Average Load Factor	72%			
Transmission Line	Voltage	110		Start	Tower No. 22 of No. 180 line Dong anh - Long Bien		End	110kv Mai lam Sub		
	Circuit	2		Length (km)		0.5		Conductor	ACSR400	
	New	Yes		Upgrade	No		Replace	No		
Sub Station	Voltage	-								
	New	-		Upgrade	-		Replace	-		Connect
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EIA report	Under preparation/ yet to be approved			Number of Resettlement			0			
Protected area				Land acquisition (sqm)			1,291			

No	HAN_B05	Name	Upgrading and rehabilitating 110kV Yen Phu - E1.8 substation into the GIS substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	additionally install 63 MVA transformer, 9 GIS 110kV modules and 30 24kV cubicles						
Province	Tây HỒ	FS Approval	2014	FIRR	30.09		
Total Investment (VND billion)	291	Total Investment (JPY million)	1,420	Peak Load Status	105%		
Number of Japanese Tenants	28	Contracted Capacity of Japanese Tenant(kW)	1,046	Average Load Factor	71%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		-		




No	HAN_B06	Name	110kV Tu liem substation and 110kV branch					
Purpose	overloading, poor power quality, supply to new industrial zone							
Scope	new 110kV substation with 110kV 2x63MVA transformers, 5 110kV bays, 28 24 kV cubicles and 110kV branch, 0.8 km long							
Province	Từ Liêm	FS Approval	2014	FIRR	34.71			
Total Investment (VND billion)	236	Total Investment (JPY million)	1,152	Peak Load Status	96%			
Number of Japanese Tenants	60	Contracted Capacity of Japanese Tenant(kw)	8,462	Average Load Factor	61%			
Transmission Line	Voltage	110	Start	Tower No. 25 of No. 176 line Chem - Giam		End	110kV Tu liem Sub	
	Circuit	2	Length (km)		0.8	Conductor	ACSR400	
	New	Yes	Upgrade	No	Replace	No	Connect	Yes
Sub Station	Voltage	110/22						
	New	Yes	Upgrade	No	Replace	No	Connect	Yes
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area				Land acquisition (sqm)		16,325		

No	HAN_B07	Name	110kV Minh Khai substation and the branch					
Purpose	overloading, poor power quality, supply to new industrial zone							
Scope	new 110kV substation with 110kV 2x63MVA transformers, 5 110kV bays, 23 24kV cubicles and 110kV branch, 0.8 km long							
Province	Hai Bà Trưng		FS Approval	2014		FIRR	30.99	
Total Investment (VND billion)	277		Total Investment (JPY million)	1,353		Peak Load Status	93%	
Number of Japanese Tenants	9		Contracted Capacity of Japanese Tenant(kW)	1,288		Average Load Factor	67%	
Transmission Line	Voltage	110	Start	220kV Mai dong Sub		End	110kV Minh khai Sub	
	Circuit	2	Length (km)		2.0	Conductor	Cu1200	
	New	Yes	Upgrade	No	Replace	No	Connect	Yes
Sub Station	Voltage	110/22						
	New	Yes	Upgrade	No	Replace	No	Connect	Yes
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0		
Protected area				Land acquisition (sqm)		15,933		

No	HAN_B08	Name	110kV line to supply power to Mo Lao substation							
Purpose	overloading, poor power quality, supply to new industrial zone									
Scope	building 110kV line, 4 km long to supply power for MoLao substation									
Province	Hà Đông		FS Approval	2014		FIRR	31.95			
Total Investment (VND billion)	21		Total Investment (JPY million)	101		Peak Load Status	107%			
Number of Japanese Tenants	4		Contracted Capacity of Japanese Tenant(kW)	474		Average Load Factor	73%			
Transmission Line	Voltage	110		Start	Tower No. 4 of No, 172 line Ha dong - Chem		End	110kV Mo lao Sub		
	Circuit	2		Length (km)		4.0		Conductor	ACSR400	
	New	Yes		Upgrade	No		Replace	No		
Sub Station	Voltage	-								
	New	-		Upgrade	-		Replace	-		Connect
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EIA report	Under preparation/ yet to be approved			Number of Resettlement			0			
Protected area				Land acquisition (sqm)			288			





No	HAN_B09	Name	Upgrading capacity for 110kV Linh Dam substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	additionally install 63MVA transformer						
Province	Linh Đàm	FS Approval	2014	FIRR	32.99		
Total Investment (VND billion)	27	Total Investment (JPY million)	132	Peak Load Status	70%		
Number of Japanese Tenants	7	Contracted Capacity of Japanese Tenant(kW)	1,394	Average Load Factor	51%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		-		

No	HAN_B10	Name	Upgrading capacity for 110kV Cau Dien substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	additionally install 63MVA transformer						
Province	Cầu Diễn	FS Approval	2014	FIRR	31.74		
Total Investment (VND billion)	34	Total Investment (JPY million)	166	Peak Load Status	86%		
Number of Japanese Tenants	60	Contracted Capacity of Japanese Tenant(kW)	8,462	Average Load Factor	48%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved			Number of Resettlement		0	
Protected area				Land acquisition (sqm)			

No	HAN_B11	Name	Upgrading capacity for 110kV Quang Minh substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	additionally install 63MVA transformer and 01 110kV bay, 4 35 kV cubicles and 14 24kV cubicles						
Province	Đông Anh	FS Approval	2014	FIRR	30.03		
Total Investment (VND billion)	60	Total Investment (JPY million)	293	Peak Load Status	65%		
Number of Japanese Tenants	40	Contracted Capacity of Japanese Tenant(kW)	45,519	Average Load Factor	38%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		-		




No	HAN_B13	Name	Supplementing transformer T3 - 63 MVA at the 110kV E1.11 Thanh Cong substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	additionally install 63MVA transformer						
Province	Đông Đa	FS Approval	2014	FIRR	40.46		
Total Investment (VND billion)	28	Total Investment (JPY million)	138	Peak Load Status	90%		
Number of Japanese Tenants	35	Contracted Capacity of Japanese Tenant(kW)	2,029	Average Load Factor	62%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		-		


No	HAN_B15	Name	Building for 110kV substation side at 220kV Sơn Tây Substation				
Purpose	overloading, poor power quality, supply to new industrial zone						
Scope	building 110kV substation inside the area of the existing 220kV Sơn Tây substation including 02 63MVA transformers, 02 110kV bays, 14 35kV cubicles and 40 24kV cubicles						
Province	Sơn Tây	FS Approval	2015	FIRR	37.32		
Total Investment (VND billion)	120	Total Investment (JPY million)	583	Peak Load Status	104%		
Number of Japanese Tenants	11	Contracted Capacity of Japanese Tenant(kW)	33,162	Average Load Factor	76%		
Transmission Line	Voltage	-	Start	-	End	-	
	Circuit	-	Length (km)		-	Conductor	-
	New	-	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	No	Upgrade	Yes	Replace	No	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		-		




No	CPC_C01	Name	Upgrading and expansion of distribution power network in Thua Thien Hue Province			
Purpose	Reduce power loss, voltage loss; improvement of reliability in supplying power; improvement of load capacity for MV, LV line					
Scope	Expansion and rehabilitation of 211.895km MV line, 53.869 km LV line and newly construction of 07 substation with total capacity of 1300KVA					
Province	Thua Thien Hue	FS Approval	FS Draft Completed	FIRR	9.75%	
Total Investment (VND billion)	359	Total Investment (JPY million)	1,750	Peak Load Status	99%	
Number of Japanese Tenants	8	Contracted Capacity of Japanese Tenant(kW)	6,137	Average Load Factor	30%	
Distribution line	District	Phu Loc, Huong Thuy, A Luoi, Hue city, Huong Tra, Phong Dien, Quang Dien, Phu Vang				
	MV Feeder connected 110/MV Substation	Hue 1, Lang Co, An Hoa, Phong Dien, Phu Bai		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Tam Giang-Cau Hai National Park Hai Van-Hon Son Tra Marine Protected Area		Land acquisition (sqm)		13,491	



No	CPC_C02	Name	Upgrading and expansion of distribution power network in Son Tra District - Danang city			
Purpose	Reduce power loss, voltage loss; improvement of reliability in supplying power; improvement of load capacity for MV, LV line					
Scope	Expansion and rehabilitation of 38.96 km MV line, 40.50k m LV line and newly construction of 06 substation with total capacity of 1,430KVA					
Province	Da Nang City	FS Approval	FS Draft Completed	FIRR	17.98%	
Total Investment (VND billion)	142	Total Investment (JPY million)	693	Peak Load Status	86%	
Number of Japanese Tenants	3	Contracted Capacity of Japanese Tenant(kW)	3,300	Average Load Factor	56%	
Distribution line	District	Son Tra, Ngu Hanh Son				
	MV Feeder connected 110/MV Substation	An Don, Bac My An		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
		Rehabilitation	Yes		Rehabilitation	Yes
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)		37,816	

No	CPC_C03	Name	Upgrading and expansion of distribution power network in Hoa Vang and Cam Le Districts - Danang city			
Purpose	Reduce power loss, voltage loss; improvement of reliability in supplying power; improvement of load capacity for MV, LV line					
Scope	Expansion and rehabilitation of 156.12 km MV line, 16.23 km LV line and newly construction of 17 substation with total capacity of 3,190KVA					
Province	Da Nang City	FS Approval	FS Draft Completed	FIRR	17.15%	
Total Investment (VND billion)	187	Total Investment (JPY million)	912	Peak Load Status	99%	
Number of Japanese Tenants	5	Contracted Capacity of Japanese Tenant(kW)	5,995	Average Load Factor	59%	
Distribution line	District	Cam Le, Hoa Vang				
	MV Feeder connected 110/MV Substation	Cau Do		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
		Rehabilitation	Yes		Rehabilitation	Yes
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	-		Land acquisition (sqm)	228,300		




No	CPC_C04	Name	Upgrading and expansion of distribution power network in Phu Yen			
Purpose	To solve the problem that some MV lines, who operated for a long time without improvement, are now extremely downgrading. On the other hand, load demand in the subproject area are now increasing day by day, causing overload, power loss on distribution network. The subproject when done will improve reliability in power supply in the area.					
Scope	Construction of 189.518 km MV line; 37 substations with total capacity of 9,105kVA; Construction of 62.438km LV line					
Province	Phu Yen	FS Approval	FS Draft Completed	FIRR	22.40%	
Total Investment (VND billion)	155	Total Investment (JPY million)	756	Peak Load Status	156%	
Number of Japanese Tenants	3	Contracted Capacity of Japanese Tenant(kW)	560	Average Load Factor	54%	
Distribution line	District	Tuy Hoa city, Tay Hoa, Tuy An, Dong Xuan, Song Cau, Dong Hoa, Song Hinh, Son Hoa, Phu Hoa				
	MV Feeder connected 110/MV Substation	Hoa Hiep, 110kV E23, 110kV E22, Tuy An, Dong Xuan, Song Cau, Son Hoa, Song Hinh A20		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Krong Trai Nature Reserve		Land acquisition (sqm)		16,324	



No	CPC_C05	Name	Upgrading and expansion of distribution power network in Gia Lai			
Purpose	Aim to eliminate poverty, , motivate spiritual and physical life of ethnic minority, contribute to the general development of local resident in Highland area. In addition, after the project complete, it will support local PC to solve some problem, such as overload status, meet the requirement of day-by-day increasing of load, improvement of reliability in power supply					
Scope	Newly construction and rehabilitation of 64.436 km MV line, 326.629km LV line and 92 distribution substation with total capacity of 12,970 kVA					
Province	Gia lai	FS Approval	FS Draft Completed	FIRR	24.58%	
Total Investment (VND billion)	228	Total Investment (JPY million)	1,115	Peak Load Status	144%	
Number of Japanese Tenants	0	Contracted Capacity of Japanese Tenant(kW)	-	Average Load Factor	52%	
Distribution line	District	Chu Pah, Mang Yang, Kongchro, Phu Thien, A Yun Pa, Krong Pa, Ia Grai, An Khe, Duc Co, Plei Ku City, Chu Prong, Dak Doa, Chu se, Chu Puh				
	MV Feeder connected 110/MV Substation	110kV F16, 110kV E41, 110kV E42, 110kV E43, 110kV E44, 110kV E50, Chu Prong	Transformer (MV/LV) construction/Rehabilitation	Yes		
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Bac Plei Ku Nature Reserve		Land acquisition (sqm)		51,292	

No	CPC_C06	Name	Upgrading and expansion of distribution power network in Kon Tum			
Purpose	Aim to rehabilitate and improve distribution network received from Local Electricity Cooperative, reduce power loss, voltage loss and power outage. Contribute to the general economic development of Kon Tum province					
Scope	Newly construction and rehabilitation of 157.235 km MV line, 142.911 km LV line and 146 distribution substation with total capacity of 15,012 kVA					
Province	Kon Tum	FS Approval	FS Draft Completed	FIRR	11.45%	
Total Investment (VND billion)	251	Total Investment (JPY million)	1,223	Peak Load Status	224%	
Number of Japanese Tenants	0	Contracted Capacity of Japanese Tenant(kW)	-	Average Load Factor	70%	
Distribution line	District	Dak Ha, Dak To, Ngoc Hoi, Kon Plong, Dak Giei, Kon Ray, Sa Thay, Kon Tum City				
	MV Feeder connected 110/MV Substation	110kV E45, 110kV E46, Kon Plong		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	Chu Mom Ray National Park and ASEAN Heritage Park		Land acquisition (sqm)		37,738	



No	CPC_C07	Name	Upgrading and expansion of distribution power network in Dak Lak			
Purpose	Reduce overload status of 22kV feeder line, overload of distribution substation; Improvement the quality of power supply, contribute to clear electricity cooperative in local area					
Scope	Expansion and rehabilitation of 170.86km MV line, 274,26 km LV line and construction/rehabilitation of 75 substations with total capacity of 9,855KVA					
Province	Dak Lak	FS Approval	FS Draft Completed	FIRR	7.36%	
Total Investment (VND billion)	184	Total Investment (JPY million)	896	Peak Load Status	98%	
Number of Japanese Tenants	2	Contracted Capacity of Japanese Tenant(kW)	250	Average Load Factor	49%	
Distribution line	District	Buon Ma Thuot City, Buon Ho Town, Krong Bong, Ea Kar, Krong Nang, Buon Don, Cu M'Gar, Krong Pak, Ea H'Leo, Cu Kuin, Ea Sup, Krong Ana				
	MV Feeder connected 110/MV Substation	110kV E47, 110kV E48, 110kV E49, Buon Don, CMG, EHL, KNA, KRP		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)		4,660	



No	SPC_A01	Name	Can Duoc 220kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in area, include: Long An province, Ho Chi Minh City</li> <li>- To reduce length of existing 110kV T/Ls</li> <li>- To improve the electricity reliability.</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Four 220kV outgoing feeders (Phase 1, installation of 0.331 km double circuit 2xACSR 795MCM 220kV T/L for 2 outgoing feeders);</li> <li>- 2 transformers 250MVA-220/110kV and 2 transformers 63MVA-110/22kV (Phase 1, installation of one 250MVA-220/110kV transformer and one 40MVA-110/22kV transformer);</li> <li>- Four 110kV outgoing feeders (8154m length)</li> </ul>						
Province	Long An	FS Approval	FS Approved	FIRR	20.12%		
Total Investment (VND billion)	375	Total Investment (JPY million)	1,828	Peak Load Status	96%		
Number of Japanese Tenants	16	Contracted Capacity of Japanese Tenant(kW)	22,170	Average Load Factor	80%		
Transmission Line	Voltage	220	Start	New tower G2' and G3'	End	Can Duoc SS	
	Circuit	2	Length (km)		0.3	Conductor	ACSR795 MCM
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	220/110					
	New	Yes	Upgrade	-	Replace	-	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		27,673		

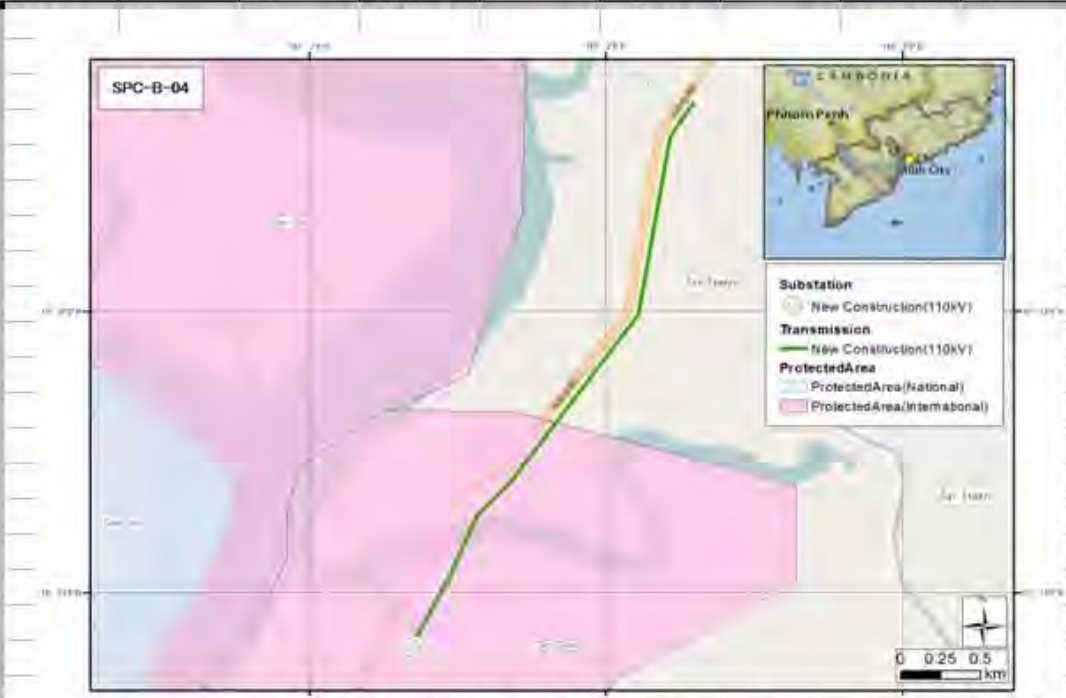
No	SPC_A03	Name	Sa Dec 220kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in Dong Thap province (585.2 MVA in 2015 and 1082.7MVA in 2020).</li> <li>- To improve the electricity reliability in Dong Thap and Vinh Long province, especially in load zone 3 (Sa Dec town, Chau Thanh, Lai Vung, Lap Vo district)</li> <li>- Supply power to Vinh Long province when the Vinh Long 2 220kV substation have problem</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Four 220kV outgoing feeders (Phase 1, installation of 0.199 km double circuit 2xACSR 795MCM 220kV T/L for 2 outgoing feeders);</li> <li>- 2 transformers 250MVA-220/110kV and 2 transformers 63MVA-110/22kV (Phase 1, installation of one 250MVA-220/110kV transformer);</li> <li>- Four 110kV outgoing feeders (965m length)</li> </ul>						
Province	Dong Thap	FS Approval	FS Approved	FIRR	22.30%		
Total Investment (VND billion)	219	Total Investment (JPY million)	1,068	Peak Load Status	92%		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	4,000	Average Load Factor	82%		
Transmission Line	Voltage	220	Start	New tower No. 324A	End	Sa Dec IZ \$\$	
	Circuit	2	Length (km)		0.2	Conductor	ACSR795 MCM
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	220/110					
	New	Yes	Upgrade	-	Replace	-	Connect
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EIA report	Under preparation/ yet to be approved		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		25,997		

No	SPC_B01	Name	T1 110kV substation and tee-off (Bau Beo - T1)				
Purpose	- To resolve overloading of existing three 110kV substation (loading 85-97%): Bàu Bèo T2, Gò Đậu, Bình Hòa - To reduce length of existing 22kV feeders						
Scope	Construction of 2.865 km double circuit ACSR/MZ-400/51 T/L and 2x 63MVA-110/22kV Sub. (Phase 1, installation of 01 Transformer)						
Province	Binh Duong	FS Approval	FS Draft Completed	FIRR	13.78%		
Total Investment (VND billion)	77	Total Investment (JPY million)	376	Peak Load Status	87%		
Number of Japanese Tenants	11	Contracted Capacity of Japanese Tenant(kW)	22,470	Average Load Factor	75%		
Transmission Line	Voltage	110	Start	Tower No. 12	End	T1 SS	
	Circuit	2	Length (km)		2.9	Conductor	ACSR400
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		3,000		



No	SPC_B02	Name	An Xuyen - Vinh Thuan 110kV line				
Purpose	<p>- Increase power supply reliability for the region An Bien, An Minh, Vinh Thuan, U Minh Thuong District, Kien Giang province and Tran Van Thoi, An Xuyen district, Ca Mau province.</p> <p>- Increase power supply for operation by transmission power between the 220/110kV Rach Gia 2 substation and 220/110kV Ca Mau 2 substation through the 110kV Rach Gia 2 – Minh Phong – An Bien – Vinh Thuan – An Xuyen – Rach Gia 2 transmission line.</p>						
Scope	Construction of 41.223 km single circuit ACKP 240/32 T/L, to connect An Xuyen substation (Ca Mau) to Vinh Thuan substation (Kien Giang)						
Province	Kien Giang - Ca Mau	FS Approval	FS Draft Completed	FIRR	15.13%		
Total Investment (VND billion)	116	Total Investment (JPY million)	564	Peak Load Status	87%		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	476	Average Load Factor	70%		
Transmission Line	Voltage	110	Start	An Xuyen SS	End	Vinh Thuan SS	
	Circuit	1	Length (km)	41.2	Conductor	ACSR240	
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	0					
	New	-	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	Kien Giang UNESCO-MAB Biosphere Reserve		Land acquisition (sqm)		2,912		


No	SPC_B03	Name	Ben Luc Industrial zone 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in Ben Luc district up to 2015 and after 2015</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability in Ben Luc district.</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 63MVA-110/22kV transformer);</li> <li>- Six 22kV outgoing feeders (6 outgoing cubicles)</li> </ul>						
Province	Long An	FS Approval	FS Draft Completed	FIRR	31.10%		
Total Investment (VND billion)	54	Total Investment (JPY million)	264	Peak Load Status	102%		
Number of Japanese Tenants	16	Contracted Capacity of Japanese Tenant(kW)	22,170	Average Load Factor	90%		
Transmission Line	Voltage	110	Start	Tower No. 71	End	Ben Luc IZ SS	
	Circuit	1	Length (km)		0.1	Conductor	ACSR240
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		2,912		

No	SPC_B04	Name	Cai Mep port 110kV substation and connection line				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in project's area up to 2015 and after 2015</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability.</li> <li>- Supply power to Cai Mep port and Industrial Zone in the area</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- 4.028 km double circuit ACKP 400/51 T/L</li> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 63MVA-110/22kV transformer);</li> <li>- Six 22kV outgoing feeders (6 outgoing cubicles)</li> </ul>						
Province	Long An	FS Approval	FS Draft Completed	FIRR	18.08%		
Total Investment (VND billion)	89	Total Investment (JPY million)	433	Peak Load Status	89%		
Number of Japanese Tenants	6	Contracted Capacity of Japanese Tenant(kW)	46,950	Average Load Factor	75%		
Transmission Line	Voltage	110	Start	Tower No. 18	End	Cai Mep SS	
	Circuit	2	Length (km)		4.0	Conductor	ACSR400
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	Can Gio Mangrove UNESCO-MAB Biosphere Reserve		Land acquisition (sqm)		7,234		



No	SPC_B05	Name	VSIP 2-MR1 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- Existing 110kV-2x63 MVA Hoa Phu substation and 110kV-2x63MVA Bau Beo substation will lead to overload in the first quarter. Thus, 110kV VSIP II MR1 goes to operate loss overload for 110kV substation area. (342.6 MW in 2015).</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability in project's area.</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- 6.98 km double circuit ACKP 400/51 T/L</li> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 63MVA-110/22kV transformer);</li> <li>- Six 22kV outgoing feeders (6 outgoing cubicles)</li> </ul>						
Province	Binh Duong	FS Approval	FS Draft Completed	FIRR	15.10%		
Total Investment (VND billion)	103	Total Investment (JPY million)	501	Peak Load Status	87%		
Number of Japanese Tenants	50	Contracted Capacity of Japanese Tenant(kW)	54,207	Average Load Factor	75%		
Transmission Line	Voltage	110	Start	Tower No. 14	End	VSIP SS	
	Circuit	2	Length (km)		7.0	Conductor	
	New	Yes	Upgrade	-	Replace	-	
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		2,967		

No	SPC_B06	Name	Minh Hung Industrial zone 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in Chon Thanh district up to 2015 and after 2015 (33.6 MW in 2015 and 61.9 MW in 2020).</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability in project's area.</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 40MVA-110/22kV transformer);</li> <li>- Four 22kV outgoing feeders (4 outgoing cubicles)</li> </ul>						
Province	Binh Phuoc	FS Approval	FS Draft Completed	FIRR	37.07%		
Total Investment (VND billion)	46	Total Investment (JPY million)	223	Peak Load Status	83%		
Number of Japanese Tenants	3	Contracted Capacity of Japanese Tenant(kW)	578	Average Load Factor	75%		
Transmission Line	Voltage	110	Start	Existing T/L	End	Minh Hung SS	
	Circuit	2	Length (km)		0.0	Conductor	ACSR185
	New	Yes	Upgrade	-	Replace	-	Connect Yes
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect Yes
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		4,659		

No	SPC_B07	Name	T5 110kV substation and tee-off (Hoa Phu - T5)				
Purpose	0						
Scope	Construction of : - Two 110kV outgoing feeders; - 2 transformers 110/22kV (Phase 1, installation of one 63MVA-110/22kV transformer); - Five 22kV outgoing feeders (5 outgoing cubicles)						
Province	Binh Duong	FS Approval	FS Draft Completed	FIRR	37.4%		
Total Investment (VND billion)	59	Total Investment (JPY million)	288	Peak Load Status	87%		
Number of Japanese Tenants	24	Contracted Capacity of Japanese Tenant(kW)	48,580	Average Load Factor	75%		
Transmission Line	Voltage	110	Start	Existing T/L	End	T5 SS	
	Circuit	2	Length (km)		0.1	Conductor	
	New	Yes	Upgrade	-	Replace	-	
Sub Station	Voltage	110/22			Connect	Yes	
	New	Yes	Upgrade	-	Replace	-	
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		3,520		



No	SPC_B08	Name	HU'ng Dinh 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in project's area up to 2015 and after 2015</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability.</li> <li>- Supply power to many residentials and Industrial Zone in the area</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 40MVA-110/22kV transformer);</li> <li>- Six 22kV outgoing feeders (6 outgoing cubicles)</li> </ul>						
Province	0	FS Approval	FS Draft Completed	FIRR	27.68%		
Total Investment (VND billion)	60	Total Investment (JPY million)	295	Peak Load Status	94%		
Number of Japanese Tenants	4	Contracted Capacity of Japanese Tenant(kW)	15,210	Average Load Factor	85%		
Transmission Line	Voltage	110	Start	Existing T/L	End	Hung DinhSS	
	Circuit	2	Length (km)		0.0	Conductor	ACSR240
	New	Yes	Upgrade	-	Replace	-	Connect Yes
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect Yes
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		3,098		

No	SPC_B09	Name	Giao Long 110kV substation and Ben Tre - Giao Long 110kV line				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in Chau Thanh district up to 2015 and after 2015 (58.5 MW in 2015 and 98.6 MW in 2020).</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability in project's area.</li> <li>- Supply power to Industrial Zone in the area</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- 9.5 km single circuit ACSR 240/32 T/L</li> <li>- Two 110kV outgoing feeders (In the 1st phase, there is just one transformer bay);</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 40MVA-110/22kV transformer);</li> <li>- Five 22kV outgoing feeders (5 outgoing cubicles)</li> </ul>						
Province	Ben Tre	FS Approval	FS Draft Completed	FIRR	19.92%		
Total Investment (VND billion)	82	Total Investment (JPY million)	399	Peak Load Status	96%		
Number of Japanese Tenants	4	Contracted Capacity of Japanese Tenant(kW)	9,250	Average Load Factor	85%		
Transmission Line	Voltage	110	Start	Existing T/L	End	Giao Long SS	
	Circuit	1	Length (km)		9.5	Conductor	ACSR240
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect
<p>The map displays the project area in Cambodia, showing the location of SPC-B-09. It includes an inset map of Cambodia with Phnom Penh and Siem Reap marked. The legend indicates: Substation (New Construction 110kV), Transmission (New Construction 110kV), Protected Area (National), and Protected Area (International). The map shows a red line for the transmission line and a green line for the substation. A scale bar indicates 0, 0.5, and 1 km.</p>							
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		4,130		

No	SPC_B10	Name	Dong Hoa 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in project's area up to 2015 and after 2015</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability.</li> <li>- Supply power to many residentials, students in the area</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 40MVA-110/22kV transformer);</li> <li>- Six 22kV outgoing feeders (6 outgoing cubicles)</li> </ul>						
Province	Binh Duong	FS Approval	FS Draft Completed	FIRR	27.97%		
Total Investment (VND billion)	60	Total Investment (JPY million)	292	Peak Load Status	95%		
Number of Japanese Tenants	12	Contracted Capacity of Japanese Tenant(kW)	9,345	Average Load Factor	85%		
Transmission Line	Voltage	110	Start	Existing T/L	End	Dong Hoa SS	
	Circuit	2	Length (km)		0.0	Conductor	
	New	Yes	Upgrade	-	Replace	-	
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	
							
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		3,088		



No	SPC_B11	Name	Luong Son - Hoa Thang - Mui Ne 110kV line				
Purpose	- To increase reliability of power supply for the regions of Bac Binh district, Phan Thiet city, Binh Thuan province by mutual transferring power between the 220/110kV substations of Phan Thiet 2, Dai Ninh Hydropower and Phan Ri 2 through the 110kV Dai Ninh – Phan Ri – Luong Son – Mui Ne – Phan Thiet 2 T/Ls.						
Scope	Construction of 28.663 km single circuit ACKP 240/32 T/L, to connect Luong Son, Hoa Thang and Mui Ne substation						
Province	Binh Thuan	FS Approval	FS Draft Completed	FIRR	13.01%		
Total Investment (VND billion)	96	Total Investment (JPY million)	468	Peak Load Status	95%		
Number of Japanese Tenants	3	Contracted Capacity of Japanese Tenant(kW)	7,075	Average Load Factor	85%		
Transmission Line	Voltage	110	Start	Luong Son SS	End	Mui Ne SS	
	Circuit	1	Length (km)		28.7	Conductor	ACSR240
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	0					
	New	-	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		3,361		

No	SPC_B12	Name	Tan Bien - Chau Thanh (Dop stream) 110kV line				
Purpose	<ul style="list-style-type: none"> <li>- Increase power supply reliability for Project area.</li> <li>- Increase power supply for operation by transmission power between the 110kV feeder of 220/110kV Tay Ninh 2 substation through the 110kV Tay Ninh 2 – Bourbon – Tan Hung – Tan Bien – Suoi Dop (Chau Thanh) – Tay Ninh 2 T/L</li> <li>- To make a circle between the existing substation</li> </ul>						
Scope	Construction of 28.82 km single circuit ACKP 240/32 T/L, to connect Tan Bien and Chau Thanh substation						
Province	Tay Ninh	FS Approval	FS Draft Completed	FIRR	18.40%		
Total Investment (VND billion)	106	Total Investment (JPY million)	519	Peak Load Status	89%		
Number of Japanese Tenants	5	Contracted Capacity of Japanese Tenant(kW)	5,440	Average Load Factor	76%		
Transmission Line	Voltage	110	Start	Tan Bien SS	End	Chau Thanh SS	
	Circuit	1	Length (km)		28.8	Conductor	ACSR240
	New	Yes	Upgrade	-	Replace	-	Connect
Sub Station	Voltage	0					
	New	-	Upgrade	-	Replace	-	Connect
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area	0		Land acquisition (sqm)		6,547		

No	SPC_B13	Name	Thang Hai 110kV substation and tee-off				
Purpose	<ul style="list-style-type: none"> <li>- To meet the rapidly load growth in project's area up to 2015 and after 2015</li> <li>- To reduce length of existing 22kV feeders</li> <li>- To improve the electricity reliability.</li> <li>- Supply power to many residential and Industrial Zone in the area</li> </ul>						
Scope	Construction of : <ul style="list-style-type: none"> <li>- 1.7 km double circuit 2xACSR 185/29 T/L</li> <li>- Two 110kV outgoing feeders;</li> <li>- 2 transformers 110/22kV (Phase 1, installation of one 40MVA-110/22kV transformer);</li> <li>- Four 22kV outgoing feeders (4 outgoing cubicles)</li> </ul>						
Province	Binh Thuan	FS Approval	FS Draft Completed	FIRR	27.93%		
Total Investment (VND billion)	60	Total Investment (JPY million)	292	Peak Load Status	90%		
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	250	Average Load Factor	80%		
Transmission Line	Voltage	110	Start	Existing T/L	End	Thang Hai SS	
	Circuit	2	Length (km)		1.7	Conductor	ACSR185
	New	Yes	Upgrade	-	Replace	-	Connect Yes
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	-	Replace	-	Connect Yes
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EIA report	EIA required but not started yet		Number of Resettlement			0	
Protected area	Binh Chau Phuoc Bui Nature Reserve			Land acquisition (sqm)		3,029	




No	SPC_C01	Name	Improve and develop medium & low voltage grid for rural areas of Long An province			
Purpose	<ul style="list-style-type: none"> <li>- Reduce power losses on the rural power networks.</li> <li>- Handle basically the shortcomings of the rural networks, such as: safety, quality stability, aesthetic views and reduction of losses.</li> <li>- Improve voltage quality and meet load demands, contributing to the boosting of production, living and socioeconomic development in the rural areas</li> </ul>					
Scope	Construction of : - MV length: 77.443km;					
Province	Long An	FS Approval	FS Draft Completed	FIRR	-2.20%	
Total Investment (VND billion)	124	Total Investment (JPY million)	607	Peak Load Status	87%	
Number of Japanese Tenants	8	Contracted Capacity of Japanese Tenant(kW)	2,967	Average Load Factor	75%	
Distribution line	District	Tan Hung, Thanh Hoa, Can Giuoc, Tan Tru, Duc Hoa, Chau Thanh, Thu Thua, Ben Luc, Tan Thanh, Moc Hoa, Vinh Hung, Vinh Hung, Can Duoc, Duc Hue, Tan An Town				
	MV Feeder connected 110/MV Substation	Moc Hoa, Thanh Hoa, Long Hau, Tan An, Duc Hue, Duc Lap, Duc Hoa, Tan An, Ben Luc, Can Duoc, Rach Chanh, Long An		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	-		Land acquisition (sqm)		3,344	

No	SPC_C02	Name	Improve and develop medium & low voltage grid for rural areas of Soc Trang province			
Purpose	<ul style="list-style-type: none"> <li>- Reduce power losses on the rural power networks.</li> <li>- Handle basically the shortcomings of the rural networks, such as: safety, quality stability, aesthetic views and reduction of losses.</li> <li>- Improve voltage quality and meet load demands, contributing to the boosting of production, living and socioeconomic development in the rural areas</li> </ul>					
Scope	Construction of : - MV length: 57.5km;					
Province	Soc Trang	FS Approval	FS Draft Completed	FIRR	5.60%	
Total Investment (VND billion)	98	Total Investment (JPY million)	480	Peak Load Status	85%	
Number of Japanese Tenants	0	Contracted Capacity of Japanese Tenant(kW)	-	Average Load Factor	75%	
Distribution line	District	Chau Thanh, Ke Sach, My Tu, Thanh Tri, Long Phu, Cu Lao Dung, Tran De, Vinh Chau, My Xuyen				
	MV Feeder connected 110/MV Substation	Soc Trang, Dai Ngai, My Tu, Tran De		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area	-		Land acquisition (sqm)		21,916	



No	SPC_C03	Name	Improve and develop medium & low voltage grid for rural areas of Bac Lieu province			
Purpose	<ul style="list-style-type: none"> <li>- Reduce power losses on the rural power networks.</li> <li>- Handle basically the shortcomings of the rural networks, such as: safety, quality stability, aesthetic views and reduction of losses.</li> <li>- Improve voltage quality and meet load demands, contributing to the boosting of production, living and socioeconomic development in the rural areas</li> </ul>					
Scope	Construction of : - MV length: 51.449 km;					
Province	Bac Lieu	FS Approval	FS Draft Completed	FIRR	4.50%	
Total Investment (VND billion)	36	Total Investment (JPY million)	177	Peak Load Status	85%	
Number of Japanese Tenants	1	Contracted Capacity of Japanese Tenant(kW)	3,312	Average Load Factor	73%	
Distribution line	District	Phuoc Long, Gia Rai, Dong Hai, Vinh Loi, Hoa Binh, Hong Dan, Bac Lieu City				
	MV Feeder connected 110/MV Substation	Hong Dan, Gia Rai, Bac Lieu		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	No
Rehabilitation		Yes	Rehabilitation		Yes	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)		594	

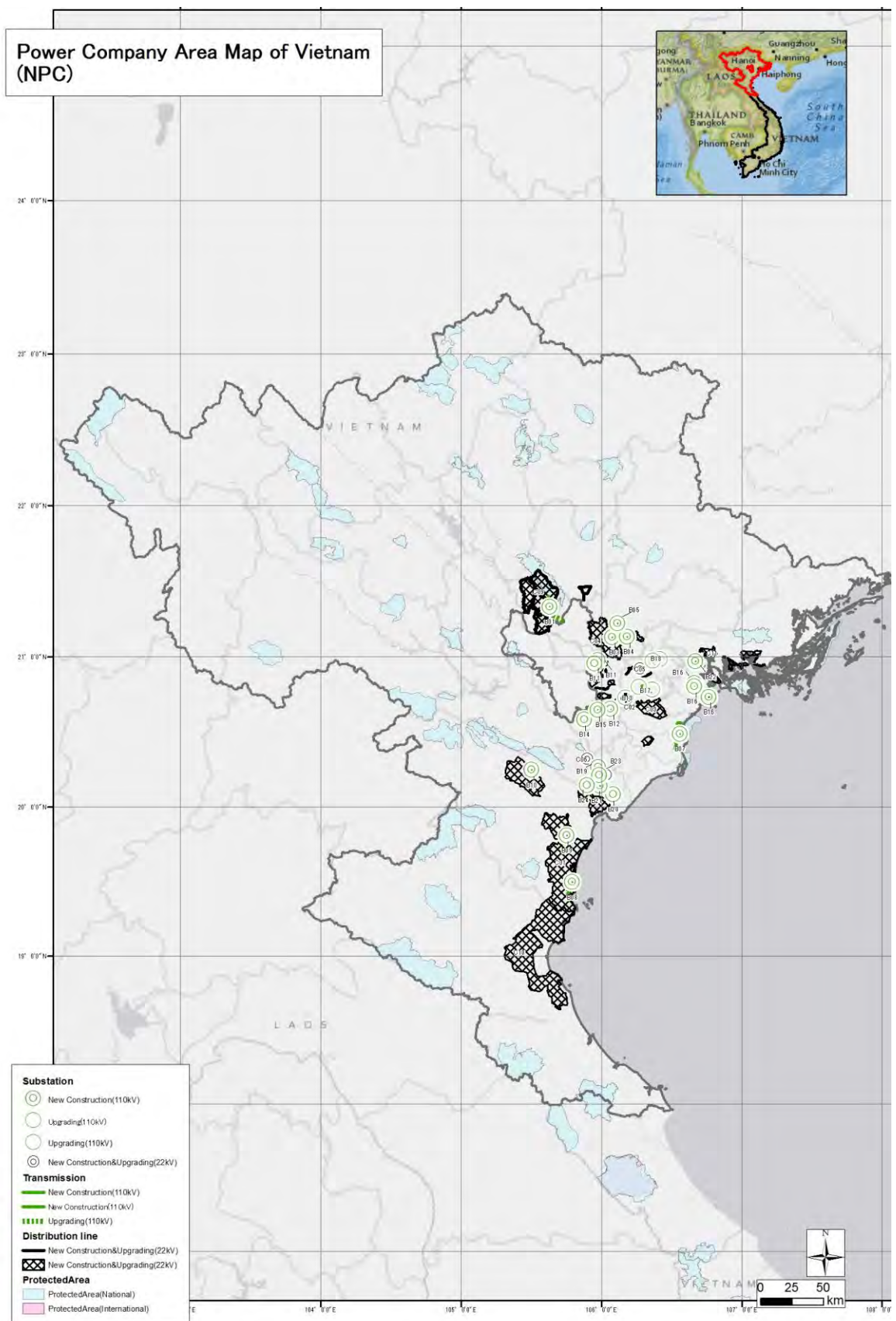


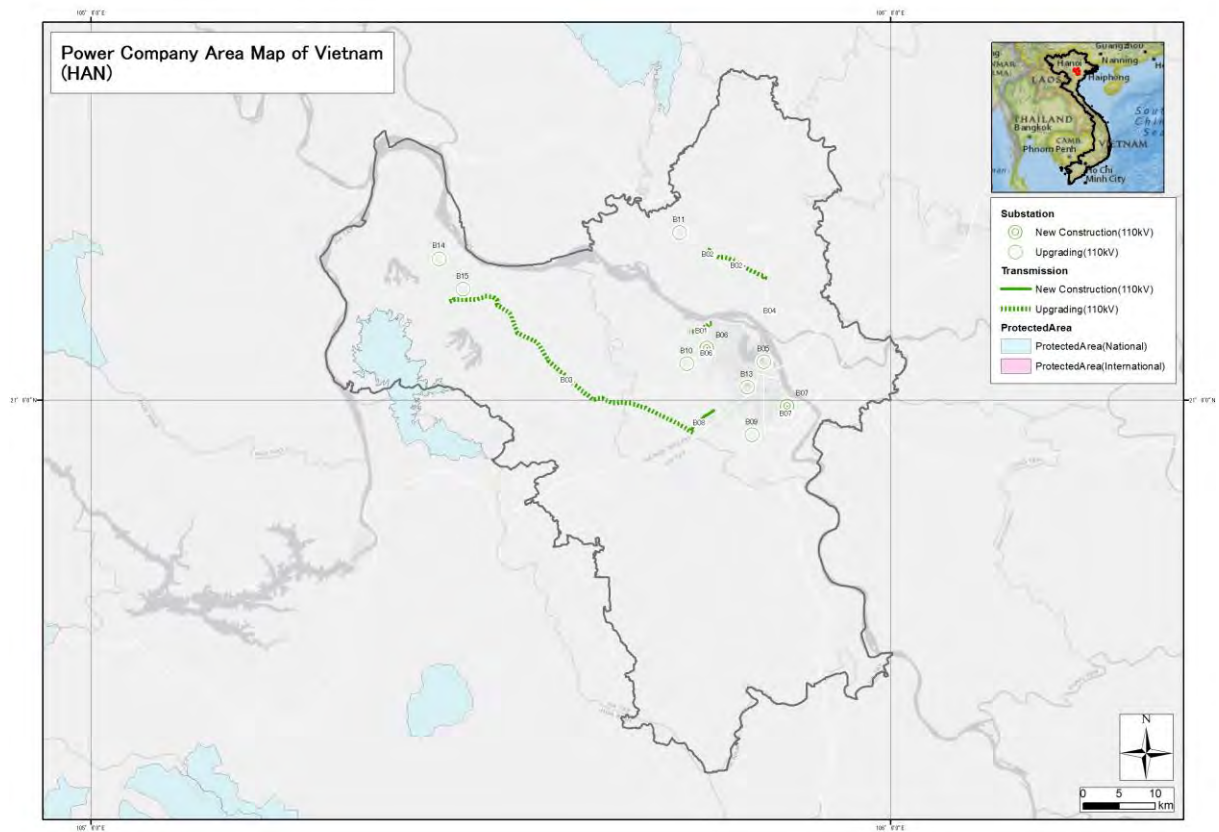
No	SPC_C04	Name	Improve and develop medium & low voltage grid for rural areas of Hau Giang province			
Purpose	<ul style="list-style-type: none"> <li>- Reduce power losses on the rural power networks.</li> <li>- Handle basically the shortcomings of the rural networks, such as: safety, quality stability, aesthetic views and reduction of losses.</li> <li>- Improve voltage quality and meet load demands, contributing to the boosting of production, living and socioeconomic development in the rural areas</li> </ul>					
Scope	Construction of : - MV length: 24.34 km;					
Province	Hau Giang	FS Approval	FS Draft Completed	FIRR	4.90%	
Total Investment (VND billion)	48	Total Investment (JPY million)	237	Peak Load Status	85%	
Number of Japanese Tenants	2	Contracted Capacity of Japanese Tenant(kW)	16,450	Average Load Factor	75%	
Distribution line	District	Phung Hiep, Nga Bay Town, Vi Thuy, Long My, Vi Thanh Town				
	MV Feeder connected 110/MV Substation	Phung Hiep, Vi Thanh, Long My, Chau Thanh		Transformer (MV/LV) construction/Rehabilitation	Yes	
	MV (35/22KV) line	New	Yes	LV (0.4kV) line	New	Yes
Rehabilitation		No	Rehabilitation		No	
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EIA report	EIA not required/ Approved		Number of Resettlement		0	
Protected area			Land acquisition (sqm)		4,134	

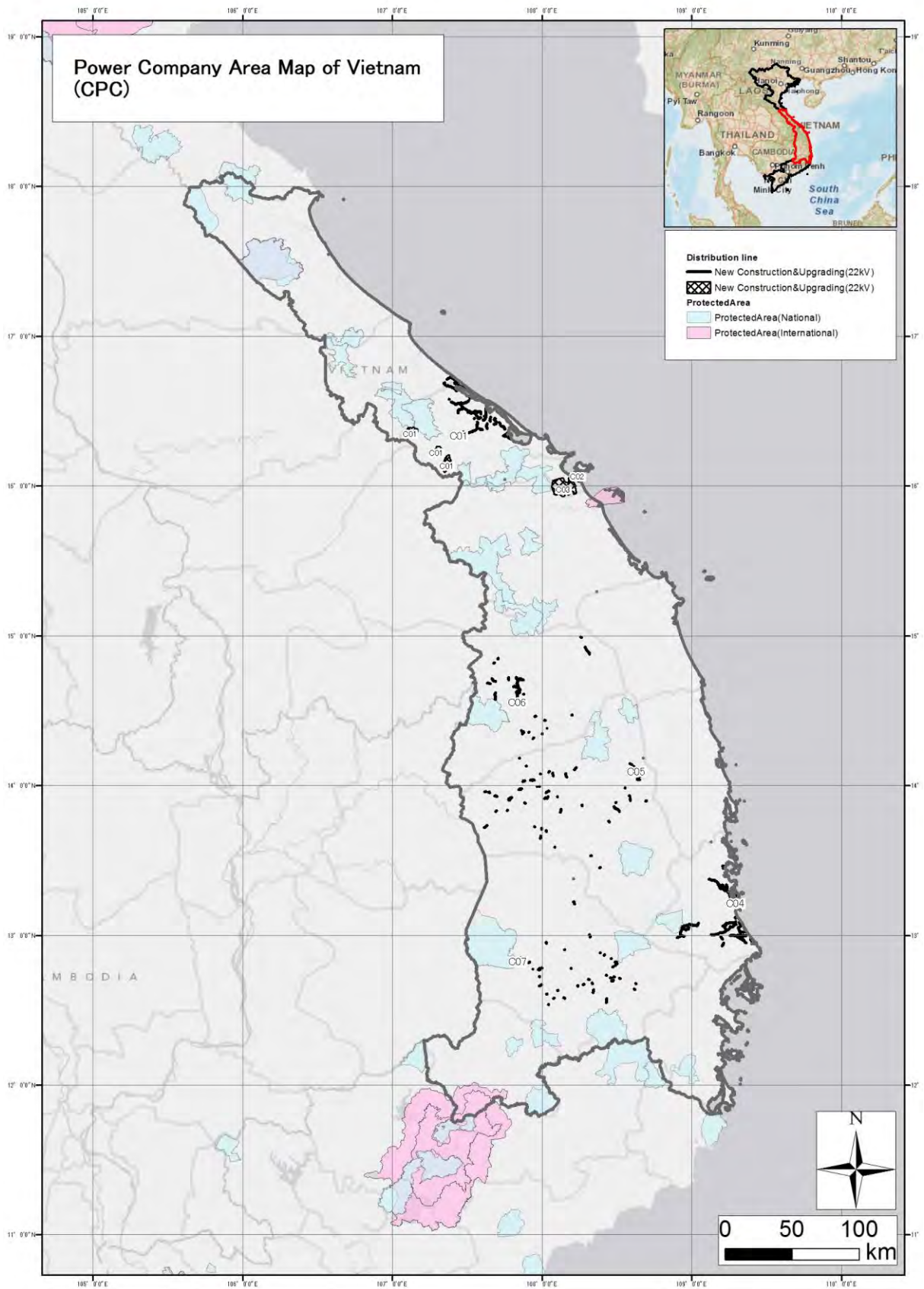
No	HCM_B01	Name	110kV Hoc Mon 2 substation and connection line				
Purpose	- Respond to load growth in Hoc Mon district. Ensure the reliability of electricity supply in this area. Decrease the power losses on power system - Supply power for Japanese companies in Xuan Thoi Son industrial cluster						
Scope	Construction of 1x 63MVA-110/15kV						
Province	Hoc Mon District	FS Approval	FS Approved		FIRR	10.12%	
Total Investment (VND billion)	115	Total Investment (JPY million)	561		Peak Load Status	78%	
Number of Japanese Tenants	2	Contracted Capacity of Japanese Tenant(kW)	133		Average Load Factor	85%	
Transmission Line	Voltage	110	Start	110kV Hoc Mon 2 Substation		End	New tower of 220kV, 110kV Binh Tân - Cầu Bông transmission line
	Circuit	2	Length (km)		0.5	Conductor	XLPE1200
	New	Yes	Upgrade	No	Replace	No	Connect Yes
Sub Station	Voltage	110/22					
	New	Yes	Upgrade	No	Replace	No	Connect Yes
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EIA report	EIA required but not started yet		Number of Resettlement		0		
Protected area			Land acquisition (sqm)		6,000		

添付資料 6：全件オーバービューマップ  
(NPC/HPC/CPC/SPC/HCMCPC)

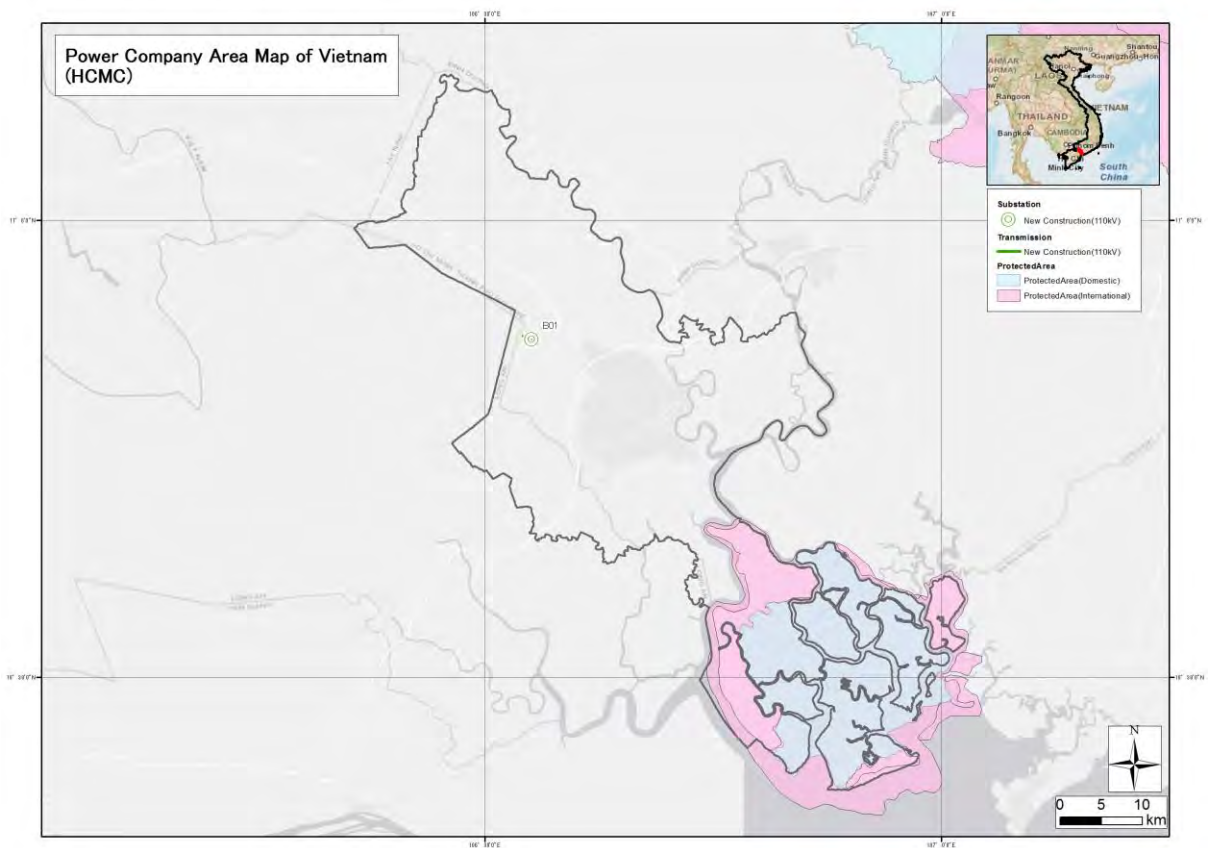
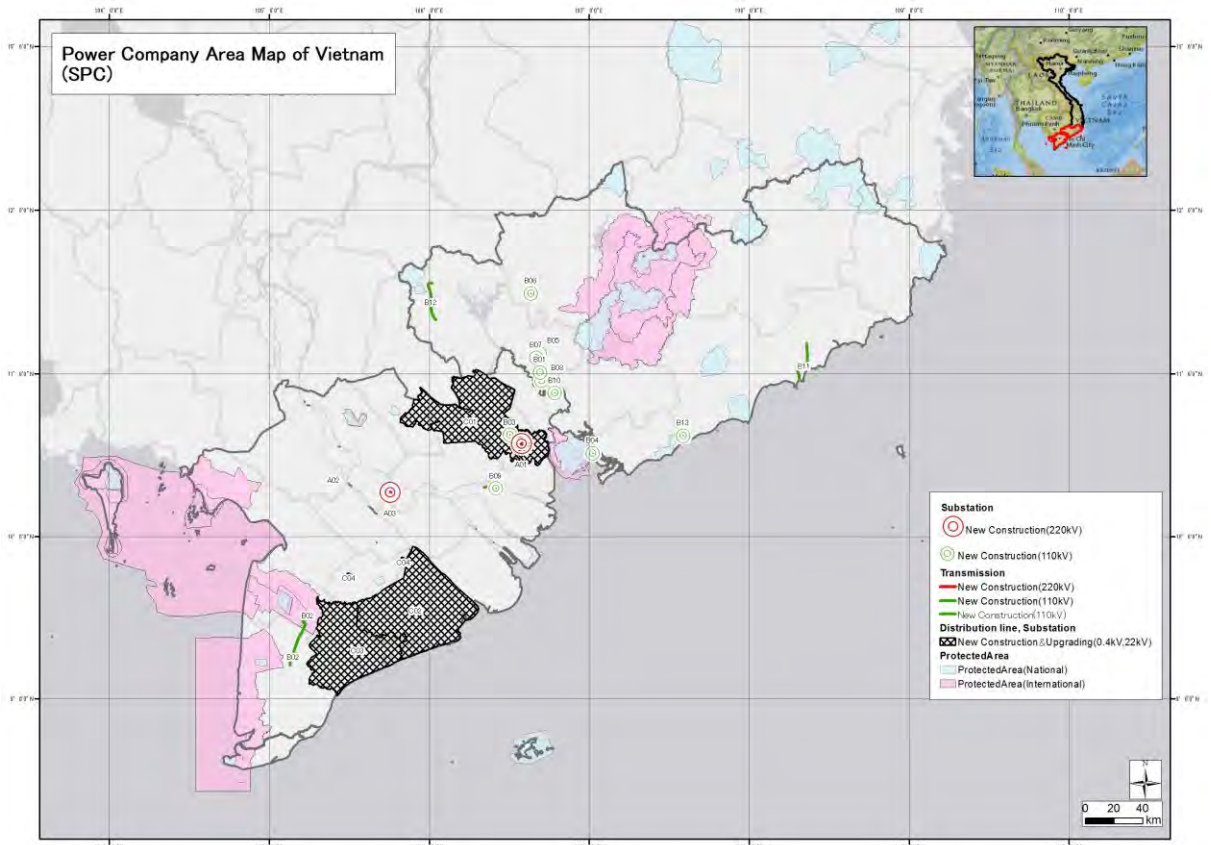








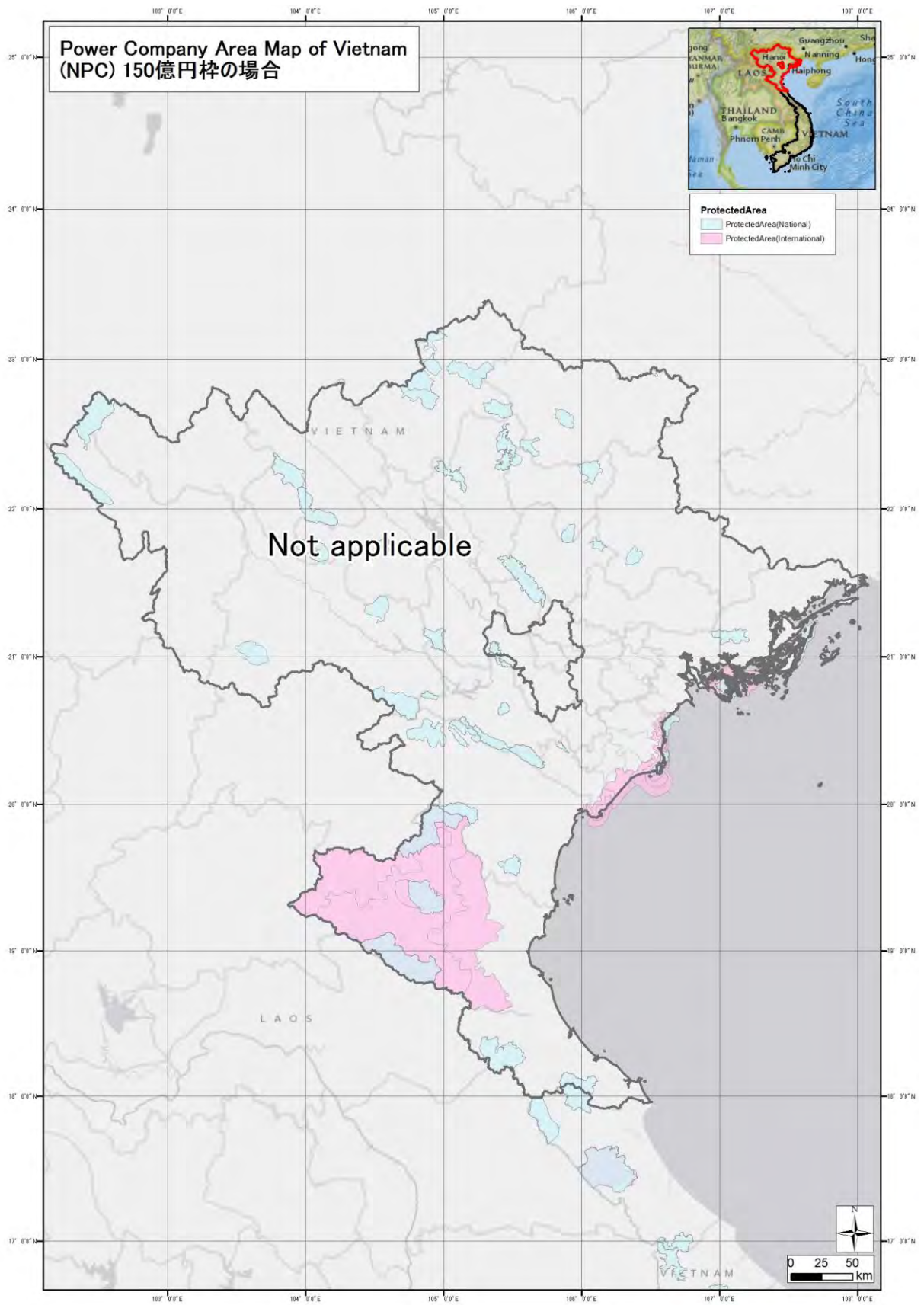


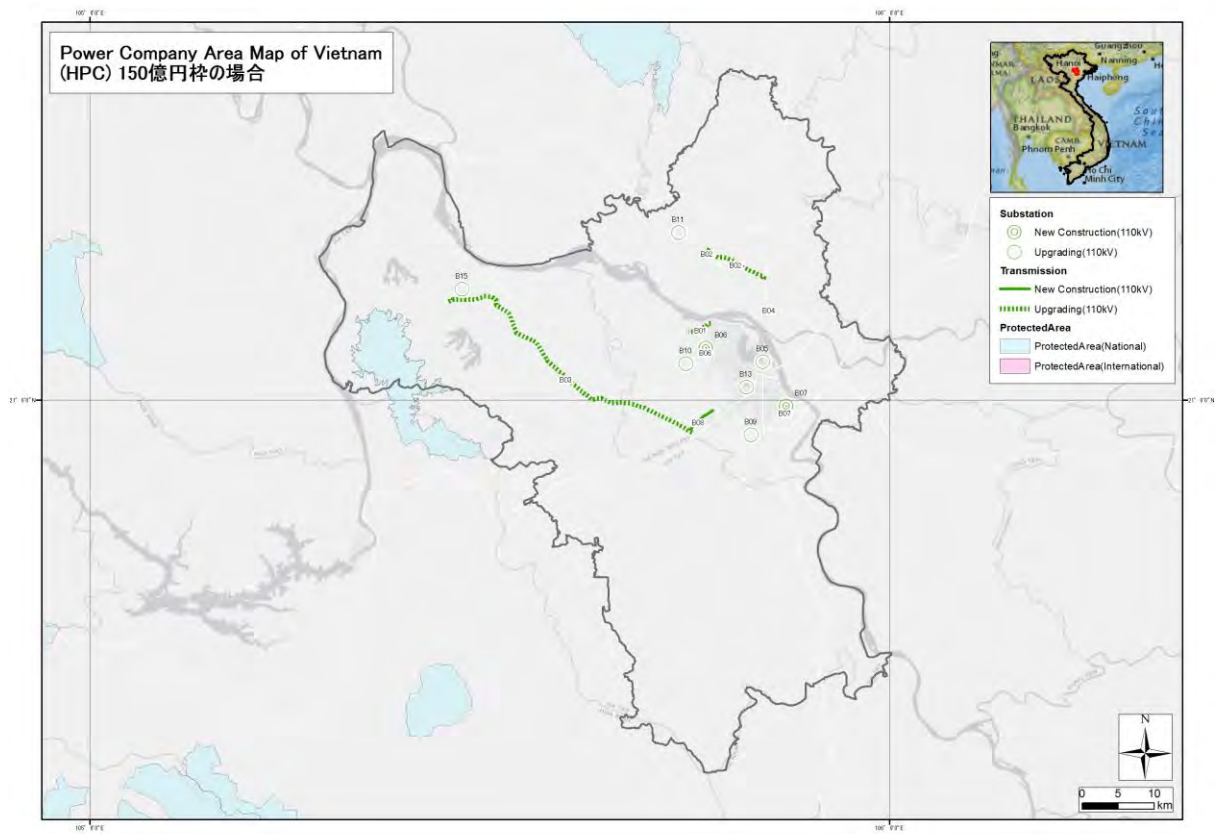


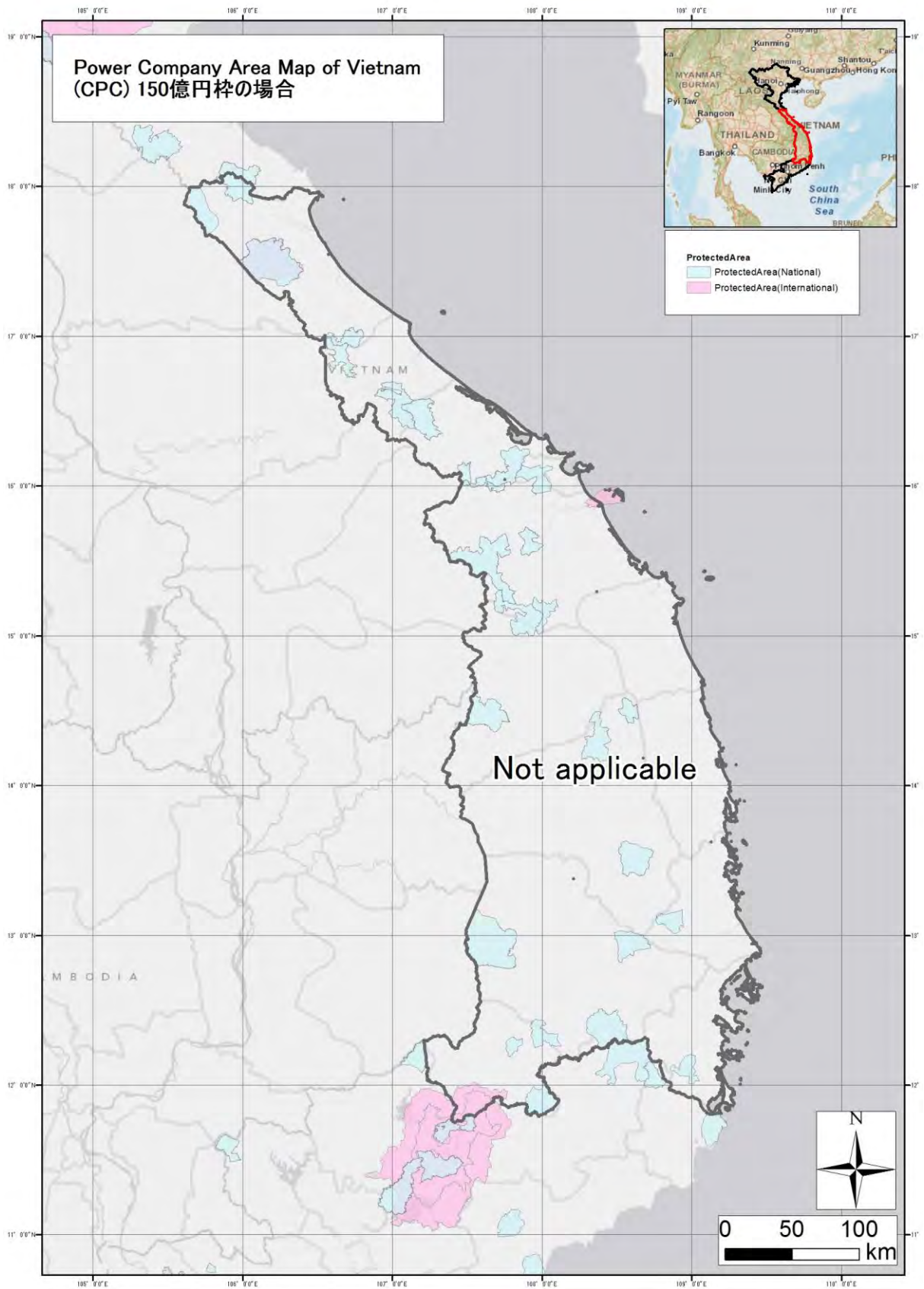


添付資料 7 : 借入額 1 5 0 億円ケースオーバービューマップ  
(NPC/HPC/CPC/SPC/HCMCPC)

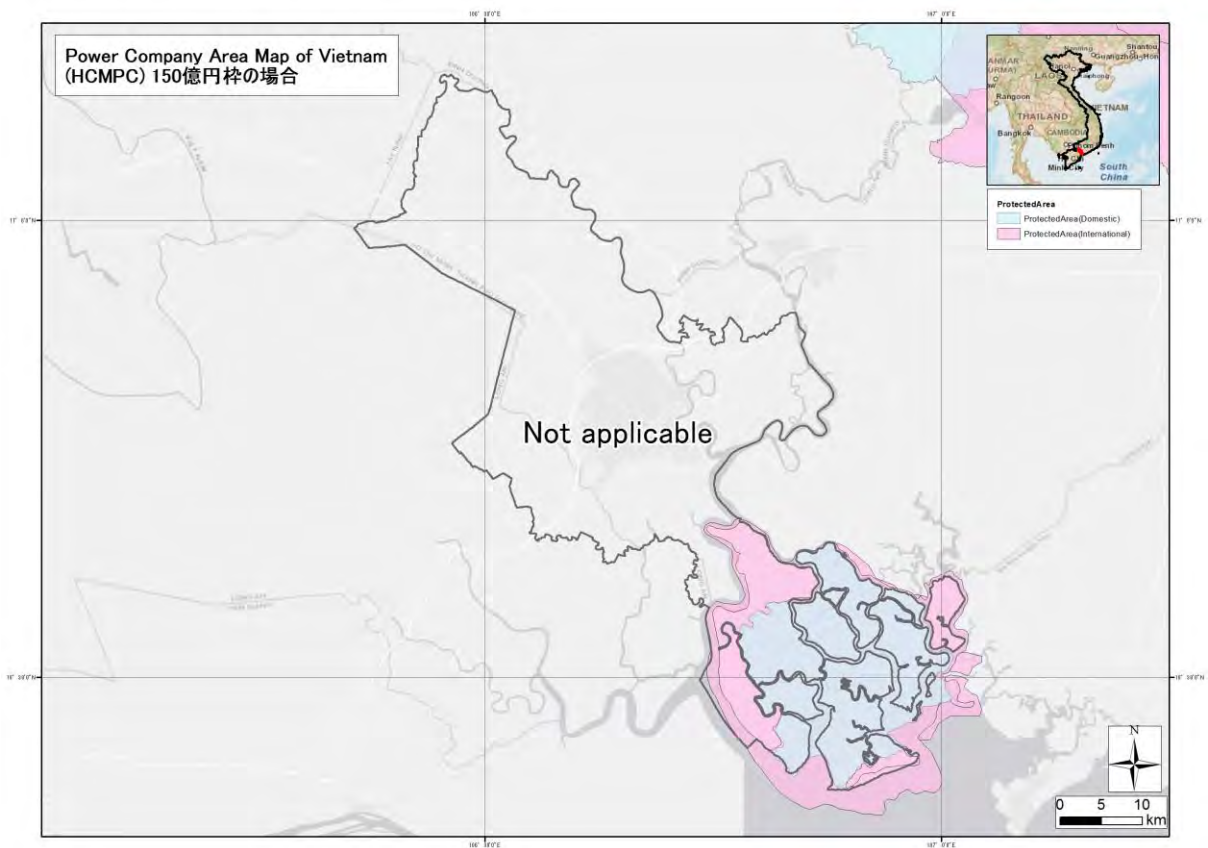
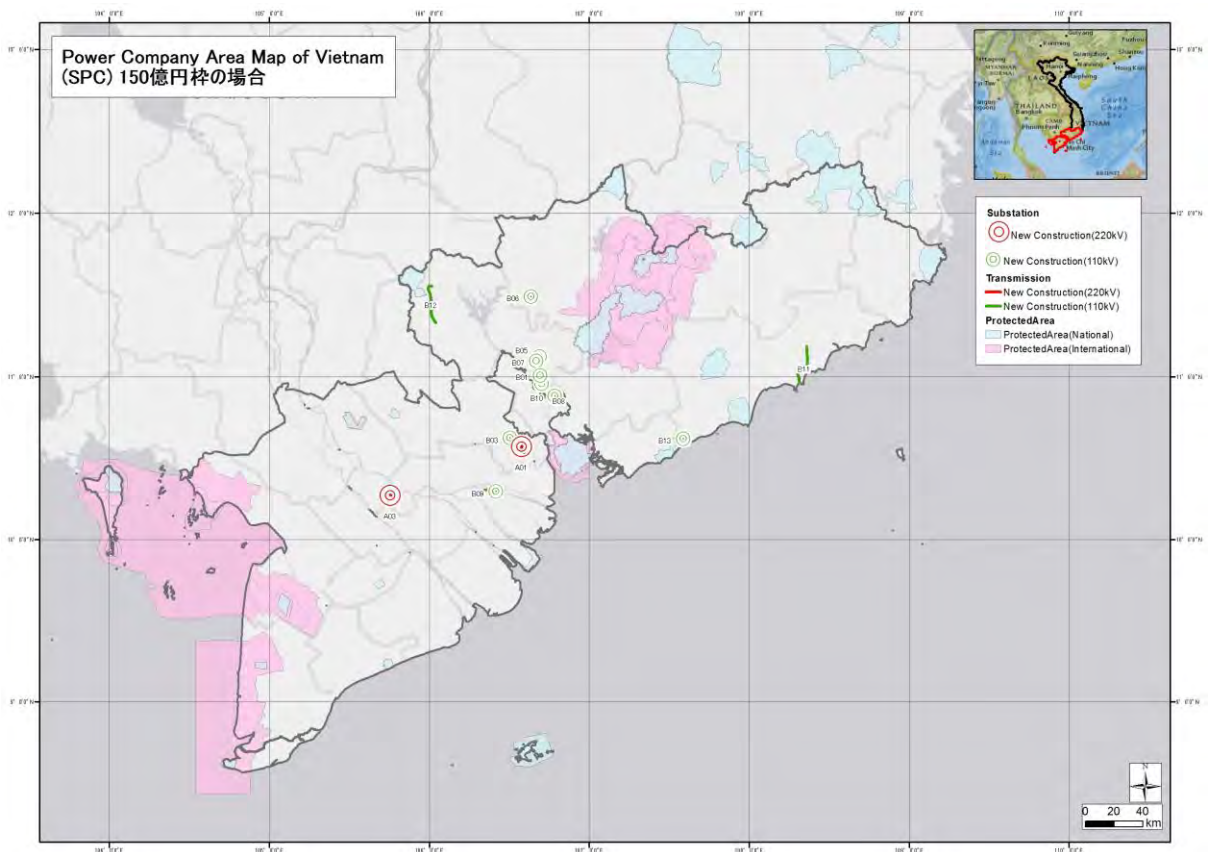








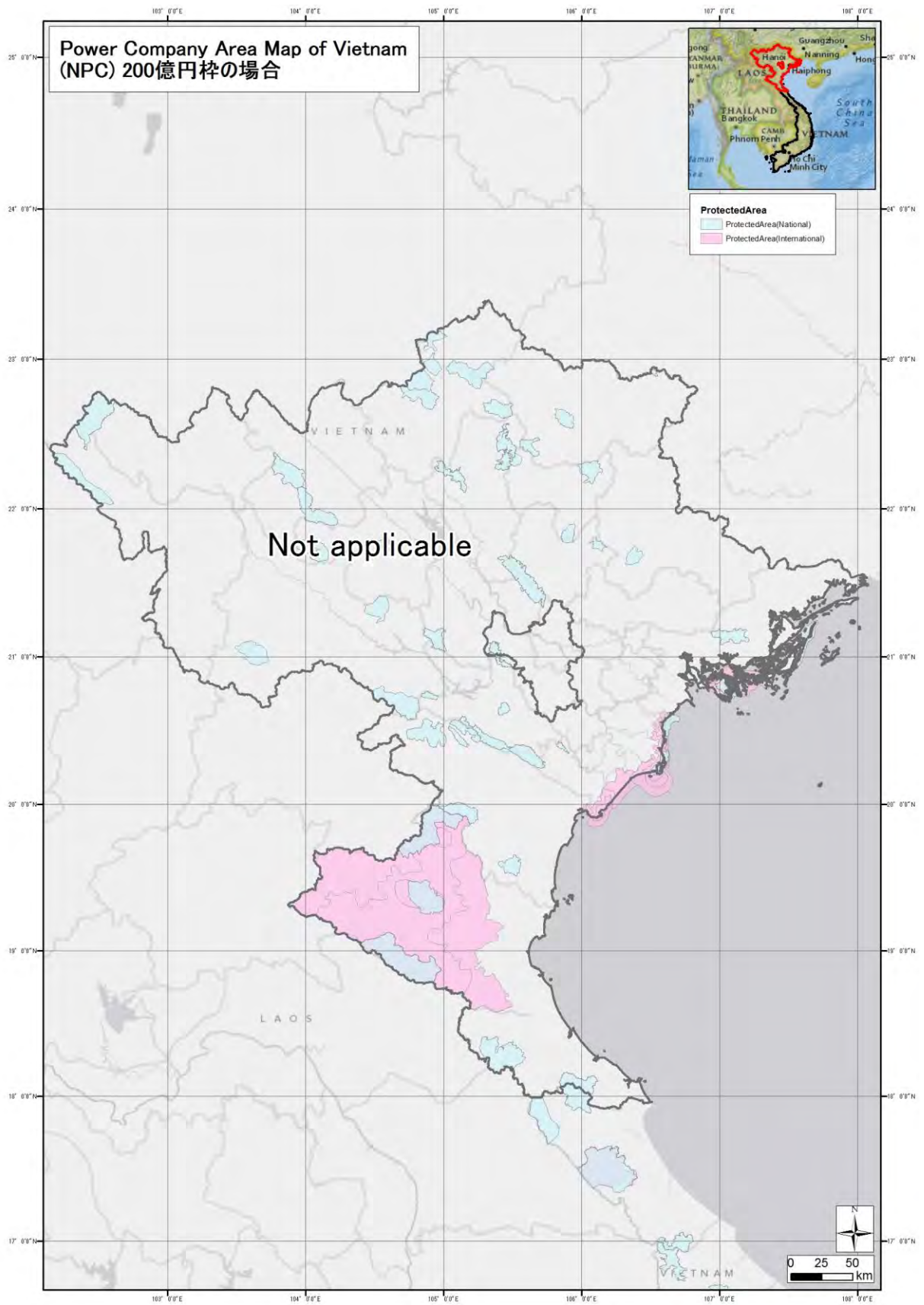


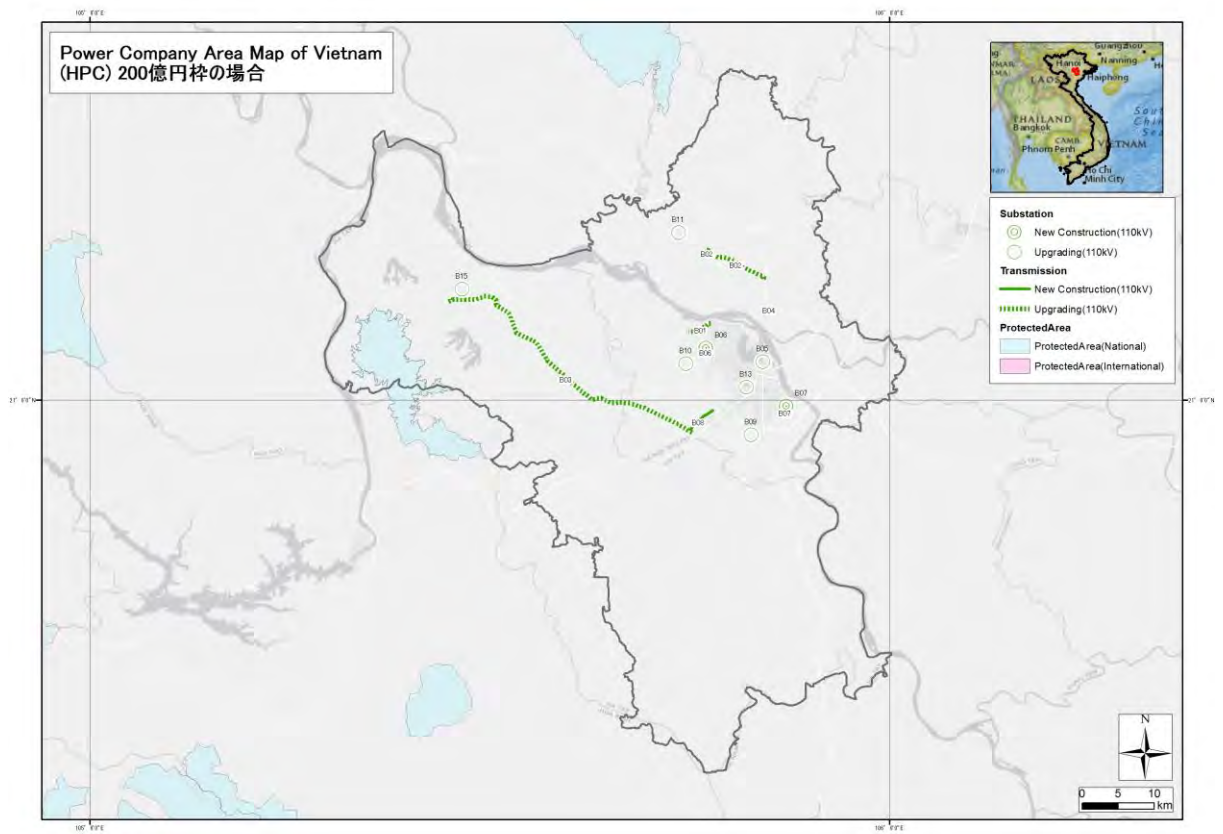


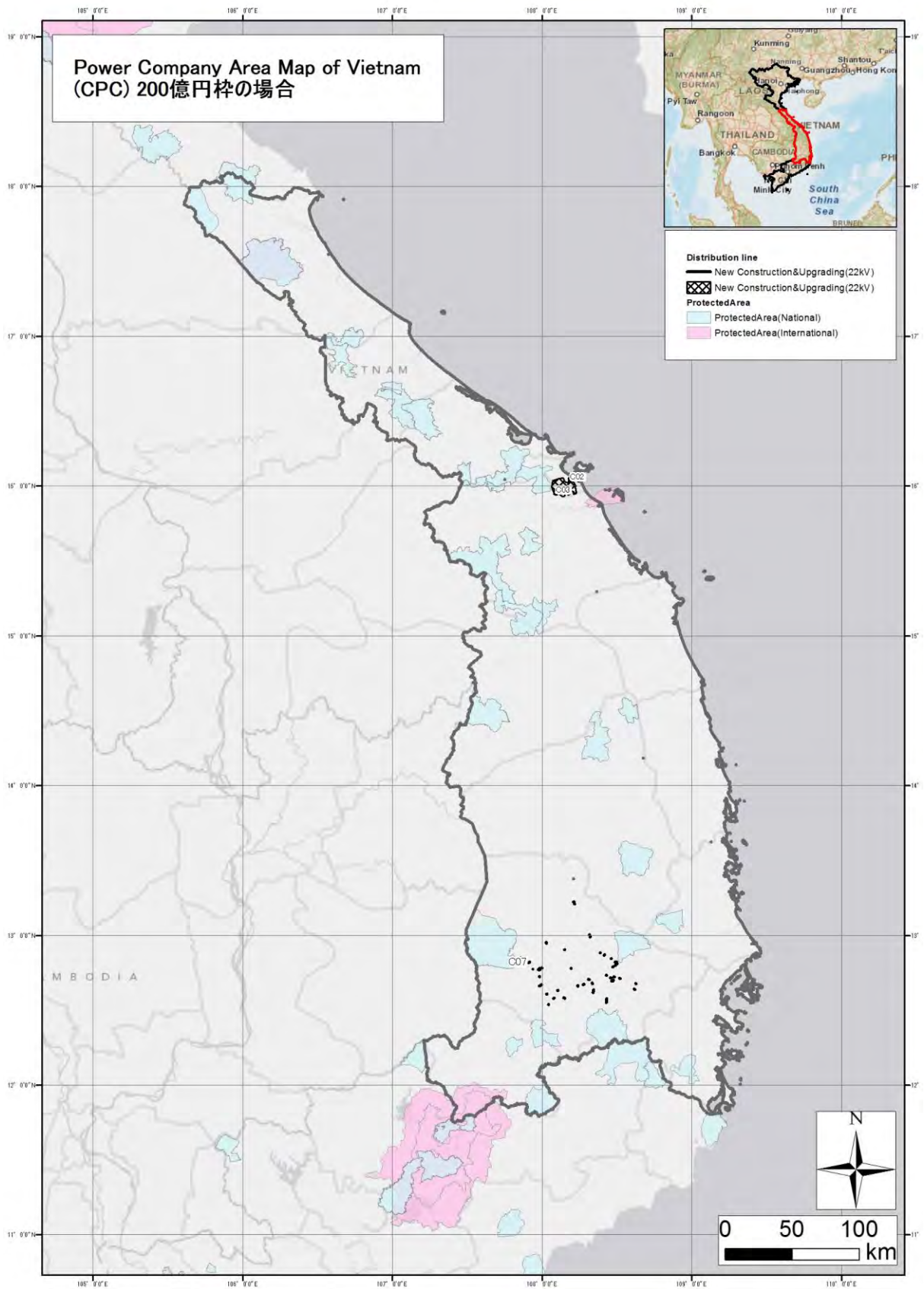


添付資料 8 : 借入額 200 億円ケースオーバービューマップ  
(NPC/HPC/CPC/SPC/HCMCPC)

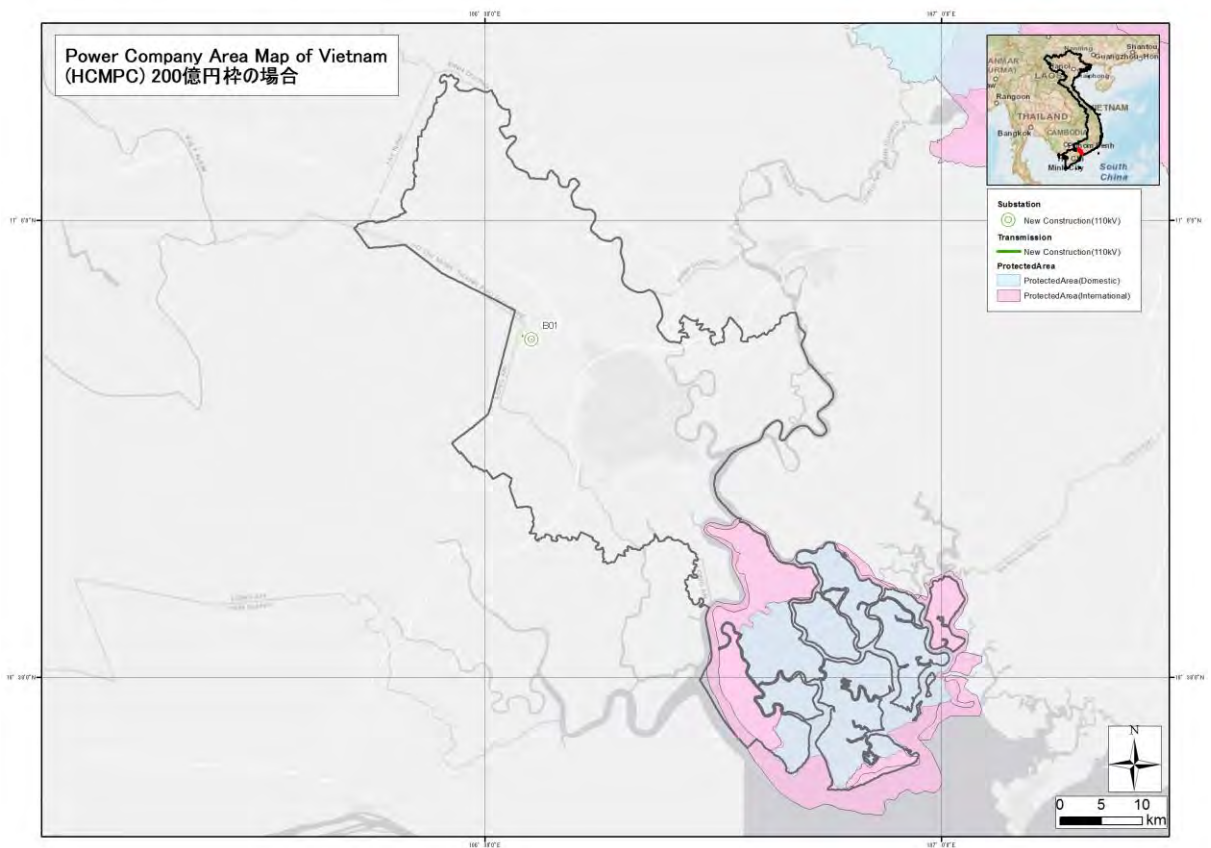
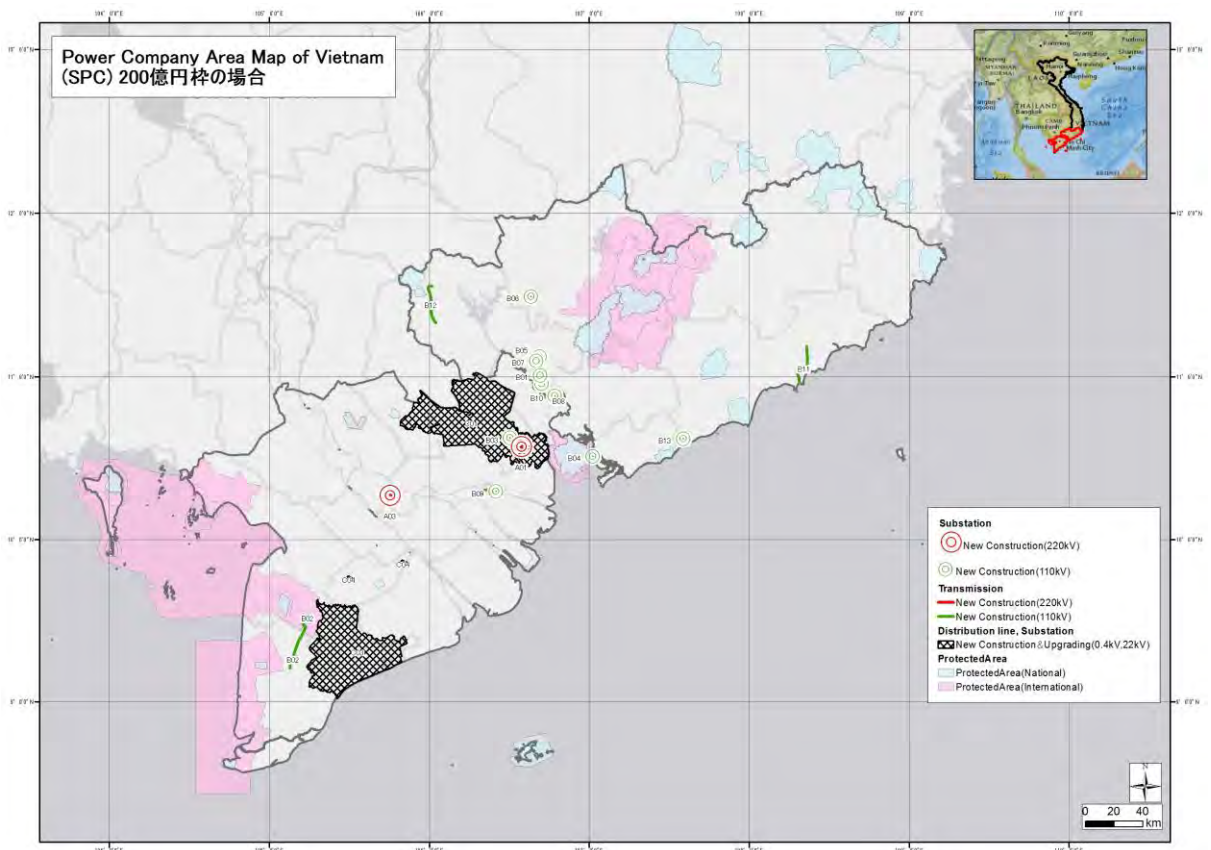








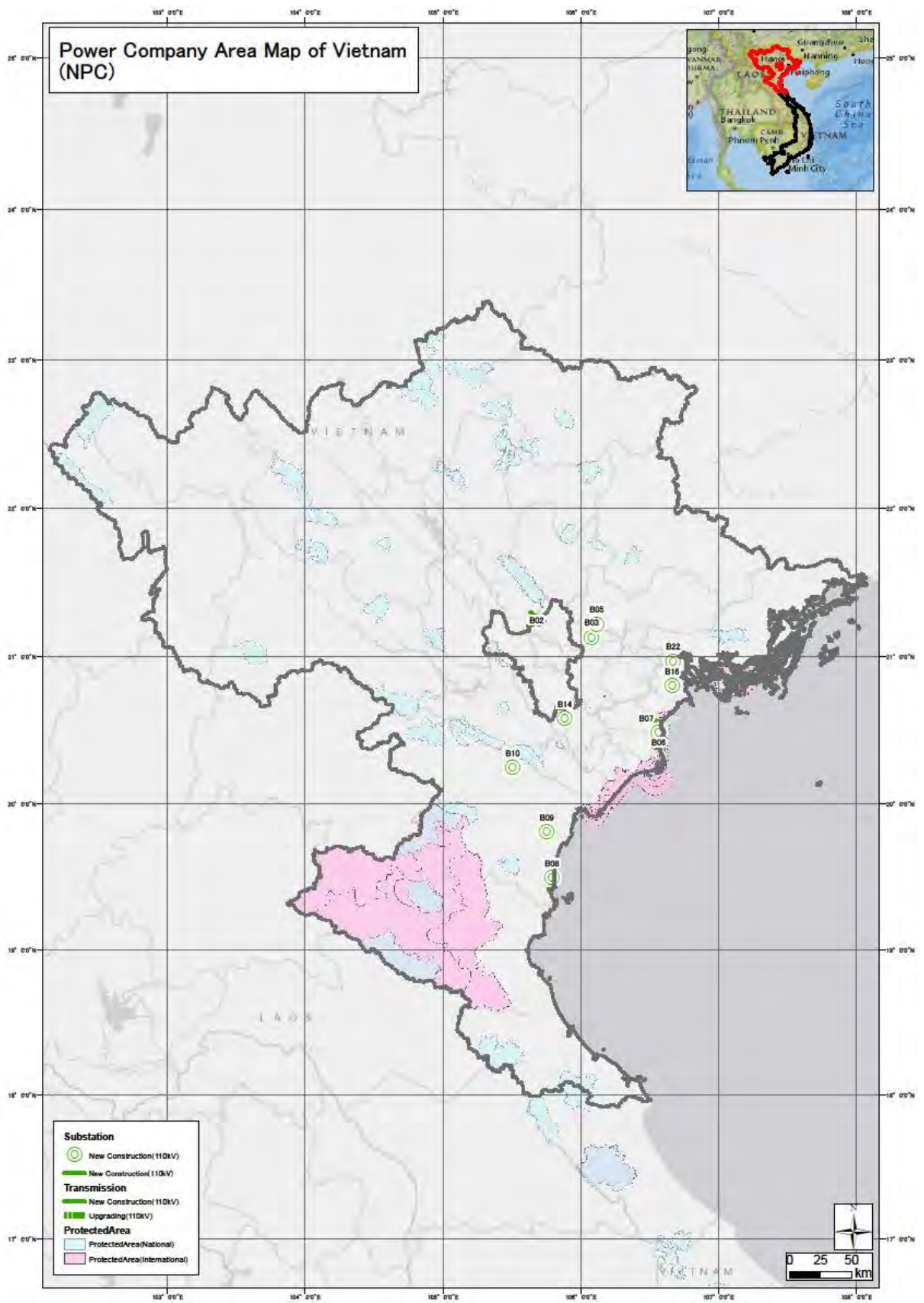


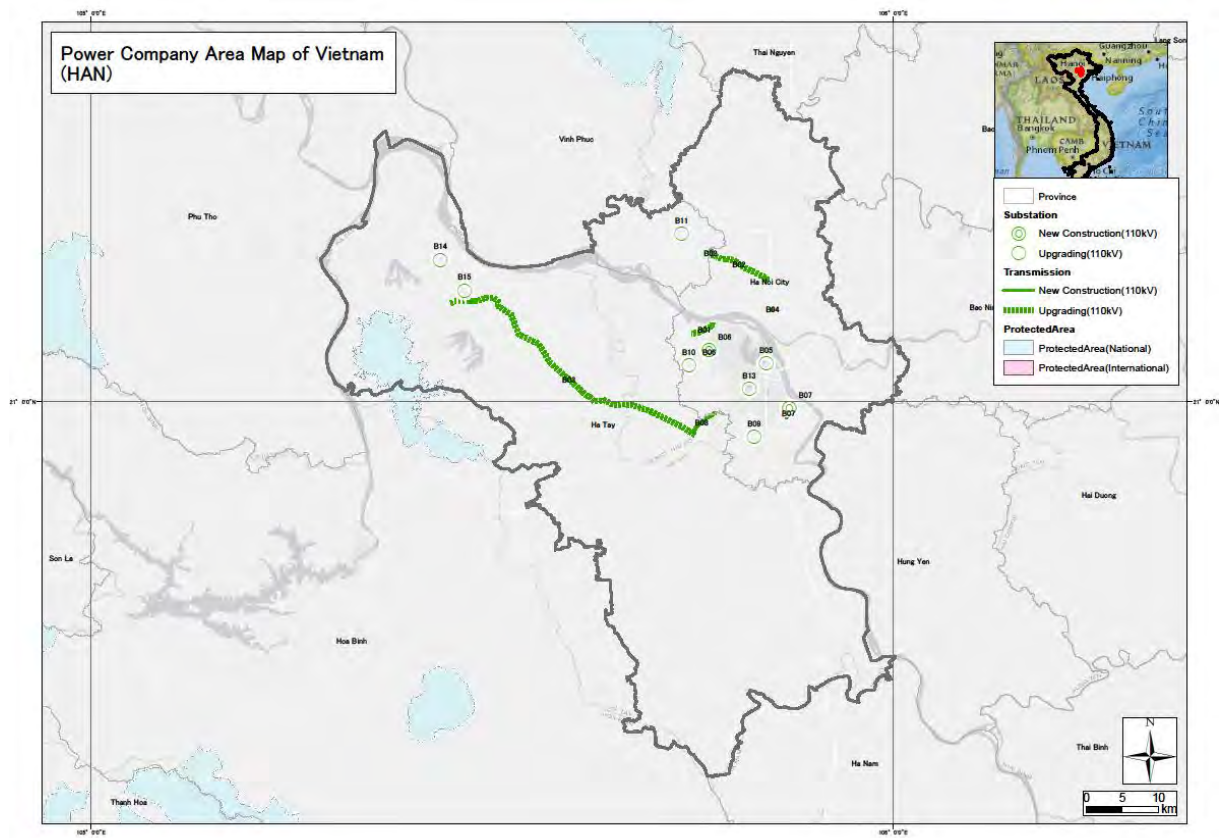


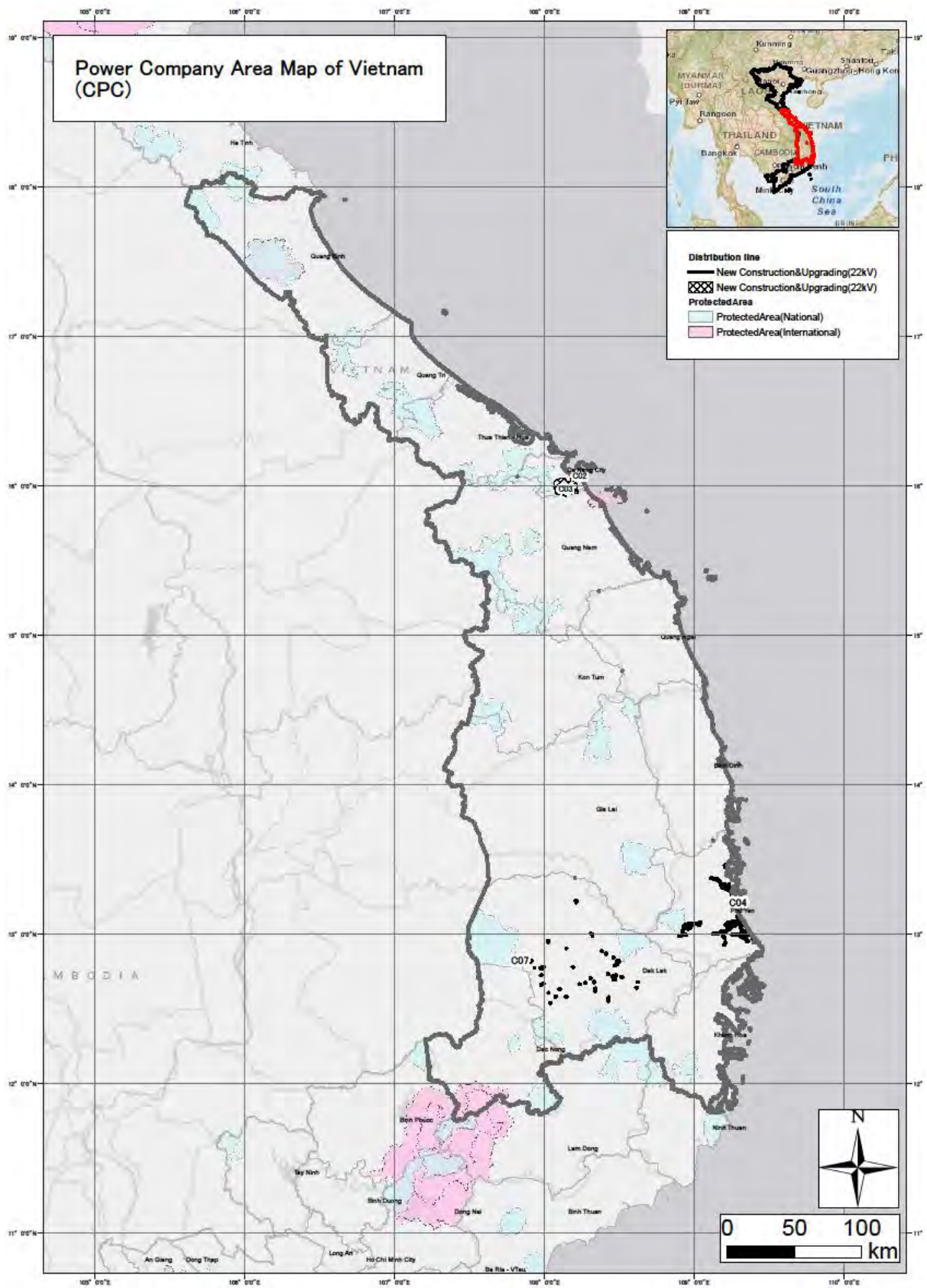


添付資料 9 : 借入額 250 億円ケースオーバービューマップ  
(NPC/HPC/CPC/SPC/HCMCPC)

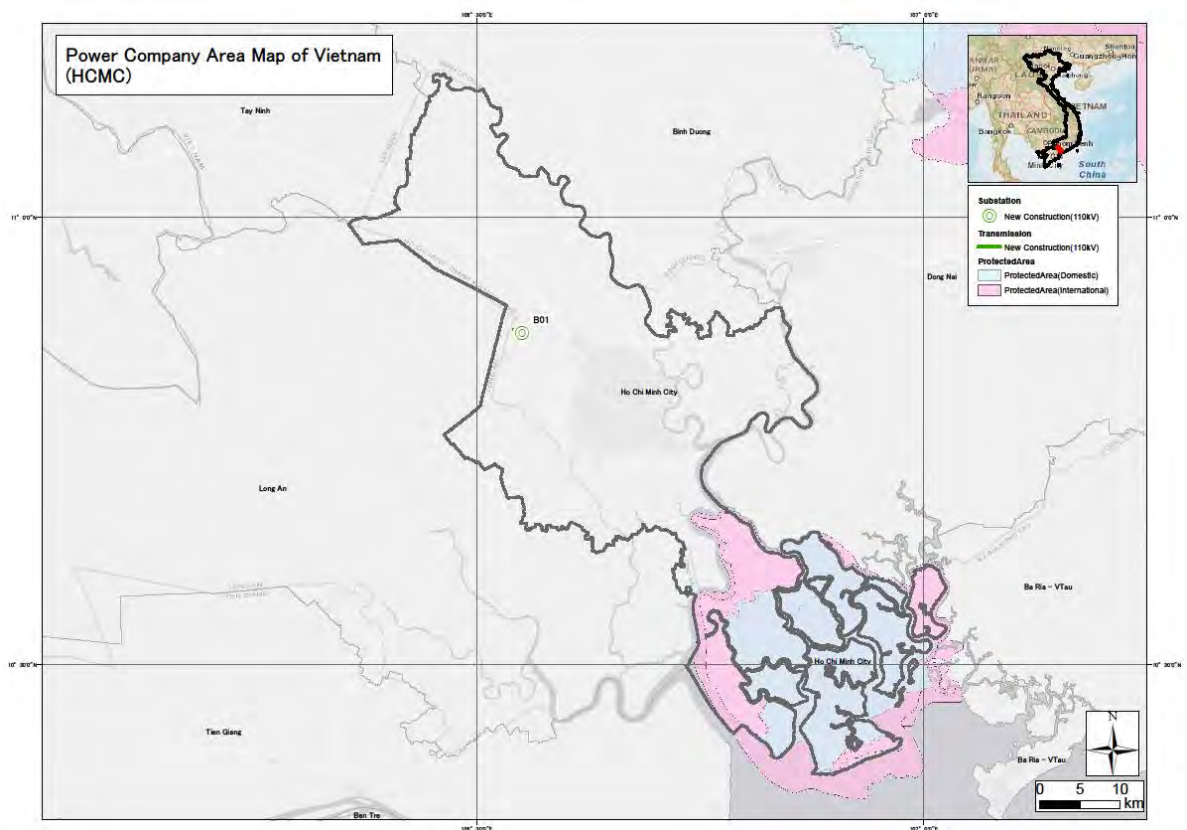
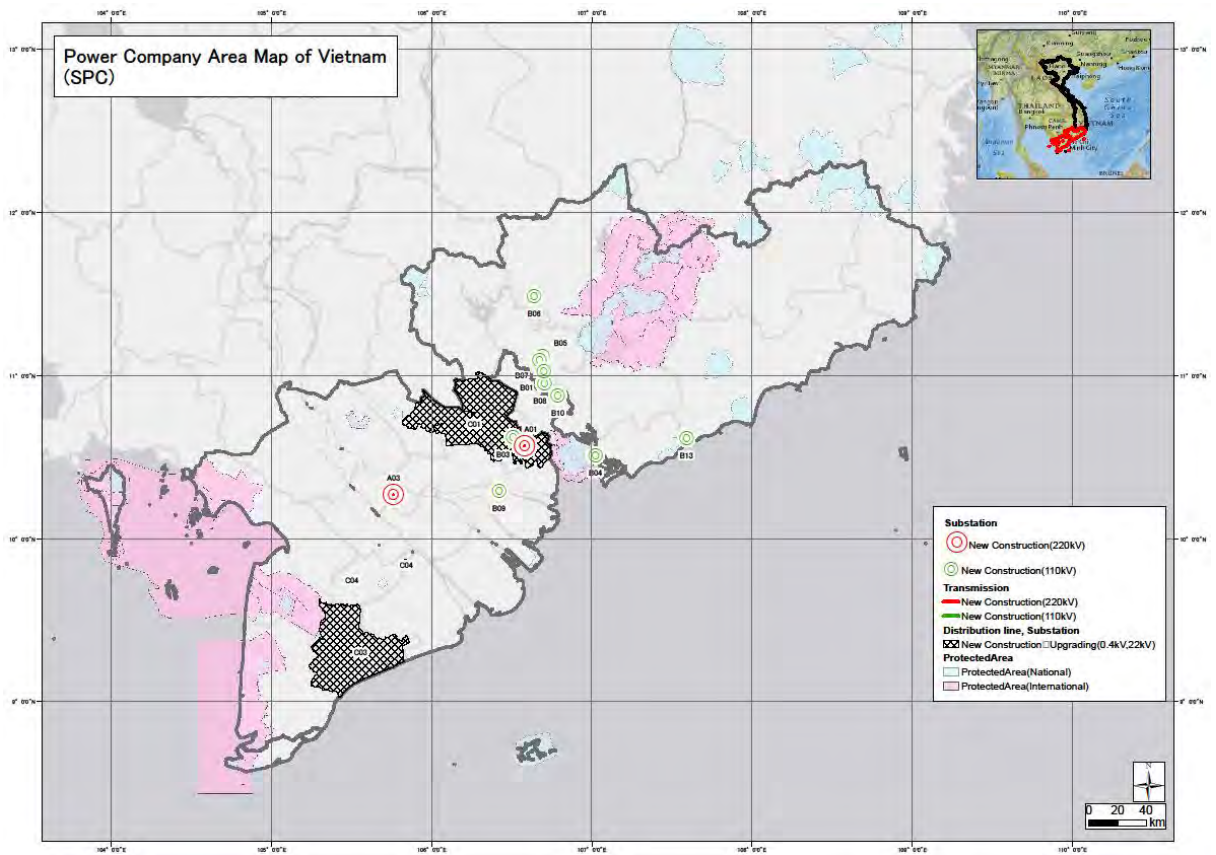














添付資料 10 :  
ベトナムの環境保護関連法令  
ベトナムの土地収用・移転補償関連法令



## 添付資料 10-1 : ベトナムの環境保護関連法令

- Law on Environmental Protection No.52/2005/QH11 approved by the National Assembly of Socialist Republic of Vietnam dated 29/11/2005 and having effect from 01/07/2006
- Decree No.80/2006/ND-CP dated 09/8/2006 by the Government on guiding the implementation of some articles in Law on Environmental Protection
- Decree No.140/2006/ND-CP dated 22/11/2006 by the Government on Regulation for the Environmental Protection in the formulation, appraisal, approval and Implementation of Development Strategies, Plannings, Plans, Programs and Projects
- Resolution No.49/2010 The 12th National Assembly dated 06/19/2010 About the important project will be submitted to the National Assembly for National investment decisions
- Decree No.21/2008/ND-CP by the Government dated 28/2/2008 on “amendment and supplementation of several clauses of Decree No.80/2006/ND-CP dated 09/08/2006 on “guiding the implementation of some articles in Environment Protection Law”
- Decree No.29/2011/ND-CP dated 18/04/2011 by the Government on guiding strategy environment assessment, environment impact assessment and protection commitment
- Circular No. 26/2011/TT-BTNMT dated on 18/7/2011 by the Ministry of Natural Resources and Environment for Detailed regulation on some articles of Decree No. 29/2011/NĐ-CP on 18/4/2011 by the Government for strategy environment assessment, environment impact assessment, and environment protection commitment which has taken effect on 2/9/2011 (replace for Circular No. 05/2008/TT-BTNMT)
- Decree No.117/2009/NĐ-CP dated 31/12/2009 the fine of law violations in the field of environmental protection
- Current Environmental Standards (TCVNs) and National Technical Regulations (QCVNs)

## 添付資料 10-2：ベトナムの土地収用・移転補償関連法令

- 2003 Land Law ratified by the National Assembly of Socialist Republic of Vietnam on 26/11/2003, which came into effect as from 01/07/2004
- Decree No.197/2004/ND-CP dated 03/12/2004 by the Government of Vietnam on compensation, support and resettlement upon land repossession by the Government
- Decree No.181/2004/ND-CP dated 29/10/ 2004 on Implementation of the Land Law
- Decree No.188/2004/ND-CP dated 16/11/2004 on methods to determine land prices and assorted land price brackets
- Decree No.198/2004/ND-CP dated 03 /12/ 2004 on Fee for land use
- Decree No.17/2006/ND-CP of 27/01/2006 by the Government on revising some contents in the Decrees guiding the implementation of Land Law
- Decree No.84/2007/ND9-CP by the Government of 25/05/2007 on the additional regulations on issuance of land use right certificate, land repossession, exercising the land use right, the procedures of compensation, support and resettlement upon land repossession by the Government and adjustment of land claims
- Circular No.06/2007/TT-BTNMT dated 15/06/2007 by the Ministry of Natural Resources and Environment guiding the implementation of some contents in the Decree No. 84/2007/ND-CP of 25/05/2007 issued by the Government
- Decree No. 69/2009/ND-CP dated 13/08/2009 of the Government's additional regulations on land use planning, land prices, land acquisition, compensation, assistance and resettlement
- Decision No. 34/QĐ-TTg of the Prime-Minister dated 8/8/2010 on issue of Regulation on compensation, assistance and resettlement for irrigation and hydropower projects.
- Decision No. 07/2011/QĐ-UBND dated 30/01/2011 by People's Committee of Lam Dong province of unit price building villas, houses, greenhouses and unit price of components integrated to determine the value of property on the Lam Dong Province
- Decision No. 36/2012/QĐ-UBND dated 20/8/2010 by People's Committee of Lam Dong province of regulations on compensation, support and resettlement upon land acquisition by the Government on the Lam Dong Province

- Decision No. 09/2013/QĐ-UBND dated 20/02/2013 by People's Committee of Lam Dong province of 2013 land price regulations on the Don duong District - Lam Dong Province
- Decision No. 03/2013/QĐ-UBND dated 18/01/2013 by People's Committee of Lam Dong province of issued compensation unit price for crops upon land acquisition by the Government on the Lam Dong Province
- Decision No. 48/2012/QĐ-UBND dated 20/12/2012 by People's Committee of Lam Dong province of 2013 land price regulations on Da Lat City
- Circular No.14/2009/TT-BTNMT dated 01/10/2009 by the Ministry of Natural Resources and Environment for detailed regulation on Compensation, Support and Resettlement; and the order and procedures of land acquisition, land allocation, land lease



添付資料 11 :  
ベトナム森林区分と森林区域内での開発 関連資料

添付資料 11-1 : List of the Special-use forests

No.	Name	Location	Area (ha)	Breakdown		
				Forest Land	Bare Land	Sea
<b>I. National Park</b>			<b>1077236.13</b>	<b>932370.76</b>	<b>77855.37</b>	<b>67010.00</b>
1	Ba Bể	Bắc Kạn	9022.00	8555.80	466.20	
2	Ba Vì	Hà Tây	6486.40	5165.77	1320.63	
		Hoà Bình	4263.30	1072.40	3190.90	
3	Bạch Mã	Thừa Thiên Huế	34380.00	29050.80	5329.20	
		Quảng Nam	3107.00	3107.00	0.00	
4	Bái Tử Long	Quảng Ninh	15600.00	5233.00	709.00	9658.00
5	Bến En	Thanh Hoá	12033.00	11401.50	631.50	
6	Bidoup-Núi Bà	Lâm Đồng	55968.00	50713.00	5255.00	
7	Bù Gia Mập	Bình Phước	25926.00	25695.00	231.00	
8	Cát Bà	Hải Phòng	15331.60	8168.30	1763.30	5400.00
9	Cát Tiên	Đồng Nai	39627.00	34288.30	5338.70	
		Lâm Đồng	27530.00	24130.00	3400.00	
		Bình Phước	4300.00	3837.00	463.00	
10	Chư Mom Rây	Kon Tum	56434.20	54316.90	2117.30	
11	Chư Yang Sin	Đắk Lắk	59316.10	59316.10	0.00	
12	Côn Đảo	Bà Rịa Vũng Tàu	19991.00	4854.00	1137.00	14000.00
13	Cúc Phương	Ninh Bình	11350.00	11343.80	6.20	
		Thanh Hoá	4981.60	4857.81	123.79	
		Hoà Bình	6074.30	6074.30	0.00	
14	Hoàng Liên	Lào Cai	21000.10	19413.60	1586.50	
		Lai Châu	7500.00	5906.00	1594.00	
15	Kon Ka Kinh	Gia Lai	39955.00	37102.00	2853.00	
16	Lò Gò Sa Mát	Tây Ninh	18345.00	15484.00	2861.00	
17	Mũi Cà Mau	Cà Mau	41089.00	8749.00	5740.00	26600.00
18	Núi Chúa	Ninh Thuận	29865.00	17223.00	5290.00	7352.00
19	Phong Nha Kẻ Bàng	Quảng Bình	125362.00	125156.00	206.00	
20	Phú Quốc	Kiên Giang	29135.90	27849.10	1286.80	
21	Phước Bình	Ninh Thuận	19814.00	15545.40	4268.60	
22	Pù Mát	Nghệ An	93524.70	91952.90	1571.80	
23	Tam Đảo	Vĩnh Phúc	14679.03	11321.88	3357.15	
		Thái Nguyên	8757.60	8757.60	0.00	
		Tuyên Quang	6078.40	5105.40	973.00	
24	Tràm Chim	Đồng Tháp	7313.00	2893.00	4420.00	
25	U Minh Hạ	Cà Mau	7926.00	7321.00	605.00	
26	U Minh Thượng	Kiên Giang	8038.00	7111.70	926.30	
27	Vũ Quang	Hà Tĩnh	52882.00	51571.00	1311.00	
28	Xuân Sơn	Phú Thọ	15048.00	9398.00	5650.00	
29	Xuân Thủy	Nam Định	7100.00	1650.00	1450.00	4000.00
30	Yok Đôn	Đắk Lắk	109196.00	108885.50	310.50	
		Đắk Nông	2905.90	2793.90	112.00	

No.	Name	Location	Area (ha)	Breakdown		
				Forest Land	Bare Land	Sea
<b>II. Nature Reserve</b>			<b>1099736.11</b>	<b>938602.69</b>	<b>161133.42</b>	
<b>II a</b>	<b>Nature Reserve</b>		<b>1060958.87</b>	<b>910334.90</b>	<b>150623.97</b>	
1	Bà Nà- Núi Chúa	Đà Nẵng	30206.30	29136.30	1070.00	
2	An Toàn	Bình Định	22545.00	16943.00	5602.00	
3	Áp Canh Điền	Bạc Liêu	363.00	66.60	296.40	
4	Bắc Hướng Hóa	Quảng Trị	25200.00	22138.00	3062.00	
5	Bắc Mê	Hà Giang	9042.50	8298.90	743.60	
6	Bán đảo Sơn Trà	Đà Nẵng	3871.00	3778.00	93.00	
7	Bát Đại Sơn	Hà Giang	4531.20	4263.10	268.10	
8	Bà Nà - Núi Chúa	Quảng Nam	2753.00	2609.00	144.00	
9	Bình Châu Phước Bửu	Bà Rịa-Vùng Tàu	10905.00	7912.00	2993.00	
10	Cham Chu	Tuyên Quang	15902.10	15593.50	308.60	
11	Copia	Sơn La	11995.90	6655.20	5340.70	
12	Đakrông	Quảng Trị	37640.00	32289.00	5351.00	
13	Đồng Sơn - Kỳ Thượng	Quảng Ninh	14851.00	12259.00	2592.00	
14	Du Già	Hà Giang	11540.10	10737.50	802.60	
15	Ea Sô	Đắk Lắk	24017.00	21065.60	2951.40	
16	Hang Kia - Pà Cò	Hoà Bình	5257.77	4882.75	375.02	
17	Hòn Bà	Khánh Hòa	19164.48	16160.95	3003.53	
18	Hòn Chông	Kiên Giang	964.70	868.40	96.30	
19	Hữu Liên	Lạng Sơn	8293.00	8129.00	164.00	
20	Kon Cha Răng	Gia Lai	15446.00	15386.90	59.10	
21	Kê Gỗ	Hà Tĩnh	21759.00	19780.00	1979.00	
22	Kim Hỷ	Bắc Kạn	14772.00	13913.70	858.30	
23	Krông Trai	Phú Yên	13392.00	12648.00	744.00	
24	Láng Sen	Long An	5030.00	3381.00	1649.00	
25	Mường Nhé	Điện Biên	44940.30	26881.90	18058.40	
26	Mường Tè	Lai Châu	33775.00	22412.00	11363.00	
27	Nà Hâu	Yên Bái	16399.90	12705.20	3694.70	
28	Na Hang	Tuyên Quang	22401.50	21277.70	1123.80	
29	Nam Ca	Đắk Lắk	21912.30	21912.30	0.00	
30	Nam Nung	Đắk Nông	10912.00	10618.80	293.20	
31	Ngọc Sơn - Ngõ Luông	Hoà Bình	15890.63	12928.00	2962.63	
32	Ngọc Linh	Kon Tum	38109.40	34294.60	3814.80	
33	Ngọc Linh	Quảng Nam	17576.00	13916.00	3660.00	
34	Núi Ông	Bình Thuận	24017.00	23131.00	886.00	
35	Núi Pia Oắc	Cao Bằng	10261.00	7732.00	2529.00	
36	Phong Điền	Thừa Thiên Huế	30262.80	30262.80	0.00	
37	Phong Quang	Hà Giang	7910.90	7271.40	639.50	
38	Phu Canh	Hoà Bình	5647.00	4077.90	1569.10	
39	Pù Hoạt	Nghệ An	35723.00	32508.80	3214.20	
40	Pù Hu	Thanh Hoá	23028.20	19983.20	3045.00	
41	Pù Huông	Nghệ An	40127.70	31668.90	8458.80	



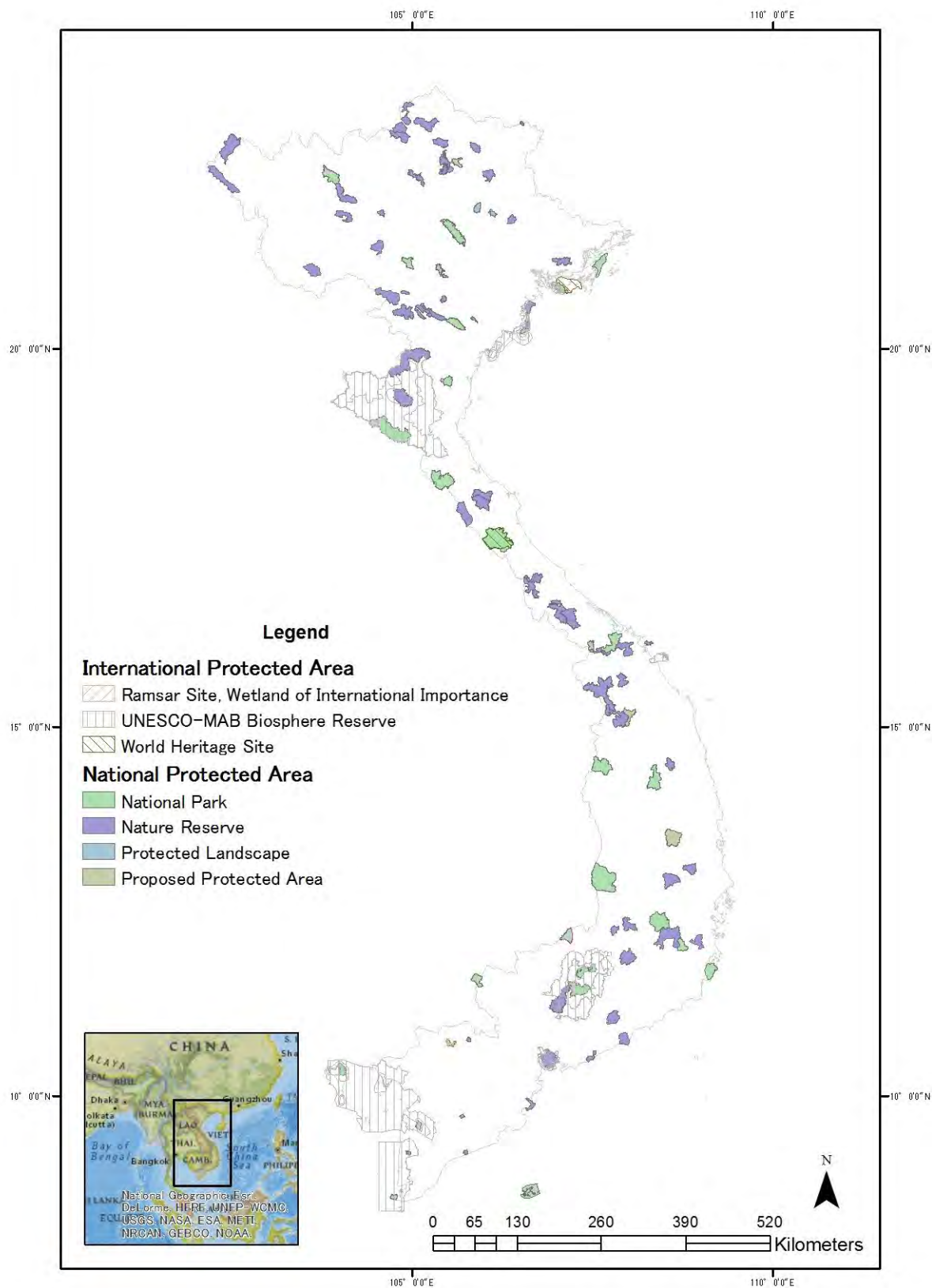
No.	Name	Location	Area (ha)	Breakdown		
				Forest Land	Bare Land	Sea
42	Pù Luông	Thanh Hoá	16902.30	16722.10	180.20	
43	Sông Thanh	Quảng Nam	79694.00	61752.00	17942.00	
44	Sốp Cộp	Sơn La	17369.00	13654.10	3714.90	
45	Tà Đùng	Đắk Nông	17915.20	13406.30	4508.90	
46	Tà Xùa	Sơn La	13412.20	12257.20	1155.00	
47	Tà Kôu	Bình Thuận	8468.00	6721.00	1747.00	
48	Tây Côn Lĩnh	Hà Giang	14489.30	14018.60	470.70	
49	Tây Yên Tử	Bắc Giang	13022.70	12308.80	713.90	
50	Thần Sa - P.Hoàng	Thái Nguyên	18858.90	17833.60	1025.30	
51	Thạnh Phú	Bến Tre	2584.00	1914.00	670.00	
52	Thượng Tiến	Hoà Bình	5872.99	5284.80	588.19	
53	Tiền Hải	Thái Bình	3245.00	2259.00	986.00	
54	Văn Bàn	Lào Cai	25173.00	24574.00	599.00	
55	Vân Long	Ninh Bình	1973.50	1860.50	113.00	
56	Vĩnh Cửu	Đồng Nai	53850.30	48188.10	5662.20	
57	Xuân Nha	Sơn La	16316.80	14643.90	1672.90	
58	Xuân Liên	Thanh Hoá	23475.00	20459.00	3016.00	
<b>II</b>	<b>Special Conservation Area</b>		<b>38777.24</b>	<b>28267.79</b>	<b>10509.45</b>	
<b>b</b>						
1	Chê Tạo	Yên Bái	20293.20	10779.80	9513.40	
2	Đắc Uy	Kon Tum	659.50	491.00	168.50	
3	Ea Ral	Đắk Lắk	49.00	49.00	0.00	
4	Hương Nguyên	Thừa Thiên Huế	10310.50	10310.50	0.00	
5	Khau Ca	Hà Giang	2010.40	1875.00	135.40	
6	Lung Ngọc Hoàng	Hậu Giang	790.64	599.19	191.45	
7	Nam Xuân Lạc	Bắc Kạn	1788.00	1788.00	0.00	
8	Khu Bảo tồn loài sinh cảnh Thông nước	Đắk Lắk	100.00	15.30	84.70	
9	Trùng Khánh	Cao Bằng	2261.00	2135.00	126.00	
10	Sân Chim đơm Dơi	Cà Mau	130.00	123.00	7.00	
11	Vườn Chim Bạc Liêu	Bạc Liêu	385.00	102.00	283.00	
<b>III.</b>	<b>Landscape Protection Area</b>		<b>78129.39</b>	<b>60554.52</b>	<b>17574.87</b>	
1	ATK Định Hoá	Thái Nguyên	8728.00	6779.30	1948.70	
2	Bản Dốc	Cao Bằng	566.00	494.00	72.00	
3	Căn cứ Đồng Rùm	Tây Ninh	32.00	32.00	0.00	
4	Căn cứ Châu Thành	Tây Ninh	147.00	138.00	9.00	
5	Chàng Riệp	Tây Ninh	9122.00	8088.00	1034.00	
6	Chùa Thầy	Hà Tây	37.13	37.13	0.00	
7	Côn Sơn Kiếp Bạc	Hải Dương	1216.90	1216.90	0.00	
8	Cù Lao Chàm	Quảng Nam	1490.00	596.00	894.00	
9	Đá Bàn	Tuyên Quang	119.60	119.60	0.00	

No.	Name	Location	Area (ha)	Breakdown		
				Forest Land	Bare Land	Sea
10	Đền Hùng	Phú Thọ	538.00	307.30	230.70	
11	Đèo Cả- Hòn Nưa	Phú Yên	5768.20	3369.50	2398.70	
12	Mường Phăng	Điện Biên	935.88	283.98	651.90	
13	Đray Sáp-Gia Long	Đắk Nông	1515.20	1458.60	56.60	
14	Đường Hồ Chí Minh	Quảng Trị	5680.00	3377.00	2303.00	
15	Gò Tháp	Đồng Tháp	289.80	170.00	119.80	
16	Hồ Lắk	Đắk Lắk	9478.30	7765.20	1713.10	
17	Hoa Lư	Ninh Bình	2985.00	2985.00	0.00	
18	Hương Sơn	Hà Tây	2719.80	2471.00	248.80	
19	K9 - Lăng Hồ Chí Minh	Hà Tây	200.00	200.00	0.00	
20	Kim Bình	Tuyên Quang	210.80	149.50	61.30	
21	Lam Sơn	Cao Bằng	75.00	75.00	0.00	
22	Nam Hải Vân	Đà Nẵng	3397.30	2925.80	471.50	
23	Núi Bà	Bình Định	2384.00	1940.00	444.00	
24	Núi Bà Đen	Tây Ninh	1545.00	788.00	757.00	
25	Núi Bà Rá	Bình Phước	1056.00	764.00	292.00	
26	Núi Chung	Nghệ An	628.30	542.30	86.00	
27	Núi Nà	Phú Thọ	670.00	670.00	0.00	
28	Núi Lăng Đôn	Cao Bằng	1149.00	1032.00	117.00	
29	Núi Sam	An Giang	171.00	79.32	91.68	
30	Núi Thần Đinh (chùa non)	Quảng Bình	136.00	136.00	0.00	
31	Pắc Bó	Cao Bằng	1137.00	1070.00	67.00	
32	Quy Hòa- Ghềnh Ráng	Bình Định	2163.00	831.00	1332.00	
33	Rú Lịnh	Quảng Trị	270.00	95.00	175.00	
34	Rừng cụm đảo Hònkhoai	Cà Mau	621.00	581.00	40.00	
35	Tân Trào	Tuyên Quang	4187.30	3783.20	404.10	
36	Thăng Hen	Cao Bằng	372.00	356.00	16.00	
37	Thoại Sơn	An Giang	370.50	172.19	198.31	
38	Trà Sư	An Giang	844.10	715.80	128.30	
39	Trần Hưng Đạo	Cao Bằng	1143.00	770.00	373.00	
40	Tức Dục	An Giang	200.00	0.00	200.00	
41	Vật Lại	Hà Tây	11.28	11.28	0.00	
42	Vườn Cam Nguyễn Huệ	Bình Định	752.00	307.00	445.00	
43	Xèo Quýt	Đồng Tháp	50.00	23.62	26.38	
44	Yên Tử	Quảng Ninh	2687.00	2518.00	169.00	
45	Yên Lập	Phú Thọ	330.00	330.00	0.00	
<b>IV.Forest for research and experiment</b>			<b>10652.25</b>	<b>9924.88</b>	<b>727.37</b>	
1	Trung tâm nghiên cứu giống Đông Bắc Bộ	Vĩnh Phúc	534.50	498.20	36.30	
2	Tân Tạo	TP. Hồ Chí Minh	29.92	26.35	3.57	

No.	Name	Location	Area (ha)	Breakdown		
				Forest Land	Bare Land	Sea
3	Vườn Thực Vật Củ Chi	TP. Hồ Chí Minh	39.49	38.63	0.86	
4	Trung tâm nghiên cứu thực nghiệm Cầu Hai	Phú Thọ	700.80	700.80	0.00	
5	TTNC ứng dụng kỹ thuật rừng ngập mặn Minh Hải	Cà Mau	281.00	245.00	36.00	
6	Khu thực nghiệm nghiên cứu TP. Hạ Long	Quảng Ninh	64.00	64.00	0.00	
7	Khu rừng thực nghiệm Đại học LN Hà Tây	Hà Tây	73.00	73.00	0.00	
8	Trạm Thực nghiệm lâm nghiệp Cam Ly	Đà Lạt	348.00	300.00	48.00	
9	Trạm Thực nghiệm lâm nghiệp Lang Hanh	Đà Lạt	105.00	105.00	0.00	
10	Đak Plao	Đắk Nông	3280.00	3200.00	80.00	
11	Đá Chông, Cẩm quỳ, Ba Vì	Hà Tây	215.10	215.10	0.00	
12	Trung tâm KHSX Lâm nghiệp Tây Bắc	Sơn La	152.00	142.00	10.00	
13	Trường Trung cấp LN	Pleiku	723.60	386.90	336.70	
14	Trung tâm LN nhiệt đới Pleiku-Gia Lai	Pleiku	1611.80	1546.70	65.10	
15	Trung tâm ứng dụng KHKT Lâm nghiệp	Hòa Bình	150.00	150.00	0.00	
16	TT ứng dụng KHKT Lâm nghiệp Bắc Trung Bộ	Quảng Trị	879.20	879.20	0.00	
17	TT ứng dụng KHSX LN Đông Nam Bộ	Đồng Nai	326.42	302.90	23.52	
18	TT ứng dụng KHSX LN Bình Dương	Bình Dương	1.10	1.10	0.00	
19	Trung tâm nghiên cứu Lâm Đặc Sản	Quảng Ninh	227.52	200.00	27.52	
20	TT ứng dụng KHSX LN Đông Bắc Bộ	Quảng Ninh	909.80	850.00	59.80	



添付資料 11-2 : 保護下にある森林



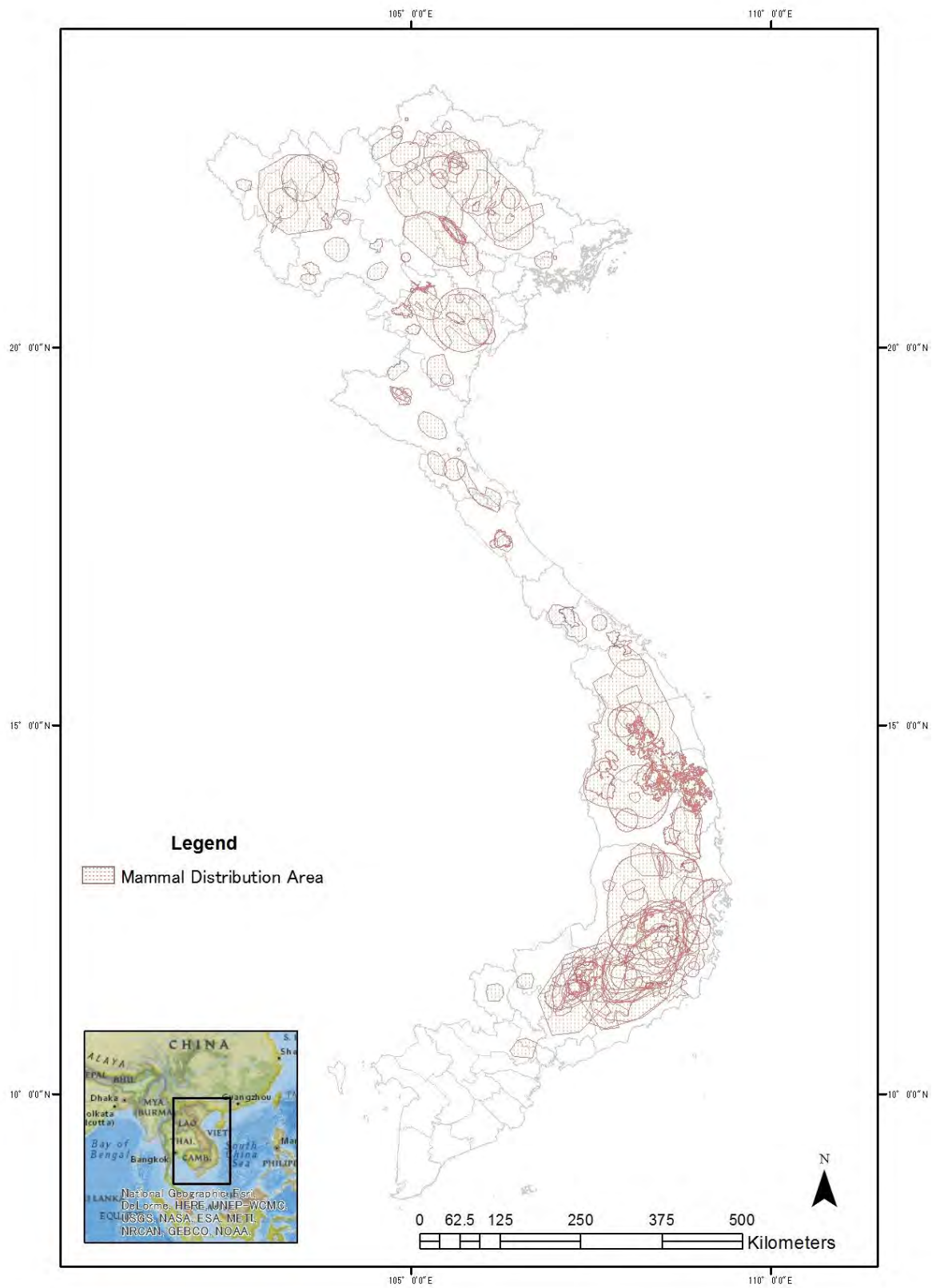
## 添付資料 11-3 : ベトナムの森林保護関連法令

- Forest Protection and Development Law No.29/2004/QH11, approved by the National Assembly of Socialist Republic of Vietnam dated 03/12/2004 and having effect from 01/04/2005
- Decree No. 23/2006/QĐ-CP dated 03/03/2006 by the Government on implementation of law on forest protection and development
- Decree 09/2006/NĐ-CP dated 16/01/2006 by the Government on regulations of fire prevention and fire-fighting of forest
- Biodiversity Law No.20/2008/QH12 approved by the National Assembly of Socialist Republic of Vietnam dated 13/11/2008
- Decree No.65/2010/NĐ-CP dated 11/06/2010 by the Government on Detailing and guiding the implementation of biodiversity-law having effect from 30/07/2010
- Decree No.32/2006/NĐ-CP dated 30/03/2006 by the Government on management of endangered, endangered animal rare
- Decision No 61/2005/BNN dated 12/10/2005 on Classification of Protective Forest
- Decision No 62/2005/BNN dated 12/10/2005 on Classification of Special Use Forest

添付資料 12 :  
IUCN によるベトナム国内の哺乳類の分布図



添付資料 12 : IUCN によるベトナム国内の哺乳類の分布図（越境分を省略）



添付資料 13：環境社会配慮関連評価シート

環境社会配慮関連評価シート

No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
HAN-B01	Rehabilitating and upgrading the capacity of the 110kV line, 175,176 Chem - Yen Phu, section from 220kV Chem substation to the outgoing pole of the 220/110kV Chem - Tay Ho line	Tay Ho, Tu Liem	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	2,648	1	Absent	Absent		7.5
HAN-B02	New building for the 110kV line, circuit 2 from the 110kV Dong Anh substation to 220/110kV Van Tri substation and reinstating feeder 112 at 110kV Dong Anh substation.	Dong Anh	Signed and approved	EIA not required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	2,561	1	Absent	Absent		8.5
HAN-B03	Rehabilitating 110kV overhead line Hadong - Son Tay (173E1.4 to 172E1.7)	Hà Đông, Sơn Tây	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	20,497	1	Absent	Absent		7.5
HAN-B04	New building for the 110kv line to supply power for 110kV Mai Lam substation	Gia Lâm	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	1,291	1	Absent	Absent		7.5
HAN-B05	Upgrading and rehabilitating 110kV Yen Phu - E1.8 substation into the GIS substation	Tây Hồ	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
HAN-B06	110kV Tu hem substation and 110kV branch	Từ Liêm	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	16,325	1	Absent	Absent		7.5
HAN-B07	110kV Minh Khai substation and the branch	Hai Bà Trưng	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	15,933	1	Absent	Absent		7.5
HAN-B08	110kV line to supply power to Mo Lao substation	Hà Đông	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	288	1	Absent	Absent		7.5



No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
HAN-B09	Upgrading capacity for 110kV Linh Dam substation	Linh Đàm	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
HAN-B10	Upgrading capacity for 110kV Cau Dien substation	Cầu Diễn	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
HAN-B11	Upgrading capacity for 110kV Quang Minh substation	Đông Anh	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
HAN-B13	Supplementing transformer T3 - 63 MVA at the 110kV E1.11 Thanh Cong substation	Đông Đa	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
HAN-B15	Building for 110kV substation side at 220kV Sơn Tây Substation	Sơn Tây	Completing	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		8
NPC-B01	110kV Tam Dao substation and TL	Vĩnh Phúc	Dec. 2014	EIA required but not started yet	1	2.5	1	Limited impacts on protected area or endangered species	1	20	1	11,867	1	Absent	Absent	Tam Dao National Park	5
NPC-B02	Improving the transmission capacity of 110kV Vinh Yen - Phu Yen TL	Vĩnh Phúc	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	13,800	1	Absent	Absent		6.5
NPC-B03	110kV Nam Son - Hap Linh substation and branch	Bắc Ninh	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	30	1	12,033	1	Absent	Absent		6
NPC-B04	110kV Que Vo 3 substation and branch	Bắc Ninh	Sep. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	11,400	1	Absent	Absent		6.5
NPC-B05	110kV Quang Chau substation and branch	Bắc Giang	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area	1.5	0	1.5	8,133	1	Absent	Absent		6.5

No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
									and endangered species								
NPC-B06	110kV TL of Thái Bình - Thái Thụy Thermo-Electric Factory	Thái Bình	Sep. 2014	EIA required but not started yet	1	0	0.5	Considerable impacts on protected area or endangered species	0.5	0	1.5	9,000	1	Absent	Absent	Red River Delta (UNESCO-MAB Biosphere Reserve)	4.5
NPC-B07	110kV TL of Thái Bình - Tiên Hải Thermo-Electric Factory	Thái Bình	Sep. 2014	EIA required but not started yet	1	0	0.5	Considerable impacts on protected area or endangered species	0.5	0	1.5	10,200	1	Absent	Absent	Red River Delta (UNESCO-MAB Biosphere Reserve)	4.5
NPC-B08	110kV Tĩnh Gia 2 Substation and TL	Thanh Hóa	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	20	1	22,833	1	Absent	Absent		6
NPC-B09	110kV Tây Thanh Pho Substation and TL	Thanh Hóa	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	25	1	19,967	1	Absent	Absent		6
NPC-B10	110kV Cam Thủy substation and TL	Thanh Hóa	Dec. 2014	EIA required but not started yet	1	4.5	1.0	No passage through protected area and endangered species	1.5	0	1.5	13,700	1	Absent	Absent		6
NPC-B11	110kV Tân Quang substation and TL	Hung Yên	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	15	1	14,300	1	Absent	Absent		6
NPC-B12	Installation of T2 transformer at 110kV S/s, Hung Yên city	Hung Yên	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		7
NPC-B13	"Upgrading the capacity of T1 Phó Cao transformer	Hung Yên	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		7
NPC-B14	110kV Kim Bang substation and TL	Hà Nam	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered	1.5	30	1	10,933	1	Absent	Absent		6

No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
									species								
NPC-B15	110kV Hoa Mac substation and TL	Hà Nam	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	30	1	10,867	1	Absent	Absent		6
NPC-B16	110kV Quán Trữ substation and branch	Hải Phòng	Dec. 2014	EIA required but not started yet	1	0	1	No passage through protected area and endangered species	1.5	5	1	12,000	1	Absent	Absent		5
NPC-B17	Construction of the second circuit of 110kV TL to 110kV Nghĩa An- Hải Dương substation	Hải Dương	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	7,200	1	Absent	Absent		6.5
NPC-B18	Construction of the second circuit of 110kV Tien Trung-Lai Khe double circuit TL	Hải Dương	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,840	1	Absent	Absent		6.5
NPC-B19	Installation of T2 transformer at 110kV Ninh Binh substation	Ninh Binh	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		7
NPC-B20	Installation of T2 transformer at 110kV Ninh Phúc industrial zone substation	Ninh Binh	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		7
NPC-B21	110kV Yen Mo substation and TL	Ninh Binh	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	20	1	14,760	1	Absent	Absent		6
NPC-B22	110kV Luu Kiem substation and TL	Hai Phong	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	16,700	1	Absent	Absent		6.5
NPC-B23	110kV Phuc Son substation and TL	Ninh Binh	Dec. 2014	EIA required but not started yet	1	1	1.5	No passage through protected area and endangered species	1.5	20	1	6,400	1	Absent	Absent		6



No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
NPC-B24	T2 Tam Diep Industrial Park	Ninh Binh	Dec. 2014	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	0	1.5	Absent	Absent		7
NPC-C01	Thanh Hoa	Thanh Hoa	not required	EIA required/ Approved	3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	unknown	0	Absent	Absent	Red River Delta (UNESCO MAB Biosphere Reserve)	6.5
NPC-C02	Hung Yen	Hung Yen	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C03	Thai Binh	Thai Binh	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C04	Bac Ninh	Bac Ninh	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C05	Hai Duong	Hai Duong	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C06	Ninh Binh	Ninh Binh	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C07	Thai Nguyen	Thai Nguyen	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C08	Ha Nam	Ha Nam	not required	EIA required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C09	Vinh Phuc	Vinh Phuc	not required	EIA required/	3	0	0.5	Considerable impacts on	0.5	0	1.5	unknown	0	Absent	Absent	Tam Dao National Park	5.5

No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
				Approved					protected area or endangered species								
NPC-C10	Nghe An	Nghe An	not required	EIA required/ Approved	not 3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	unknown	0	Absent	Absent		7.5
NPC-C11	Quang Ninh	Quang Ninh	not required	EIA required/ Approved	not 3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	unknown	0	Absent	Absent	Bai Chay (Cultural and Historical Site)	6.5
CPC-C01	Upgrading and expansion of distribution power network in Thua Thien Hue Province	Thua Thien Hue	not required	EIA required/ Approved	not 3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	13,491	1	Absent	Absent	"Tam Giang-Cau Hai National Park Hai Van-Hon Tra Marine Protected Area"	7.5
CPC-C02	Upgrading and expansion of distribution power network in Son Tra District - Danang city	Da Nang City	not required	EIA required/ Approved	not 3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	37,816	1	Absent	Absent		8.5
CPC-C03	Upgrading and expansion of distribution power network in Hoa Vang and Cam Le Districts - Danang city	Da Nang City	not required	EIA required/ Approved	not 3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	228,300	1	Absent	Absent		8.5
CPC-C04	Upgrading and expansion of distribution power network in Phu Yen	Phu Yen	not required	EIA required/ Approved	not 3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	16,324	1	Absent	Absent	Krong Trai Nature Reserve	7.5
CPC-C05	Upgrading and expansion of distribution power network in Gia Lai	Gia Lai	not required	EIA required/ Approved	not 3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	51,292	1	Absent	Absent	Bac Plei Ku Nature Reserve	7.5
CPC-C06	Upgrading and expansion of distribution power network in Kon Tum	Kon Tum	not required	EIA required/ Approved	not 3	0	1	Limited impacts on protected area or endangered species	1	0	1.5	37,738	1	Absent	Absent	Chu Mom Ray National Park and ASEAN Heritage Park	7.5
CPC-C07	Upgrading and expansion of distribution power network	Dak Lak	not required	EIA required/	not 3	0	1.5	No passage through	1.5	0	1.5	4,660	1	Absent	Exist		8.5

No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
	in Daklak			Approved					protected area and endangered species								
HCM-B-1	110kV Hoc Mon 2 substation and connection line	Hoc Mon District	2014/10	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	6,000	1	Absent	Absent		6.5
SPC-A01	Can Duoc 220kV substation and tee-off	Long An	2014/8	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	27,673	1	Absent	Absent		7.5
SPC-A03	Sa Dec 220kV substation and tee-off	Dong Thap	2014/8	Under preparation/ yet to be approved	2	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	25,997	1	Absent	Absent		7.5
SPC-B01	T1 110kV substation and tee-off (Bau Beo - T1)	Binh Duong	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,000	1	Absent	Absent		6.5
SPC-B02	An Xuyen - Vinh Thuan 110kV line	Kien Giang Ca Mau	2014/8	EIA required but not started yet	1	0	1	Limited impacts on protected area or endangered species	1	0	1.5	2,912	1	Absent	Absent	Kien Giang UNESCO MAB Biosphere Reserve	5.5
SPC-B03	Ben Luc Industrial zone 110kV substation and tee-off	Long An	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	2,912	1	Absent	Absent		6.5
SPC-B04	Cai Mep port 110kV substation and connection line	Long An	2014/8	EIA required but not started yet	1	0	1	Limited impacts on protected area or endangered species	1	0	1.5	7,234	1	Absent	Absent	Can Gio Mangrove UNESCO MAB Biosphere Reserve	5.5
SPC-B05	VSIP 2-MR1 110kV substation and tee-off	Binh Duong	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	2,967	1	Absent	Absent		6.5
SPC-B06	Minh Hung Industrial zone 110kV substation and tee-off	Binh Phuoc	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered	1.5	0	1.5	4,659	1	Absent	Absent		6.5



No	Project Name	Province	Env. Approval	EIA Status		Deforestation		Protected Area		Resettlement		Land Acquisition		Archeological site	Indigenous People	Note	Total
				EIA	Point	Area (ha)	Point	Impact	Point	People	Point	Area (sqm)	Point				
									species								
SPC-B07	T5 110kV substation and tee-off (Hoa Phu - T5)	Binh Duong	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,520	1	Absent	Absent		6.5
SPC-B08	Hung Dinh 110kV substation and tee-off		2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,098	1	Absent	Absent		6.5
SPC-B09	Giao Long 110kV substation and Ben Tre - Giao Long 110kV line	Ben Tre	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	4,130	1	Absent	Absent		6.5
SPC-B10	Dong Hoa 110kV substation and tee-off	Binh Duong	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,088	1	Absent	Absent		6.5
SPC-B11	Luong Son - Hoa Thang - Mui Ne 110kV line	Binh Thuan	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,361	1	Absent	Absent		6.5
SPC-B12	Tan Bien - Chau Thanh (Dop stream) 110kV line	Tay Ninh	2014/8	EIA required but not started yet	1	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	6,547	1	Absent	Absent		6.5
SPC-B13	Thang Hai 110kV substation and tee-off	Binh Thuan	2014/8	EIA required but not started yet	1	0	1	No passage through protected area and endangered species	1.5	0	1.5	3,029	1	Absent	Absent	Binh Chau Phuoc Buu Nature Reserve	6.0
SPC-C01	Improve and develop medium & low voltage grid for rural areas of Long An province	Long An	not required	EIA not required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	3,344	1	Absent	Absent		8.5
SPC-C02	Improve and develop medium & low voltage grid for rural areas of Soc Trang province	Soc Trang	not required	EIA not required/ Approved	3	0	1.5	No passage through protected area and endangered species	1.5	0	1.5	21,916	1	Absent	Absent		8.5



添付資料 14: 環境社会配慮チェックリスト (送配電・変電施設)

環境社会配慮チェックリスト（送配電・変電施設）

分類	調査項目	主なチェック事項	Yes: Y No: N	具体的な環境社会配慮 (Yes/Noの理由、根拠、緩和策等)
1 許認可・説明	(1)EIA および環境許認可	(a) 環境アセスメント評価報告書 (EIA レポート)等 は作成済みか。 (b)EIA レポート等は当該国政府により承認されているか。 (c)EIA レポート等の承認は付帯条件を伴うか。付帯条件がある場合は、その条件は満たされるか。 (d)上記以外に、必要な場合には現地の所管官庁からの承認に関する許認可は取得済みか。	(a)Y (b)N (c)Y (d)N	(a)EIA 作成済み案件は HAN-B02 の1件、75 件中要 EIA 案件は 53 件、そのうち EIA 調査未着手 38 件、作成中 15 件、IEE 作成済み案件は、HAN-B01、HAN-B03、HAN-B04、HAN-B06、HAN-B08、HAN-B09、HAN-B10、HAN-B11、HAN-B13 の9件。ただしこれらの IEE も一般的な影響や対策を羅列したものであり、内容の具体性に乏しい。 (b)ベトナム国政府より承認された EIA レポートは HAN-B02 の1件。 (c)承認されたプロジェクトは付帯条件を伴う。付帯条件は大気・騒音・振動・水質など公害系の国の規制や基準を満たすよう要請しているものであり、事業者がこれを順守すれば要請は満たされるものと考えられる。 (d)EIA の承認以外、土壌や植物の補償に関する認可を地元自治体から得る必要があるが、いずれのプロジェクトも承認は取れていない。
	(2)現地ステークホルダーへの説明	(a)プロジェクトの内容および影響について、情報公開を含めて現地ステークホルダーに適切な説明を行い、理解を得ているか。 (b)住民等からのコメントを、プロジェクト内容に反映させたか。	(a)N (b)N	(a)現時点では、いずれの事業者も現地ステークホルダー協議は行われていない。現地ステークホルダーへの説明は移転補償の手続きの際に実施される予定である。 (b)現時点では、住民からのコメントはプロジェクト内容に反映されていない。現地ステークホルダー協議時には既にプロジェクトの設計が承認されており、住民からのコメントをプロジェクト内容に反映させる機会はない。
	(3)代替案の検討	(a) プロジェクト計画の複数の代替案は（検討の経緯、環境・社会に係る項目も含めて）検討されているか。	(a)Y	(a)HAN-B02 は、景観保護エリアを避けるために代替案が検討され、ルート変更された。他の送電線や変電所も、できるだけ移転距離が発生しないよう、慎重に場所が選定されている。
2 汚染対策	(1)水質	(a) 盛土部、切土部等の表土露出部からの土壌流出によって周辺河川下流域の水質が悪化するか。水質悪化が生じる場合、対策が用意されるか。	(a)N	(a)EIA/IEE 作成済みの 10 案件は湧水対策検討がされている。EIA 作成予定の案件は同様の対策が計画されると考えられる。
	(1)保護区	(a) サイトは当該国の法律・国際条約等に定められた保護区内に立地するか。プロジェクトが保護区に影響を与えるか。	(a)Y	(a)75 案件の内、13 件が保護区内に位置する(NPC-C09、NPC-B06、NPC-B07、NPC-C01、NPC-C11、CPC-C01、CPC-C04、CPC-C05、CPC-C06、NPC-B01、NPC-B16、SPC-B02、SPC-B04)。特に NPC-C09、NPC-B06、NPC-B07 の3 案件は、事業計画エリアと保護区が大きく重複しており、なんらかの影響を与える可能性がある。
3 自然環境	(2)生態系	(a)サイトは原生林、熱帯の自然林、生態学的に重要な生息地（珊瑚礁、マングローブ溼地、干潟等）を含むか。 (b)サイトは当該国の法律・国際条約等で保護が必要とされる貴重な生息地を含むか。 (c)生態系への重大な影響が懸念される場合、生態系への影響を減らす対策はなされるか。 (d)野生生物及び家畜の移動経路の遮断、生息地の分断等に対する対策はなされるか。 (e)事業実施に伴う森林破壊や資源、砂礫化、運河の掘削等は生じるか。外来種（従来その地域に生息していなかった種）、有害虫等が移入し、生態系が乱される恐れはあるか。これらに対する対策は用意されるか。 (f)水回路地域に隣接する場合、新たな地域開路に伴い自然環境が大きく損なわれるか。	(a)Y (b)Y (c)N (d)N (e)Y (f)Y	(a)12 のサブプロジェクトは生態学的に重要な生息地を通過する (b)5 つのサブプロジェクト(NPC-B06、NPC-B07、NPC-C01、SPC-B02、SPC-B04)は国際条約等で保護が必要とされている生息地（UNESCO-MAB Biosphere Reserve）を含み、6 つのサブプロジェクト(NPC-C09、CPC-C01、CPC-C04、CPC-C05、CPC-C06、NPC-B01)はベトナム国の法律で保護が必要とされている自然公園などを通過する。 (c)いずれのサブプロジェクトも規模が小さく、生態系への重大な影響は特に懸念されていない。影響軽減策は検討されていない。 (d)HAN-B02 は、緑地の分断を避けるため、ルートが変更されている。それ以外の事業者では緑地の分断に対する対策は検討されていない。 (e)事業計画地はいずれも道路が整備されているところであり、事業実施に伴い密着者のアクセスを容易にすることはない。運河の掘削や外来種の侵入を促進する可能性があるのは SPC-B04。現時点では対策は検討されていないが、EIA 作成時に何らかの対策が検討される可能性がある。 (f)NPC-C09、NPC-C01、NPC-C11、CPC-C01、CPC-C04、CPC-C05、CPC-C06 など保護区にかかる配電線事業は、事業自体による直接的影響は小さいものの、配電線周辺の地域開路が進むことにより間接的に保護区への負の影響を加速させる危険性がある。
	(3)地形・地質	(a)送配電線ルート上に土砂崩壊や地滑りが生じそうな地質の悪い箇所はあるか。悪い場合は工法等で適切な処置が考慮されるか。 (b)盛土、切土等の土木作業によって、土砂崩壊や地滑りは生じるか。土砂崩壊や地滑りを防ぐための適切な対策が考慮されるか。 (c)盛土部、切土部、土捨て場、土砂採取場からの土壌流出は生じるか。土砂流出を防ぐための適切な対策がなされるか。	(a)? (b)? (c)?	(a)EIA/IEE の作成されている 10 案件では、土壌浸食に対する影響予測が行われている。ほとんどのサブプロジェクトは平坦地に位置し、土砂崩壊や地滑りの危険性は低い。NPC や CPC の一部の案件では、急傾斜なエリアも含むが、詳細な情報がなく、地質が悪いエリアを避けるかどうかは判断できない。 (b)ほとんどのサブプロジェクトは平坦地に位置するため大規模な切土・盛土の土木作業は発生しない。一部のサブプロジェクトは傾斜があるエリアも含まれるが、具体的な工事地点が示されていないため、土砂崩壊や地滑りの危険性があるかどうか判断できない。 (c)ほとんどのサブプロジェクトは平坦地に位置するため、大規模な切土・盛土からの土砂流出は生じない。一部急傾斜地を含むサブプロジェクトもあるが、今後の調査結果に応じ何らかの措置が講じられる予定である。



分類	環境項目	主なチェック事項	Yes: Y No: N	具体的な環境社会配慮 (Yes/Noの理由、根拠、緩和策等)
社会影響	(1)住民移転	(a)プロジェクトの遂行に伴い非自発的住民移転が生じるか。生じる場合は、移転による影響を最小限とする努力がなされるか。 (b)移転する住民に対し、移転前に補償・生活再建対策に関する適切な説明が行われるか。 (c)住民移転のための調査がなされ、再取得価格による補償、移転後の生活基盤の回復を含む移転計画が立てられるか。 (d)補償金の支払いは移転前に行われるか。 (e)補償方針は本書で規定されているか。 (f)移転住民のうち特に女性、子供、老人、貧困層、少数民族、先住民等の社会的弱者に適切な配慮がなされた計画か。 (g)移転住民について移転前の合意は得られるか。 (h)住民移転を適切に実施するための体制は整えられるか。十分な実施能力と予算措置が確保されるか。 (i)移転による影響のモニタリングが計画されるか。 (j)苦情処理の仕組みが構築されているか。	(a)Y (b)Y (c)Y (d)Y (e)Y (f)Y (g)Y (h)Y (i)Y (j)Y	(a)一部のサブプロジェクト（NPC-B01,NPC-B03,NPC-B08,NPC-B09,NPC-B11,NPC-B14,NPC-B15,NPC-B21,NPC-B23）では20人から30人程度の非自発的住民移転が生じる。住宅着地地を避けて事業立地を選定するなど、いずれのサブプロジェクトでも影響を最小限とする努力は行われている。 (b)現時点では被影響民に対する説明は行われていないが、予算措置ののち、ベトナム国のLand Law(2003)に従い、補償額・生活再建対策に関する説明が行われる予定である。 (c)住民移転のための調査や用地取得のための調査は一部のサブプロジェクトしか実施されておらず、RAPが作成されているのはHAN-B01,HAN-B02,HAN-B03,HAN-B04,HAN-B06,HAN-B08,HAN-B09,HAN-B10,HAN-B11,HAN-B13,CPC-004,CPC-007の12件である。予算措置の後、他のサブプロジェクトも移転計画が策定される予定である。 (d)ベトナム国の法制度では、移転前に補償金が支払われることになっている。 (e)RAPの策定されている12件のサブプロジェクトには補償の方針が記載されている。その他のサブプロジェクトは今後策定予定のRAPに記載される。 (f)RAPが作成されている12件のサブプロジェクトでは、Compensation Policyと INSTITUTIONAL ARRANGEMENT で女性・子供・老人・貧困層に配慮しているが、被影響者にこれらの弱者が含まれるかどうかは明確でない。具体的な対策は記載されていない。補償のための詳細調査ののち、具体的な対策が検討されるものと考えられる。 (g)現時点では合意は得られていないが、補償調査の際に適切な説明が行われ、手順に従い補償額の協議を行えば合意は得られる可能性が高い。 (h)RAPが作成されている12件のサブプロジェクトは実施体制の計画が記載されているものの、いずれもほぼ同じ記載であり具体性に欠ける。ただしEVNには多くの移転事業を実施した経験があり、移転を適切に実施するための能力・予算・体制は整えられると予想される。 (i)RAPが作成されているサブプロジェクトでは、モニタリングの予算が計上されている。それ以外のサブプロジェクトではモニタリング計画は作成されていない。 (j)RAPが作成されているサブプロジェクトでは苦情処理の仕組みが構築されているが、それ以外のサブプロジェクトでは苦情処理の仕組みは構築されていない。
	(2)生活・生計	(a)プロジェクトによる住民の生活への悪影響が生じるか。必要な場合は影響を緩和する配慮が行われるか。 (b)他の地域からの人口流入により病気の発生（HIV等の感染症を含む）の危険があるか。必要に応じて適切な公衆衛生への配慮が行われるか。 (c)鉄塔等による電磁障害が生じるか。著しい電磁障害が予想される場合は、適切な対策が考慮されるか。 (d)送電線を建設することによる落下補償等が国内法に従い実施されるか。	(a)Y (b)N (c)Y (d)Y	(a)9件のサブプロジェクトでは移転が、53件のサブプロジェクトではいずれも30ha未満の土地の収用もしくは土地利用制限が発生する。土地収用の対象となるのは新設の発電所と新設の送電線塔用地(220kVの支持鉄塔で10x10m、110kVの支持鉄塔で7x7m)。土地利用制限を受けるのは、送電線のROW(220kVでは幅22m、110kVでは幅15m)で、4m以上の高さの樹木は伐採対象、4m以上の構造物の建設ができなくなる。 (b)工事は小規模かつ一時的であるため、人口流入による病気の発生の危険性は低い。EIA/VEE作成済みの案件は、公衆衛生への配慮も記載されている。 (c)送電線や発電所によってテレビなどへの電磁障害が発生する可能性はある。EIA/VEE作成済みの10案件は、電磁障害の対策が記載されている。他の事業も類似の対策が計画されると考えられる。 (d)RAPの作成されている案件では、落下補償額を地価の80%、構造物や作物の補償額もベトナムの法に基づいて算定されている。他の案件も同じ基準で算定されるものと考えられる。
	(3)文化遺産	(a)プロジェクトにより、考古学的、歴史的、文化的、宗教的に貴重な遺産、史跡等を損なう恐れはあるか。また、当該国の国内法上定められた措置が考慮されるか。	(a)N	(a)ヒアリング調査によると、貴重な遺産や文化財に影響を与えるようなサブプロジェクトは存在しない。
	(4)景観	(a)特に配慮すべき景観が存在する場合は、それに対し悪影響を及ぼすか。影響がある場合には必要な対策はとられるか。	(a)Y	(a)NPC-C11はCultural and Historical Siteを通過するため、景観に何らかの影響を及ぼす可能性がある。ただし、EIA調査や景観の影響予測が行われておらず、影響の程度は不明である。
	(5)少数民族、先住民	(a)当該国の少数民族、先住民の文化、生活様式への影響を軽減する配慮がなされているか。 (b)少数民族、先住民の土地及び労働に関する権利が尊重されるか。	(a)Y (b)Y	(a)ヒアリングによると、少数民族が影響を受けるのはCPC-007だけであり、既にEthnic minorities development Planが作成されている。 (b)Ethnic Minorities Development Planを計画通り実施することで、少数民族・先住民の権利が尊重されると考えられる。
	(6)労働環境	(a)プロジェクトにおいて遵守すべき当該国の労働環境に関する法令が守られるか。 (b)労働災害防止に係る安全設備の設置、有害物質の管理等、プロジェクト関係者へのハード面での安全配慮が措置されるか。 (c)安全衛生計画の策定や作業員等に対する安全教育（交通安全や公衆衛生を含む）の実施等、プロジェクト関係者へのソフト面での対応が計画・実施されるか。 (d)プロジェクトに関する労働委員が、プロジェクト関係者・地域住民の安全を侵害することのないよう、適切な措置が講じられるか。	(a)Y (b)Y (c)Y (d)Y	(a)EIA/VEEの作成されている10案件には、労働環境に関する法令に基づき、労働者の安全対策が記載されている。他の要EIA案件（47件）も同様の対策が記載されるものと考えられる。 (b)EIA/VEEの作成されている10案件には、労働災害防止にかかる安全配慮措置が記載されており、記載どおりに実施されれば安全配慮は措置されると考えられる。 (c)EIA/VEEの作成されている10案件には、安全教育に関する記載があり、記載どおりに実施されれば、安全教育は実施されると考えられる。 (d)EIA/VEEの作成されている10案件には、モニタリングに関する記載があり、記載どおりに実施されれば、労働委員による安全の侵害には適切な措置が講じられるものと考えられる。
その他	(1)工事中の影響	(a)工事中の汚染（悪臭、振動、濁水、粉じん、排ガス、廃棄物等）に対して緩和策が用意されるか。(b)工事により自然環境（生態系）に影響を及ぼすか。また、影響に対する緩和策が用意されるか。(c)工事により社会環境に悪影響を及ぼすか。また、影響に対する緩和策が用意されるか。	(a)Y (b)N (c)N	(a)EIA/VEEの作成されている10案件では、粉じん、排ガス、悪臭、廃棄物、濁水に対する対策が記載されている。他の案件でも同様の措置が講じられるものと考えられる。 (b)保護区内を通過する一部のプロジェクトを除き、ほとんどのサブプロジェクトは農地を通過しており、自然環境に対する影響は著しいものではない。 (c)いずれの事業も土地収用面積は著しく大きいものではなく、送電線の下でも4m以下の構造物と耕作が可能であるため、社会

分類	対象項目	主なチェック事項	Yes: Y No: N	具体的な環境社会配慮 (Yes/No の理由、対策、目標等)
				環境に著しい影響を及ぼすことはない
	(2)モニタリング	(a) 上記の対象項目のうち、影響が考えられる項目に対して、事業者のモニタリングが計画・実施されるか。 (b) 当該計画の項目、方法、頻度等は適切なものか判断されるか。 (c) 事業者のモニタリング体制（組織、人員、機材、予算等とそれらの連携性）は確立されるか。 (d) 事業者から所管官庁等への報告の方法、頻度等は規定されているか。	(a)Y (b)Y (c)N (d)Y	(a)EIA/IEEの作成されている10案件では、モニタリングが計画されている。他の要EIA案件（43件）も、同様のモニタリングが計画されるものと考えられる。 (b)EIA/IEEの作成されている10案件では、モニタリングの項目、方法、頻度は適切であると考えられる。他の要EIA案件（43件）も同様の計画になるものと考えられる。 (c)EIA/IEEの作成されている10案件では、モニタリングの体制の一部が記載されているものの、予算の記載がない。今後実施に移る際、より具体的な計画にすることが望まれる。 (d)EIA/IEEの作成されている10案件では、工事中は半年に1回、供用後は年に1回のモニタリングレポートがProject Management Boardに提出される計画になっている。
留意点	他の環境チェックリストの参照	(a) 必要な場合は、道路に係るチェックリストの該当チェック事項も追加して評価すること。	(a)-	(a)-
	環境チェックリスト 使用上の注意	(a) 必要な場合には、環境または地球規模の環境問題への影響も確認する（廃棄物の環境処理、酸性雨、オゾン層破壊、地球温暖化の問題に係る懸念が考えられる場合等）。	(a)-	(a)-

注1) 表中『当該国の基準』については、国際的に認められた基準と比較して著しい乖離がある場合には、必要に応じ対応策を検討する。  
当該国において現在規制が確立されていない項目については、当該国以外（日本における規制も含めて）の適切な基準との比較により検討を行う。  
注2) 環境チェックリストはあくまでも標準的な環境チェック項目を示したものであり、事業および地域の特性によっては、項目の削除または追加を行う必要がある。

添付資料 15 : MOIT 承認 (VWEM 概念設計) 【越文】

## 添付資料 15 : MOIT 承認 (VWEM 概念設計) 【越文】

**BỘ CÔNG THƯƠNG**

Số: 6463/QĐ-BCT

**CỘNG HOÀ XÃ HỘI CHỦ NGHĨA VIỆT NAM****Độc lập - Tự do - Hạnh phúc***Hà Nội, ngày 22 tháng 7 năm 2014***QUYẾT ĐỊNH****Phê duyệt Thiết kế tổng thể Thị trường bán buôn điện  
cạnh tranh Việt Nam****BỘ TRƯỞNG BỘ CÔNG THƯƠNG**

Căn cứ Luật Điện lực ngày 03 tháng 12 năm 2004 và Luật sửa đổi bổ sung một số điều của Luật Điện lực ngày 20 tháng 11 năm 2012;

Căn cứ Nghị định số 95/2012/NĐ-CP ngày 12 tháng 11 năm 2012 của Chính phủ quy định chức năng, nhiệm vụ, quyền hạn và cơ cấu tổ chức của Bộ Công Thương;

Căn cứ Quyết định số 63/2013/QĐ-TTg ngày 08 tháng 11 năm 2013 của Thủ tướng Chính phủ quy định về lộ trình, các điều kiện hình thành và cơ cấu ngành điện để hình thành và phát triển các cấp độ thị trường điện lực tại Việt Nam;

Theo đề nghị của Cục trưởng Cục Điều tiết điện lực,

**QUYẾT ĐỊNH:**

**Điều 1.** Phê duyệt Thiết kế tổng thể Thị trường bán buôn điện cạnh tranh Việt Nam với các nội dung sau đây:

## 1. Tên gọi

- a) Tên tiếng Việt: Thị trường bán buôn điện cạnh tranh Việt Nam;
- b) Tên tiếng Anh: Vietnam Wholesale Electricity Market;
- c) Tên viết tắt: VWEM.

## 2. Đơn vị tham gia Thị trường bán buôn điện cạnh tranh

## a) Bên bán điện

- Đơn vị phát điện sở hữu các nhà máy điện có công suất đặt lớn hơn 30 MW.

## b) Bên mua điện

- Tổng công ty Điện lực miền Bắc, Tổng công ty Điện lực miền Trung, Tổng công ty Điện lực miền Nam, Tổng công ty Điện lực Thành phố Hà Nội,



Tổng công ty Điện lực Thành phố Hồ Chí Minh (sau đây viết là các Tổng công ty Điện lực);

- Đơn vị bán buôn điện;
- Khách hàng sử dụng điện lớn đủ điều kiện.

c) Công ty Mua bán điện: là đơn vị mua buôn điện đặc biệt, ký hợp đồng với các đơn vị phát điện theo quy định;

d) Đơn vị cung cấp dịch vụ phục vụ hoạt động của Thị trường bán buôn điện cạnh tranh: là đơn vị cung cấp dịch vụ cho các thành viên tham gia giao dịch trong Thị trường bán buôn điện cạnh tranh trên nguyên tắc đảm bảo tính công bằng, minh bạch và không phân biệt đối xử; độc lập với Bên mua điện và Bên bán điện, bao gồm:

- Đơn vị vận hành hệ thống điện và thị trường điện: hiện nay là Trung tâm Điều độ hệ thống điện Quốc gia;

- Đơn vị cung cấp dịch vụ truyền tải điện: hiện nay là Tổng công ty Truyền tải điện Quốc gia;

- Đơn vị cung cấp dịch vụ phân phối điện: là đơn vị có giấy phép hoạt động điện lực trong lĩnh vực phân phối điện, bao gồm các Tổng công ty điện lực và các đơn vị điện lực có giấy phép hoạt động điện lực trong lĩnh vực phân phối điện;

- Đơn vị thu thập và quản lý số liệu đo đếm điện năng: là đơn vị có chức năng thu thập, quản lý và cung cấp số liệu đo đếm điện năng phục vụ công tác thanh toán trong Thị trường bán buôn điện cạnh tranh.

### 3. Cơ chế hoạt động của Thị trường bán buôn điện cạnh tranh

Thị trường bán buôn điện cạnh tranh Việt Nam là thị trường toàn phần, điều độ tập trung. Mua bán điện trong thị trường điện thực hiện thông qua thị trường giao ngay và hợp đồng mua bán điện. Các cơ chế vận hành Thị trường bán buôn điện cạnh tranh cụ thể như sau:

#### a) Cơ chế vận hành của thị trường điện giao ngay

- Đơn vị phát điện chào bán toàn bộ công suất khả dụng lên thị trường giao ngay với giá chào nằm trong dải từ giá sàn đến giá trần;

- Lịch huy động các tổ máy được Đơn vị vận hành hệ thống điện và thị trường điện lập theo nguyên tắc tối thiểu hóa chi phí mua điện cho từng chu kỳ giao dịch căn cứ trên bản chào giá của các tổ máy, dự báo phụ tải hệ thống điện có xét đến các ràng buộc vận hành hệ thống điện;

- Giá thị trường giao ngay được Đơn vị vận hành hệ thống điện và thị trường điện xác định sau ngày vận hành cho từng chu kỳ giao dịch căn cứ trên phụ tải thực tế của hệ thống điện, các bản chào giá và công suất sẵn sàng thực tế của các tổ máy.

b) Cơ chế hợp đồng mua bán điện song phương

Bên bán điện và Bên mua điện trên Thị trường bán buôn điện cạnh tranh có quyền tự do lựa chọn đối tác để thoả thuận ký hợp đồng mua bán điện song phương theo quy định của Bộ Công Thương.

c) Cơ chế cung cấp dịch vụ phụ trợ

- Số lượng dịch vụ phụ trợ cần thiết hàng năm do Đơn vị vận hành hệ thống điện và thị trường điện xác định để đảm bảo an ninh hệ thống điện. Giá các dịch vụ phụ trợ được xác định trên nguyên tắc đảm bảo cho nhà máy điện cung cấp dịch vụ thu hồi đủ chi phí;

- Dịch vụ phụ trợ trong Thị trường bán buôn điện cạnh tranh do đơn vị phát điện cung cấp được huy động và thanh toán theo các quy định của Thị trường bán buôn điện cạnh tranh.

d) Cơ chế thanh toán

- Thanh toán trên thị trường giao ngay: Đơn vị vận hành hệ thống điện và thị trường điện có trách nhiệm tính toán và công bố các khoản thanh toán trong thị trường điện giao ngay cho từng chu kỳ giao dịch và cho toàn bộ chu kỳ thanh toán;

- Thanh toán theo hợp đồng mua bán điện song phương: Bên mua điện thanh toán trực tiếp cho Bên bán điện theo các quy định trong hợp đồng căn cứ trên sản lượng điện hợp đồng, giá hợp đồng và giá thị trường giao ngay theo quy định của Thị trường bán buôn điện cạnh tranh;

- Thanh toán chi phí sử dụng dịch vụ: Đơn vị thành viên tham gia giao dịch trong Thị trường bán buôn điện cạnh tranh có trách nhiệm thanh toán các khoản chi phí sử dụng các dịch vụ truyền tải điện, phân phối điện, vận hành hệ thống điện, vận hành thị trường điện và các dịch vụ khác cho các đơn vị cung cấp dịch vụ theo quy định.

đ) Cơ chế huy động và thanh toán cho đơn vị phát điện gián tiếp giao dịch trong Thị trường điện bán buôn cạnh tranh (các nhà máy điện BOT, các nhà máy điện vận hành theo yêu cầu đặc biệt của Chính phủ, nguồn nhập khẩu điện)

- Huy động nguồn điện theo nguyên tắc tối thiểu hoá chi phí mua điện toàn hệ thống, đồng thời đảm bảo tuân thủ các cam kết hợp đồng và các ràng buộc đặc thù của nguồn điện;

- Thực hiện thanh toán cho các sản lượng điện này theo các quy định trong hợp đồng mua bán điện đã ký kết.

**Điều 2.** Các giai đoạn thực hiện Thị trường bán buôn điện cạnh tranh

1. Thị trường bán buôn điện cạnh tranh giai đoạn thí điểm được thực hiện theo hai giai đoạn:

a) Giai đoạn I (dự kiến từ năm 2015 đến năm 2017)

- Các Tổng công ty Điện lực thực hiện mua không quá 5% sản lượng điện thực tế theo giá thị trường, phần còn lại theo giá bán điện của Tập đoàn Điện lực Việt Nam bán cho các Tổng công ty Điện lực. Khách hàng sử dụng điện tiếp tục mua điện từ Tổng công ty Điện lực theo biểu giá bán lẻ điện thống nhất toàn quốc;

- Công ty Mua bán điện tiếp tục ký kết hợp đồng mua bán điện với các Đơn vị phát điện mới;

- Cơ chế chào giá, huy động các tổ máy trong giai đoạn I thực hiện tương tự như Thị trường phát điện cạnh tranh.

#### b) Giai đoạn II (dự kiến từ năm 2017 đến năm 2019)

- Nâng tỷ lệ mua buôn điện qua Thị trường điện bán buôn điện cạnh tranh của Tổng công ty Điện lực để tăng tính cạnh tranh;

- Khách hàng sử dụng điện lớn và Đơn vị bán buôn điện đáp ứng đủ điều kiện do Bộ Công Thương quy định được phép tham gia Thị trường bán buôn điện cạnh tranh và thực hiện ký kết hợp đồng, mua bán, thanh toán theo quy định vận hành Thị trường bán buôn điện cạnh tranh;

- Thực hiện thí điểm tại một số Tổng công ty Điện lực hoặc Công ty Điện lực cơ chế khách hàng sử dụng điện lớn được mua điện với các Tổng công ty Điện lực hoặc Công ty Điện lực khác theo biểu giá trong khung giá do cơ quan nhà nước có thẩm quyền quy định;

- Đơn vị sử dụng lưới điện truyền tải, lưới điện phân phối có trách nhiệm thanh toán chi phí sử dụng lưới điện theo quy định;

- Đơn vị thành viên tham gia giao dịch trong thị trường điện có trách nhiệm thanh toán chi phí sử dụng dịch vụ đo đếm điện năng, chi phí dịch vụ vận hành hệ thống điện và điều hành thị trường điện theo quy định.

#### 2. Thị trường bán buôn điện cạnh tranh giai đoạn hoàn chỉnh (dự kiến từ năm 2019 đến năm 2021)

- Cho phép các khách hàng sử dụng điện lớn và Đơn vị bán buôn điện đủ điều kiện được tham gia Thị trường bán buôn điện cạnh tranh theo quy định.

**Điều 3.** Tổ chức thực hiện Thị trường bán buôn điện cạnh tranh giai đoạn thí điểm

##### 1. Giao Cục Điều tiết điện lực

a) Chủ trì xây dựng thiết kế chi tiết Thị trường bán buôn điện cạnh tranh trình Bộ trưởng Bộ Công Thương phê duyệt trong năm 2015;

b) Chủ trì xây dựng thông tư quy định vận hành Thị trường bán buôn điện cạnh tranh và các văn bản quy phạm pháp luật liên quan trình Bộ trưởng Bộ Công Thương ban hành đáp ứng yêu cầu, tiến độ vận hành Thị trường bán buôn điện cạnh tranh quy định tại Điều 2 Quyết định này;

c) Chủ trì, phối hợp với các đơn vị trong Bộ Công Thương xây dựng đề án tái cơ cấu ngành điện phục vụ thị trường bán buôn điện cạnh tranh;

d) Chủ trì, phối hợp với Tập đoàn Điện lực Việt Nam tổ chức đào tạo nâng cao năng lực cho các đơn vị tham gia Thị trường bán buôn điện cạnh tranh;

đ) Hướng dẫn, chỉ đạo và đôn đốc các đơn vị tham gia Thị trường bán buôn điện cạnh tranh chuẩn bị các điều kiện cần thiết để vận hành thị trường bán buôn điện, đáp ứng yêu cầu, tiến độ vận hành Thị trường bán buôn điện cạnh tranh quy định tại Điều 2 Quyết định này.

## 2. Giao Tập đoàn Điện lực Việt Nam

a) Xây dựng đề án đào tạo nâng cao năng lực cho các đơn vị tham gia Thị trường bán buôn điện cạnh tranh trình Bộ Công Thương phê duyệt trong Quý I năm 2015 và chuẩn bị nguồn kinh phí để triển khai thực hiện;

b) Xây dựng đề án phát triển cơ sở hạ tầng công nghệ thông tin phục vụ vận hành và giám sát hoạt động của Thị trường bán buôn điện cạnh tranh trình Bộ Công Thương phê duyệt các nội dung phục vụ giai đoạn I của Thị trường bán buôn điện cạnh tranh thí điểm trong Quý II năm 2015; các nội dung phục vụ Thị trường bán buôn điện cạnh tranh các giai đoạn còn lại trong Quý IV năm 2015;

c) Lập phương án và trình Bộ Công Thương phương án tách bạch về tổ chức và tách bạch hạch toán chi phí của các bộ phận phân phối điện và bán lẻ điện của các Tổng công ty Điện lực trong Quý I năm 2015;

d) Đầu tư, nâng cấp các cơ sở hạ tầng kỹ thuật cần thiết đáp ứng theo yêu cầu vận hành Thị trường bán buôn điện cạnh tranh cho Đơn vị vận hành hệ thống điện và thị trường điện, Công ty Mua bán điện, Đơn vị thu thập và quản lý số liệu đo đếm điện năng và cho giám sát hoạt động thị trường điện của Cục Điều tiết điện lực;

đ) Phối hợp với Cục Điều tiết điện lực, hỗ trợ kinh phí, các nguồn lực cần thiết khác để triển khai xây dựng và thực hiện các nhiệm vụ quy định tại Khoản 1 Điều này.

3. Giao các Đơn vị phát điện, các Tổng công ty Điện lực, Tổng công ty Truyền tải điện Quốc gia, Đơn vị bán buôn điện và các khách hàng sử dụng điện lớn tham gia Thị trường bán buôn điện cạnh tranh:

a) Đầu tư, nâng cấp các trang thiết bị cần thiết phục vụ việc tham gia Thị trường bán buôn điện cạnh tranh theo thiết kế đã được duyệt trong phạm vi quản lý của đơn vị, đảm bảo tương thích với hệ thống cơ sở hạ tầng công nghệ thông tin cho Thị trường bán buôn điện cạnh tranh đã được duyệt;

b) Tham gia các chương trình đào tạo và bố trí nguồn kinh phí cho việc đào tạo nâng cao năng lực cho các đơn vị thành viên đáp ứng yêu cầu tham gia Thị trường bán buôn điện cạnh tranh theo đúng tiến độ.



**Điều 4.** Quyết định này có hiệu lực kể từ ngày ký.

**Điều 5.** Cục trưởng Cục Điều tiết điện lực, Chánh văn phòng Bộ, Chánh thanh tra Bộ, các Vụ trưởng, Tổng Cục trưởng, Cục trưởng có liên quan thuộc Bộ, Tổng giám đốc Tập đoàn Điện lực Việt Nam, các đơn vị điện lực và các tổ chức, cá nhân có liên quan chịu trách nhiệm thi hành Quyết định này./.

**Nơi nhận:**

- Thủ tướng CP (đề b/c);
- PTTg Hoàng Trung Hải (đề b/c);
- Bộ trưởng (đề b/c);
- Thứ trưởng Cao Quốc Hưng;
- Như Điều 5;
- Lưu: VT, ĐTDL.

**KT. BỘ TRƯỞNG  
THỨ TRƯỞNG**



*Lê Dương Quang*

**Lê Dương Quang**



添付資料 16 : ERAV アクションプラン

## 添付資料 16 : ERAV アクションプラン

No.	Activities	Period	Implementation
<b>I</b>	<b>Development of detail design of wholesale electricity market (2014 -2015)</b>		
I.1	Finalization and issuance of the conceptual design of the WCM	03 months	ERAV
I.2	Development of detail design of wholesale electricity market	15 months	ERAV
I.3	Development of the conceptual design of the IT system for WCM operation	09 months	ERAV
<b>II</b>	<b>Development of legal framework for the WCM (2015-2016)</b>		
II.1	Reviewing and preparing the list of legal documents required by the WCM	04 months	ERAV
II.2	Developing the WCM operation rules	13 months	ERAV
II.3	Developing the mechanism of CfD contract in the WCM	12 months	ERAV
II.4	Developing regulations of IT system for the WCM	12 months	ERAV
II.5	Setting technical - economic criteria for the WCM's participants	12 months	ERAV
II.6	Developing the WCM metering code for the WCM	12 months	ERAV
II.7	Developing regulations of contracting relationship between EPTC and indirect trading generators (SMHP, import...)	12 months	ERAV
II.8	Developing regulations of contracting relationship between EPTC and power companies (wholesaler)	12 months	ERAV
II.9	Developing regulation of providing transmission service in the WCM	12 months	ERAV
II.10	Developing regulation of providing distribution services in the WCM	12 months	ERAV
II.11	Revising regulations of retail tariff methodology and cost pass-through mechanism for the WCM	12 months	ERAV
II.12	Developing the cross-subsidy arrangement among power companies	12 months	ERAV
II.13	Developing other regulation (market monitoring, ancillary services, integration of renewable sources, dispute settlement, etc...)	12 months	ERAV



No.	Activities	Period	Implementa
III	<b>Other preparations (2015 – 2016)</b>	12 months	ERAV
III.1	Developing methodology and action plan for transfer the existing CfD contract (held by Single Buyer) in the VCGM to the WCM	12 months	ERAV
III.2	Developing IT system for the WCM operation	12 months	Market Participant s
III.3	Capacity building for the System Market Operator	18 months	ERAV
III.4	Capacity building for the SEPTC, power company		Market Participant s
III.5	Basic and advance training on the WCM for the market participants	18 months	ERAV
III.6	Assessing the readiness for the WCM, monitoring the WCM operation	12 months	ERAV



添付資料 17 : DPO1 と DPO 2 における成立条件 (Prior Action)

## 添付資料 17 : DPO 1 および DPO 2 における成立条件 (Prior Actions)

**DPO1 (USD 312 million, Board Approved on April 6, 2010)**

- Prior Action 1:** VCGM設計方針の策定 (MoIT Decision 6713/QD-BCT発出)
- Prior Action 2:** 計量システム標準と発電事業者のVCGM市場参加手続きの策定(MoIT Circular 27/2009/TT-BCT発出)
- Prior Action 3:** VCGM導入のためのセクター体制の確立(OoG Notice No. 232/TBVPCP of July 31,2009)の発出
- Prior Action 4:** 2009年内の電気料金値上げ(VND 948/kWhまで引き上げ)および透明性の高い年次料金改定の実行(コスト回収、5%未満の値上げ承認権限のMOITへの委譲等を含む)(PM Decision 21/2009/QD-TTg発出).
- Prior Action 5:** 家庭用電気料金の改正と消費者へのクロス補助スキームの確立(PM Decision No.21/2009/QD-TTg発出).
- Prior Action 6:** 民生用機器の省エネ基準の確立(MoST Decision 2740/QD-BKHCHN, December 9, 2008 and Decision 632/QDBKHCHN, April 20, 2009の発出).
- Prior Action 7:** 業務用、産業用、灌漑用の時間帯別電気料金(TOU)制度の導入 (MoIT Circular 05/2009/TT-BCT発出).

**DPO2 (USD 200 million, Board Approved on March 22, 2012)**

- Prior Action 1:** VCGM市場ルールの策定(EVNによる市場手続き策定、市場手続きの承認権限のERAVへの委譲など)(MoIT Circular,18/2010/TT-BCT 発出)
- Prior Action 2:** BOT、多目的水力以外の発電プライシングと標準契約書を決定・承認するための方法論と手続きの策定 (MoIT Circular 41/2010/TTBCT 発出)
- Prior Action 3:** 多目的水力のコスト回収方法論の策定 (MoIT Circular 46/2011/TTBCT発出)
- Prior Action 4:** 将来のEVNグループからの独立を見据えた発電会社(複数)の設立の決定 (OoG Notice No. 77/TB-VPCP, MoIT Letter 350/TTTr-BCT, PM Letter 138 /TTgDMDN発出)
- Prior Action 5:** 市場ベースの平均電力料金調整メカニズム(PM Decision 24/2011/QD-TTg, MoIT Circular 31/2011/TTBCT発出)
- Prior Action 6:** NPTの収入要件、送電料金の決定・承認方法論の策定 (MoIT Circular, 14/2010/TTBCT, MoIT Circular 03/2012/TT-BCT amending and complementing Circular 14発出)
- Prior Action 7:** PC向け需要家負荷調査に係る規制の策定(MoIT Circular 33/2011/TTBCT発出)



添付資料 18 : 世界銀行 TA リスト

No.	Title	Status	Year	Budget (USD '000)	Consultant's Name
1	Y TA on improving EVN's financial performance	Pipeline			
2	Y TA on and advising the GoV on a divestiture strategy for the Gencos	Pipeline			
3	Y Enhance load research activities and monitoring changes in demand consumption	On-going	2015	300	
4	Y Enhancing technical codes efficiency, incorporating smart grids and integration of renewable energy generation	On-going	2015	500	
5	Y Surveys and disseminations of demand response and energy efficiency	On-going	2015	250	
6	Y Improving the efficiency of time of use (TOU) tariffs	On-going	2015	350	
7	Y Informing large customers and workshops on electricity tariffs	On-going	2015	250	
8	Y Final demand response programs for PCs	On-going	2015	250	
9	Y Implementing smart grid program	On-going	2015	300	
10	Y Improving efficiency of the retail electricity tariff structure	On-going	2015	500	
11	Y Harmonizing electricity tariffs with implementation of demand response programs	On-going	2015	250	
12	Y Enhancing efficiency and performance of PCs	On-going	2015	500	
13	Monitoring and Evaluation of project and GHG reduction	On-going	2015	300	
14	Y Pilot demand response programs	On-going	2014	500	DIAMOND ENERGY SERVICES PTE LTD
15	Y Tariff advisor	On-going	2014	350	
16	Y Nldc Component: Package 3 - Int'l Consultant For Training Program On System And Market Operator In Skorea	Completed	2012	50	Ind
17	Y Erav: Organization Of Training Courses On Electricity Pricing	Completed	2012	70	Ind
18	Y Nldc Component: Package 2 - Int'l Consultant For Training On System And Market Operator In New Zealand And Vietnam	Completed	2012	70	Ind
19	Y Erav Ta Component - Package Basic And Advanced Training Courses On Power Market	Completed	2012	56	Ind
20	Y Nldc Component: Package 4 - Int'l Consultant For Training Program On Water Value Calculation And Hydro Power Plant	Completed	2012	53	Ind
21	Y Nldc Component: Package 1 - Int'l Consultant For Training On System And Market Operator In Singapore And Vietnam	Completed	2012	71	Ind
22	Y Erav: Consulting Service For Review Of Retail Tariff Structure And Subsidized Tariff	Completed	2012	134	Ind
23	Y Erav: Review Of Taxation Regime For Erav's Ta Component	Completed	2012	8	Ind
24	Y Erav - Package: Tariff Resident Advisor	Completed	2012	99	Ind
25	Y Erav: Support Erav In Development And Implementation Of Smart Grid Program In Vietnam	Completed	2012	142	Ind
26	Y Erav - Development Of The Conceptual Design For The Wholesale Electricity Competitive Market In Vietnam	Completed	2012	184	EASTER BAY CONSULTANTS LTD.
27	Y Erav: Development And Implementation Of Demand Side Response Regulation	Completed	2012	143	FUTURA CONSULTING
28	Y Nldc Component: Market Management System Technical Requirements Development For Vcgm	Completed	2012	74	Ind
29	Y Erav - Overall Review Of Tariff Regulation Extension Package (amendment)	Completed	2012	156	Ind
30	Y Nldc Component: Developing Ancillary Services Procedures For Vcgm	Completed	2011	92	Ind
31	Y Erav - Package Ta To Support Erav In Monitoring Operations Of Pilot And Full Vcgm	Completed	2011	433	INTELLIGENT ENERGY SYSTEMS
32	Y Nldc Component: Design A Training Program For The System And Market Operator In Vietnam	Completed	2011	57	Ind
33	Y Erav - Ta Package For Support Erav In Implementation Of Load Research Regulation	Completed	2011	152	Ind
34	Y Ta Package To Support Erav In Implementation Of Technical Codes (grid Code And Distribution Code)	Completed	2011	362	INDRA
35	Y Erav - Ta Package: Review And Finalize Regulations And Detailed Procedure For Distribution Charges Calculation	Completed	2011	120	Ind
36	Preparation Of Dam Safety Plans For Sung Mui Shp And Guidelines For Preparation Of Dam Safety Plans	Completed	2010	125	DAMWATCH SERVICE LTD.
37	Y Package 1: Int'l Consultant For Review Of Avoided Cost Tariff Mechanism	Completed	2010	78	Ind
38	Moit Wind Atlas Update For Vietnam	Completed	2010	270	AMSTRUEWIND
39	Y Moit Preparation Of Environment Guidelines For Small Hydroelectric Projects In Vietnam	Completed	2010	58	BOFFA MISKELL

No.	Title	Status	Year	Budget (USD '000)	Contractor's Name
40	Y Erav - Package 2 - Assessment Of The Avoided Cost Tariff Impact On The Retail Tariff	Completed	2010	86	Ind
41	Y Support Erav In Development Of Market Operation Procedures For Vcgm	Completed	2010	109	Ind
42	Y Support Erav In Review Of It System Design For Vcgm And Development Of Erav Monitoring It System	Completed	2010	110	Ind
43	Y Overall Review Of Tariff Regulation	Completed	2010	99	Ind
44	Y Erav - Package Generation Price Benchmarking	Completed	2009	56	Ind
45	Y Erav - Advisor For Implementation Of Annual Market Adjustment Mechanims To Electricity Tariffs	Completed	2009	59	Ind
46	Y Moit - Package: Preparation Of Load Research Procedure And Regulation	Completed	2009	112	Ind
47	Y Erav: Development Of The System & Market Operator For Competitive Generation Power Market	Completed	2009	120	Ind
48	Y Adviser To MOIT For Economic, Financial And Regulatory Aspects Of Renewable Energy Small Power Producer (respp)	Completed	2009	97	Ind
49	Y Evaluation Of Commercial Energy Efficiency Pilot Program (seep)	Completed	2008	237	BURGEAP
50	Carbon Finance For Renewable Energy Strategy & Master Plan	Completed	2008	58	Ind
51	Y Erav: Dev. Of Communication Strategy, Public & Customer Relation Function	Completed	2008	96	Ind
52	Y Development Of Distribution Code For Vietnam Power Competitive Market	Completed	2008	98	Ind
53	Y Prep. Of Market Rules For Generation Competitive Power Market	Completed	2008	354	PARSONS BRINCKERHOFF PTE LTD
54	Y Distribution Companies Tariff Calculation	Completed	2008	676	SOLUZIONE
55	Y Standard Ppa & Dispute Settlement & Enforcement Procedure Regulation For Single Buyer Model Market	Completed	2007	0	DUANE MORRIS LLP
56	Y Transmission Charges Methodology Development	Completed	2007	108	Ind
57	Y Development Of Grid Code For Generation Competitive Market	Completed	2007	102	Ind
58	Y Erav - Consultant Service Package - Development Of Metering Code For Generation Competitive Market	Completed	2007	92	Ind
59	Y Erav: Dev. of Detailed Subsidy & Fund Mechanism Prep.	Completed	2007	80	Ind
60	Y Erav: Development Of Tariff Setting Methodology & Subsidy Principle Development	Completed	2007	95	Ind
61	Wind Resource Assessment At Selected Sites	Completed	2007	560	GPCO INC./AUS
62	International Banking & Finance Consultant	Completed	2007	141	Ind
63	Consultant Service For Assistance To MOI For Preparation Of A Renewable Energy Small Power Producer Program	Completed	2007	172	Ind
64	Y Consultancy Package Of Preparation Of Non-negotiable Standardized Power Purchase Agreement For Renewable Energy Small Power Producers	Completed	2007	146	Ind
65	Y Consultant Services Package Development Of Avoided Cost Calculation Methodolog For Renewable Energy Small Power Producers	Completed	2006	150	Ind
66	Y Advisory Assistance & Dev. Of Implementation Program For Power Sector Equitization In Vn	Completed	2005	499	KPMG LIMITED
67	Y Restructuring Power Transmission Business Of Electricity Of Vietnam	Completed	2005	140	ECONOMIC CONSULTING ASSOCIATES CH
68	Y Consultant Service For Supervision Of Fmis/mmis Implementation	Completed	2005	808	PAC CONSULTING, NEW ZEALAND
69	Y Fs, Budgetary Cost Estimates & Conceptual Design Of Mms For Nlde	Completed	2005	110	Ind
70	Preparation Of Fs, Design, Bidding Docs For Four Small-scale Hydro Proj And Rehab Plan On On-job Training & O&m Business Plans	Completed	2005	153	ENTEC AG
71	Preparation Of Feasibility Study For Wind Power On Phu Quoc Island	Completed	2005	350	LAHMEYER INTERNATIONAL GMBH
72	Y Economic, Financial Analysis & Financing Support For Grid Connected Renewables Projects	Completed	2005	70	Ind
73	Y Technical Assistance For Eun's Phase 2 Dsm Program	Completed	2004	601	DANSK ENERGI MANAGEMENT A/S
74	Y Screening, Risk Assessment, & Economic & Financial Analysis Of Small Hydro Projects In Vn	Completed	2004	82	Ind
75	Renewable Energy Small Power Producer Program Planning & Preparation	Completed	2004	80	Ind
76	International Consul. Service For Wind Measurement On Phu Quoc Island, Kien Giang	Completed	2003	51	DECON DEUTSCHE ENERGIE-CONSULT
77	Design Of Remote Area Renewable Electricity Fund	Completed	2001	95	MR. WOLFGANG MOSTERT

添付資料

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No.	Title	Status	Year	Budget (USD '000)	Consultant's Name
78	Community Support Program & Feasibility Study For Rare Fund	Completed	2001	105	MERITEC
79	Y Improving Management System	Completed	2000	219	ELECTRICITY SUPPLY BOARD INT'L (ESB)
80	Y Power System Analysis & Optimization	Completed	2000	0	BCEOM-FRENCH ENGINEERING

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添付資料 19 : アジア開発銀行 T A リスト

	TA No.	Title	Status	Year (approved)	Budget (USD '000)	Contractant's Name
1	Y 46391-002	Ha Noi and Ho Chi Minh City Power Grid Development Sector Project	On-going	41770	700	
2	46237-001	Developing the Market Readiness Proposal for a Domestic Carbon Market	On-going	41354		
3	Y 42039-032	Electricity Transmission Pricing Review in the Context of Power Sector Restructuring	On-going	41254	800	
4	45108-001	Implementation and Monitoring of Song Bung 4 Hydropower Project Resettlement and Ethnic Minority Development Plan	Completed	40908	725	
5	41436-012	Energy Efficiency in the Industry Project	Completed	40879	800	
6	Y 43100-012	Support for the National Target Program on Climate Change with a Focus on Energy and Transport	On-going	40574		
7	Y 42039-012	Power Transmission Investment Program (MFF)	On-going	40515	1500	
8	Y 44004-012	Increasing the Efficiency of the National Power Transmission Corporation through Targeted Capacity Building	Completed	40494	600	
9	Y 42497-012	Capacity Building of the National Power Transmission Corporation in a Competitive Power Market Environment	Completed	39804	225	
10	Y 41077-012	Supporting Implementation of the National Energy Efficiency Program	Completed	39428		
11	41120-012	Vinh Tan 3 Thermal Power Generation Project	Completed	39419		
12	40208-012	Capacity Building on Environmental Management to Power Sector	Completed	39335		
13	41008-012	Preparing the Support for the Public-Private Development of the O Mon Gas Pipeline Project	Completed	39160	975	
14	40081-012	Support for Public-Private Development of the O Mon Thermal Power Complex Project	Completed	38989	2700	
15	Y 34352-012	Power Market Design T.A	Completed	38777	500	KEMA
16	39536-012	Capacity Building in Strategic Environmental Assessment of Hydropower Sector	Completed	38695		
17	39537-012	Environmental Management Plan Improvement and Implementation and Downstream Impacts Management for Son La Hydro Power Project	Completed	38688		
18	39595-012	Mong Duong Thermal Power Generation Project	Completed	38687		
19	39387-012	Strengthening Institutional Capacity of Local Stakeholders for Implementation of Son La Livelihood and Resettlement Plan	Completed	38670		
20	39379-012	Developing Benefit Sharing Mechanisms for People Adversely Affected by Power Generation Projects	Completed	38670		
21	36352-012	Phase II of PPTA: Song Bung 4 Hydropower Project	Completed	38566	975	
22	36352-022	Phase I of the PPPTA: Song Bung 4 Hydropower Project	Completed	38334		
23	38196-012	Northern Power Transmission Expansion Project	Completed	38331	500	
24	32273-012	Northern Power Transmission Project	Completed	37608	700	
25	Y 34343-012	Roadmap for Power Sector Reform	Completed	37201	500	