

ATTACHMENT 1  
PRESIDENTIAL REGULATION OF THE REPUBLIC OF INDONESIA  
NUMBER : 61 YEAR 2011  
DATE : 20 SEPTEMBER 2011

**CORE ACTIVITIES**  
**IN NATIONAL ACTION PLAN FOR GREENHOUSE GAS EMISSIONS REDUCTION**

**AGRICULTURAL SECTOR**

Emission Reduction Target (26%): 0.008 (Giga Tonne) CO<sub>2</sub>e

Emission Reduction Target (41%): 0.011 (Giga Tonne) CO<sub>2</sub>e

Policies taken to support the RAN-GRK :

1. Stabilization of the national food security and the enhancement of agricultural products with low greenhouse gas (GHG) emissions
2. Enhancement of the irrigation system function and maintenance

Strategies:

1. Optimize land and water resources
2. Apply land management and agricultural farming technologies that have lowest GHG emissions and can absorb CO<sub>2</sub> optimally
3. Stabilize the water level elevation and arrange for uninterrupted circulation of water in irrigation network

1. Improvement...

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION  |
|----|---|---|-----------|--|--|--------------------------|
| 1. | Improvement and maintenance of irrigation network     | a. An area of 1.34 million ha of irrigation network is repaired<br>b. An area of 2.32 million ha of irrigation network is in operation and maintained | 2010-2014 | 24 Provinces: Nanggroe Aceh Darussalam (NAD), North Sumatra, West Sumatra, Jambi, Bengkulu, Bangka Belitung, South Sulawesi, Lampung, Banten, West Java, Central Java, Yogyakarta, East Java, South Kalimantan, East Kalimantan, Bali, NTT, NTB, North Sulawesi, Central Sulawesi, North Sulawesi, South Sulawesi, Maluku, and Papua | 0.16   | Ministry of Public Works |
| 2. | Optimization of the land use                          | An area of 300,500 ha of crop plant agricultural lands is managed without burning   | 2011-2014 | 8 Provinces: North Sumatra, Riau, Jambi, South Sumatra, West Kalimantan, South Kalimantan, East Kalimantan, and Central Kalimantan   | 4.18   | Ministry of Agriculture  |
| 3. | Application of plant farming technologies             | A technology to protect crops from infestation by pests and from the climate change effects is applied on an area of 2.03 million ha                  | 2010-2014 | All provinces, except DKI Jakarta  | 32.42  | Ministry of Agriculture  |
| 4. | Utilization of organic fertilizers and bio-pesticides | Organic fertilizers and bio-pesticides are utilized on an area of 250,000 ha  | 2010-2014 | All provinces  | 10.0   | Ministry of Agriculture  |

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e)  | RESPONSIBLE INSTITUTION |
|----|---|---|-----------|---|---|-------------------------|
| 5. | Development of plantation (oil palm, rubber, cacao) on no-forest / abandoned / degraded / Other Use (APL) areas | <p>a. Plantations are developed and production and productivity and quality of perennial plants are improved, with target oil palm of 860,000 ha and rubber of 105,200 ha</p> <p>b. Plantations are developed and production and productivity and quality are improved for spice and refreshing plants, with target cacao of 687,000 ha</p> | 2011-2014 | <p>Oil palm in 19 provinces: NAD, North Sumatra, West Sumatra, Bangka Belitung, Bengkulu, Riau, Jambi, South Sumatra, Lampung, West Kalimantan, Central Kalimantan, East Kalimantan, South Kalimantan, Central Sulawesi, South Sulawesi, West Sulawesi, North Sulawesi, Papua and West Papua</p> <p>Rubber in 14 provinces: North Sumatra, Riau, South Sumatra, West Sumatra, Jambi, Riau Islands, Bengkulu, Bangka Belitung, Lampung, Central Java, West Kalimantan, Central Kalimantan, South Kalimantan and East Kalimantan</p> <p>Cacao in 16 provinces: NAD, North Sumatra, West Sumatra, Bengkulu, Lampung, East Java, Bali, NTT, East Kalimantan, West Kalimantan, West Sulawesi, South Sulawesi, North Sulawesi, Central Sulawesi, North Maluku and Papua</p> | <p>Oil palm: 74.53</p> <p>Rubber: 2.38</p> <p>Cacao: 5.42</p> | Ministry of Agriculture |
| 6. | Utilization of manure/urine of cattle and agricultural wastes for biogas  | Cattle-Based Biogas with Community (BATAMAS) is developed and maintained in remote and full-of-cattle regions, as many as 1,500 community groups  | 2010-2014 | All provinces   | 1.01  | Ministry of Agriculture |

## **FORESTRY AND PEAT LAND SECTORS**

Emission Reduction Target (26%): 0.672 (Giga Tonne) CO<sub>2</sub>e

Emission Reduction Target (41%): 1.039 (Giga Tonne) CO<sub>2</sub>e

Policies taken to support the RAN-GRK:

1. Reduction of GHG and at the same time promote a safe environment, prevent disasters, absorb workforce and increase state's and community's revenues
2. Management of marsh water system and network in marsh area
3. Maintenance of marsh reclamation network (including the existing peat lands)
4. Enhancement of productivity and efficient production of agriculture on peat lands with lowest emission and absorb CO<sub>2</sub> optimally

Strategies:

1. Suppress the rate of forest deforestation and degradation to reduce GHG emissions
2. Increase planting to increase GHGs absorption
3. Increase the efforts to secure forest areas from fire and illegal loggings and apply a sustainable forest management
4. Conduct improvement on water system (network) and dividing blocks and stabilize water level elevation on marsh water system network
5. Optimise land and water resources without deforestation
6. Apply land management and agricultural farming technologies that have lowest GHG emissions and can absorb CO<sub>2</sub> optimally

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION |
|----|---|---|-----------|---|--|-------------------------|
| 1. | Establishment of a Forest Management Organization (KPH)       | 120 units of KPH are formed   | 2010-2014 | All provinces   | 31.15  | Ministry of Forestry    |
| 2. | Planning for forest area utilization and business improvement | The grant of Business License for Utilization of Timber Forest Products – Natural Forest / Ecosystem Restoration (IUPHHK-HA/RE) on Logged Over Area (LOA) of 2.5 million ha | 2010-2014 | 12 provinces: Jambi, West Sumatra, Central Kalimantan, West Kalimantan, South Kalimantan, East Kalimantan, West Sulawesi, Central Sulawesi, North Sulawesi, North Sulawesi, Gorontalo and Papua | 22.94  | Ministry of Forestry    |
|    |   | Improvement in non-timber forest product/environmental services is achieved   | 2010-2014 | All provinces   | 1.38   | Ministry of Forestry    |
| 3. | Development of the utilization of environmental services      | 2 demonstration activities of Emission Reduction from Deforestation and Degradation (REDD) in conservation areas (peat forests) are implemented                             | 2010-2014 | 2 provinces: Jambi and Central Kalimantan   | 3.67   | Ministry of Forestry    |
| 4. | Inauguration of forest areas                                  | 25,000 km Forest Area Boundary (outer boundary and boundary of forest area function) is arranged  | 2010-2014 | All provinces   | 123.41   | Ministry of Forestry    |

5. Improvement.....

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION  |
|----|--|---|-----------|--|--|--------------------------|
| 5. | Improvement, rehabilitation, operation and maintenance of marsh reclamation network (including peat lands)   | <p>a. Marsh reclamation network is improved in an area of 10,000 ha</p> <p>b. Marsh reclamation network is rehabilitated in an area of 450,000 ha</p> <p>c. Marsh reclamation network is in operation and maintained in an area of 1.2 million ha</p> | 2010-2014 | 23 provinces: NAD, North Sumatra, Riau, West Sumatra, Jambi, Bengkulu, South Sumatra, Bangka Belitung, Lampung, Banten, West Java, Central Java, East Java, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, Gorontalo, West Sulawesi, Central Sulawesi, North Sulawesi, South Sulawesi and Papua | 5.23   | Ministry of Public Works |
| 6. | Management of peat lands for a sustainable agriculture   | Research and development of land resources of 325,000 ha (including peat lands) for agricultural land management development  | 2011-2020 | 11 provinces: NAD, North Sumatra, Riau, Jambi, South Sumatra, West Sumatra, Lampung, West Kalimantan, South Kalimantan, East Kalimantan and Central Kalimantan   | 103.98   | Ministry of Agriculture  |
| 7. | Development of agricultural land management in abandoned and degraded peat land areas to support plantation, animal raising and horticulture sub-sectors | Rehabilitation, reclamation and revitalization of abandoned and degraded peat lands in agricultural areas and optimized use of non-food crop lands of 250,000 ha  | 2011-2014 | 9 provinces: NAD, Riau, Jambi, South Sumatra, West Sumatra, West Kalimantan, South Kalimantan, East Kalimantan and Central Kalimantan  | 100.75   | Ministry of Agriculture  |

8. Implementation .....

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION |
|----|---|--|-----------|--|--|-------------------------|
| 8. | Implementation of a forest and land rehabilitation and forest reclamation in the prioritized watersheds (DAS) | 500,000 ha of forest in prioritized watersheds are rehabilitated   | 2010-2014 | All provinces  | 18.35  | Ministry of Forestry    |
|    |   | Critical areas of 1,954,000 ha in prioritized watersheds are rehabilitated                                     | 2010-2014 | All provinces, , except DKI Jakarta  | 71.71  | Ministry of Forestry    |
|    |   | 6,000 ha of city forest is formed  | 2010-2014 | All provinces, except DKI Jakarta  | 0.22   | Ministry of Forestry    |
|    |   | 40,000 ha of Mangrove/coastal forest is rehabilitated  | 2010-2014 | All provinces, except DIY  | 1.47   | Ministry of Forestry    |
| 9. | Development of social forestry  | Facilitated designation of Community's Forest (HKm) / Village Forest (HD) management work area of 2,500,000 ha | 2010-2014 | 25 provinces: NAD, North Sumatra, West Sumatra, Riau, Riau Islands, Jambi, South Sumatra, Bangka Belitung, Bengkulu, Lampung, DIY, NTB, NTT, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, North Sulawesi, Gorontalo, Central Sulawesi, West Sulawesi, South Sulawesi, North Sulawesi, Maluku and North Maluku | 91.75  | Ministry of Forestry    |
|    |   | Facilitated setting up of business partnership in 250,000 Ha of people's forest                                | 2010-2014 | 11 provinces: Riau, South Sumatra, Banten, West Java, Central Java, DIY, East Java, West Kalimantan, Central Kalimantan, South Kalimantan and East Kalimantan  | 9.18   | Ministry of Forestry    |

| NO  | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION |
|-----|---|---|-----------|--|--|-------------------------|
| 10. | Forest fire control   | Decreased number of hotspots in Kalimantan, Sumatra and Sulawesi islands by 20% on average from 2005 - 2009, with level of success 67.20% | 2010-2014 | 11 provinces: North Sumatra, Riau, Riau Islands, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, South Sulawesi and West Sulawesi  | 21.77  | Ministry of Forestry    |
| 11. | Forest investigation and protection   | Handling of new cases of forest criminal acts (illegal logging, illegal mining and fire), at least 75% are settled                        | 2010-2014 | 10 provinces: North Sumatra, Riau, Riau Islands, Jambi, South Sumatra, West Kalimantan, Central Kalimantan, South Kalimantan, South Sulawesi and West Sulawesi   | 2.30   | Ministry of Forestry    |
| 12. | Development of conservation and essential ecosystem areas and management of protected forests | Improved management of essential ecosystems as life support by 10%  | 2010-2014 | 17 provinces: NAD, North Sumatra, Jambi, Bangka Belitung, West Sumatra, Riau, Central Sulawesi, Kepulauan Seribu, West Java, Central Java, East Java, Bali, NTB, West Kalimantan, Central Kalimantan, Gorontalo and West Papua | 41.50  | Ministry of Forestry    |
|     |   | Conservation and protected forest clearing in 12 prioritized provinces are controlled   | 2010-2014 | 12 provinces: North Sumatra, Riau, Jambi, South Sumatra, West Sumatra, Lampung, East Kalimantan, Central Kalimantan, South Kalimantan, West Kalimantan, North Sulawesi and Central Sulawesi                                    | 49.77  | Ministry of Forestry    |

13. Enhancement .....



| NO  | ACTION PLAN                                 | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION |
|-----|---|--|-----------|---|--|-------------------------|
| 13. | Enhancement of plantation forest businesses | Industrial plantation forest and people's plantation forest (HTI/HTR) areas of 3 million ha are reserved | 2010-2014 | 26 provinces: NAD, North Sumatra, West Sumatra, Riau, Jambi, South Sumatra, Bengkulu, Lampung, Bangka Belitung, DIY, NTB, NTT, West Kalimantan, Central Kalimantan, South Kalimantan, East Kalimantan, , North Sulawesi, Central Sulawesi, South Sulawesi, West Sulawesi, Gorontalo, Maluku, North Maluku, Papua and West Papua | 110.10   | Ministry of Forestry    |

ENERGY AND.....

## ENERGY AND TRANSPORTATION SECTORS

Emission Reduction Target (26%): 0.038 (Giga Tonne) CO<sub>2</sub>e

Emission Reduction Target (41%): 1.056 (Giga Tonne) CO<sub>2</sub>e

Policies taken to support the RAN-GRK:

1. Increased energy saving
2. The use of cleaner fuels (fuel switching)
3. Enhancement of new and renewable energy (NRE) utilization
4. Utilization of clean technologies for both power generation and transportation equipment
5. Development of a low emission, sustainable and environmentally friendly national mass transport

Strategies:

1. Conserve the final energy both through the application of cleaner and more efficient technologies and through reduction in the consumption of non-renewable energy (fossil)
2. Encourage the use of new and renewable energy in small and medium scales
3. (Avoid) – reduce the travel needs, particularly in city areas (trip demand management), through land use management, reduce travel activities and unnecessary distances
4. (Shift) – shift from using private vehicles (transportation facilities with high energy consumption) to low-carbon transportation pattern, such as non-motorized, public, or water transportation facilities
5. (Improve) – improve energy efficiency and carbon release reduction in motorized vehicles in transportation facilities

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION      | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION                  |
|----|---|--|-----------|---------------|--|--|
| 1. | Mandatory application of energy management for energy-intensive users | Apply energy management to 200 companies   | 2010-2014 | All provinces | 2.24   | Ministry of Energy and Mineral Resources |
|    |   | Apply energy management to 200 companies   | 2015-2020 | All provinces | 7.92   | Ministry of Energy and Mineral Resources |
| 2. | Implementation of energy conservation partnership program             | Conduct energy conservation partnership program with private parties / communities in 1003 objects (building and industry) | 2010-2014 | All provinces | 1.62   | Ministry of Energy and Mineral Resources |
|    |   | Conduct energy conservation partnership program with private parties / communities in 300 objects (building and industry)  | 2015-2020 | All provinces | 0.49   | Ministry of Energy and Mineral Resources |
| 3. | Enhancement of household utensils efficiency                          | Implementation of energy-saving technology in household utensils are performed: 7.90 million kWh by the end of 2014        | 2010-2014 | All provinces | 5.58   | Ministry of Energy and Mineral Resources |
|    |   | Implementation of energy-saving technology in household utensils are performed: 13.53 million kWh by the end of 2020       | 2015-2020 | All provinces | 4.17   | Ministry of Energy and Mineral Resources |

4. Supply .....

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION      | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e)   | RESPONSIBLE INSTITUTION                  |
|----|---|---|-----------|---------------|--|--|
| 4. | Supply and management of new renewable energy and energy conservation | The construction of the following are done: <ul style="list-style-type: none"> <li>• Micro Hydro Power Plant (PLTMH): 46.17 MW</li> <li>• Mini Hydro- Power Plant (PLTM): 182 MW</li> <li>• Solar Power Plant (PLTS): 102.1 MW</li> <li>• Wind Power Plant (PLTB): 21,67 MW</li> <li>• Biomass Power Plant: 0.4 MW</li> <li>• Village with Self-Reliance in Energy (DME): 250 villages</li> </ul> | 2010-2014 | All provinces | 1.27 made up of:<br>PLTMH: 0.21<br>PLTM: 0.85<br>PLTS: 0.11<br>PLTB: 0.02<br>Biomass: 0.00032<br>DME: 0.06 | Ministry of Energy and Mineral Resources |
|    |   | construction performed: <ul style="list-style-type: none"> <li>• PLTMH: 84.23 MW</li> <li>• PLTM: 510 MW</li> <li>• PLTS: 224.68 MW</li> <li>• PLTB: 37.53 MW</li> <li>• Biomass: 16.50 MW</li> <li>• DME: 450 Villages</li> </ul>  | 2015-2020 | All provinces | 3.13, made up of:<br>PLTMH: 0.40<br>PLTM: 2.40<br>PLTS: 0.18<br>PLTB: 0.04<br>Biomass: 0.01<br>DME: 0.12   | Ministry of Energy and Mineral Resources |

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO2e) | RESPONSIBLE INSTITUTION                  |
|----|---|---|-----------|---|---|--|
| 5. | Biogas Utilization                                    | The construction of 10,000 units of biogas are performed  | 2010-2014 | All provinces   | 0.04  | Ministry of Energy and Mineral Resources |
|    |   | The construction of 21,400 units of biogas are performed  | 2015-2020 | All provinces   | 0.09  | Ministry of Energy and Mineral Resources |
| 6. | Use of natural gas as city public transportation fuel | A 29.33 Million Metric Standard Cubic Feet per Day (MMSCFD) of natural gas is used as fuel by city public transportation in 3 cities and a 10.58 ton/day of Liquid Gas for Vehicle (LGV) is used during 2 years (2013/2014) as city public transportation fuel particularly in Denpasar | 2010-2014 | 3 cities: Palembang, Surabaya, Denpasar                                 | 0.13  | Ministry of Energy and Mineral Resources |
|    |   | A 628.50 MMSCFD of natural gas is used as fuel by city public transportation in 6 cities and a 10.58 ton/day of LGV is used as city public transportation fuel, particularly in Balikpapan  | 2015-2020 | 6 cities: Medan, Jabodetabek, Cilegon, Cirebon, Balikpapan and Sengkang | 2.94  | Ministry of Energy and Mineral Resources |

7. Enhancement.....

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION                  |
|----|---|--|-----------|---|--|--|
| 7. | Enhancement of the pipe connection of natural gas to houses | Increase the utilization of gas which used by household to 94,500 home connections | 2010-2014 | 24 locations: Lhokseumawe, Pekanbaru, Prabumulih, Palembang, Muara Enim, Lampung, Rusun bersubsidi Jabodetabek, Subang, Bekasi, Bogor, Depok, Semarang, Surabaya, Bangkalan, Sidoarjo, Sidoarjo Tambak Mendaeng, Sidoarjo Kalidawir, Sengkang, Bontang, Balikpapan, Tarakan, Samarinda and Sorong | 0.15   | Ministry of Energy and Mineral Resources |
| 8. | Construction of Liquid Petroleum Gas (LPG) mini plants      | The construction of a unit of 2.2 MMSCFD (supply) LPG mini plant is performed      | 2010-2014 | Musi Banyuasin, Sumatra Selatan   | 0.03   | Ministry of Energy and Mineral Resources |
| 9. | Post-mining land reclamation                                | The planting of trees on an area of 31,400 ha                                      | 2010-2014 | All provinces   | 1.18   | Ministry of Energy and Mineral Resources |
|    |   | The planting of trees on an area of 41,100 ha                                      | 2015-2020 | All provinces   | 1.55   | Ministry of Energy and Mineral Resources |

10. Development.....

| NO  | ACTION PLAN                                       | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e)  | RESPONSIBLE INSTITUTION    |
|-----|---|---|-----------|---|---|----------------------------|
| 10. | Development of Intelligent Transport System (ITS) | 13 packages of ITS are developed to: <ul style="list-style-type: none"> <li>• reduce traffic jam level by intersection coordination</li> <li>• enhance coordination between intersections</li> <li>• Provide a bus priority system at intersections</li> <li>• Shift from private to mass transportation</li> </ul> | 2010-2020 | Jabodetabek: Jakarta, Bogor, Depok, Tangerang, Bekasi<br><br>12 cities : Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | 1.77. made up of: <ul style="list-style-type: none"> <li>• Jabodetabek: 0.71</li> <li>• 1.06. made up of: <ul style="list-style-type: none"> <li>- Metropolitan Cities (MP): 0.79</li> <li>- Big Cities (BC): 0.27</li> </ul> </li> </ul> | Ministry of Transportation |
| 11. | Application of a Traffic Impact Control (TIC)     | 12 packages of Traffic Impact Control are applied   | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin   | 0.24  | Ministry of Transportation |
| 12. | Application of parking management                 | The application of parking management in 12 cities to: <ul style="list-style-type: none"> <li>• Reduce mode share in downtown</li> <li>• Reduce private car use</li> </ul>  | 2010-2010 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin   | 1.07  | Ministry of Transportation |

13. Application.....

| NO  | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION                               |
|-----|--|--|-----------|---|--|---|
| 13. | Application of Congestion Charging and Road Pricing (combined with mass rapid transport) | The application of Congestion Charging and Road Pricing in 2 cities to: <ul style="list-style-type: none"> <li>• reduce car mode share in downtown</li> <li>• Reduce congestions in traffic-limited areas</li> </ul> | 2010-2020 | 2 cities: Jakarta and Surabaya  | 0.41   | Ministry of Transportation<br><br>Ministry of Finance |
| 14. | Reformation of transit system – Bus Rapid Transit (BRT) / semi BRT                       | The supply and distribution of 43 BRTs/year in 12 cities are performed   | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | 0,69, made up of:<br>MC = 0.51<br>BC = 0.18                  | Ministry of Transportation                            |
| 15. | Rejuvenation of public transport fleets  | Rejuvenation with 6,000 units of public transport fleets based on low emission design are performed  | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | 0.36   | Ministry of Transportation                            |
| 16. | Installation of Converter Kit (public transport gasification)                            | Installation of converter kit on 1,000 units of gasoline-fuelled taxi and public transportation per year to reduce CO <sub>2</sub> up to 25% is performed.   | 2010-2020 | Nine cities: Medan, Palembang, Jabodetabek, Cilegon, Cirebon, Surabaya, Denpasar, Balikpapan and Sengkang                               | 0.04   | Ministry of Transportation                            |
| 17. | Smart driving (eco-driving) training and socialization                                   | Smart driving training and socialization for 50,000 persons/year are performed   | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | 0.002  | Ministry of Transportation                            |



| NO  | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e)   | RESPONSIBLE INSTITUTION    |
|-----|--|---|-----------|---|--|----------------------------|
| 18. | Building of Non-Motorized Transport (Pedestrian and bicycle lines)             | Non-Motorized Transport is built in 12 cities   | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | 0.21   | Ministry of Transportation |
| 19. | Development of Bandung's city railways   | Develop Bandung's city railway of 42 km (double track and electrification)  | 2010-2020 | West Java Province: Padalarang – Bandung - Cicalengka   | 4.56   | Ministry of Transportation |
| 20. | Construction of double-double track (including electrification)                | Construct a double-double track of 35 km  | 2010-2014 | DKI Jakarta Province: Manggarai - Cikarang  | 21.21  | Ministry of Transportation |
| 21. | Procurement of new Electric Rail Car (KRL)                                     | New KRLs are procured as many as: <ul style="list-style-type: none"> <li>• 1,024 units to serve the Jabodetabke's 890 km;</li> <li>• 640 units to serve the East Java's 410 km; and</li> <li>• 256 units to serve the West Java's 150 km</li> </ul> | 2010-2030 | 3 provinces: DKI Jakarta, West Java and East Java   | Emission reduced by: <ul style="list-style-type: none"> <li>• Jabodetabek = 0.002/year</li> <li>• East Java = 0.001/year</li> <li>• West Java = 0.0005/year</li> </ul> | Ministry of Transportation |
| 22. | Modification of Diesel Rail Train (KDR) into Electric Diesel Rail Train (KRDE) | 25 units of KRD are modified into KRDE with predicted reduction of fuel consumption 198 liter per km  | 2010-2011 | DKI Jakarta Province  | 0.00005  | Ministry of Transportation |

23. Construction.....

| NO  | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO2e) | RESPONSIBLE INSTITUTION   |
|-----|---|--|-----------|--|---|---|
| 23. | Construction of North-South Mass Rapid Transport (MRT) Phase I and Phase II | The construction of MRT Phase I 14.1 km and Phase II 8.2 km are performed                                      | 2010-2020 | DKI Jakarta Province: <ul style="list-style-type: none"> <li>• Lebak Bulus – Bundaran HI (Phase I)</li> <li>• Bundaran HI – Kampung Bandan (Phase II)</li> </ul>   | 2.77/year                                       | Ministry of Transportation<br>DKI Jakarta Provincial Government |
| 24. | Construction of Soekarno Hatta Airport railway track                        | The construction of Soekarno Hatta Airport railway track of 33 km is performed                                 | 2010-2020 | 2 provinces: DKI Jakarta and Banten, made up of: <ul style="list-style-type: none"> <li>• Express line: Manggarai, andara Soekarno Hatta via Pluit</li> <li>• Commuter line: via Tangerang line from Tanah Tinggi Station</li> </ul> | 0.19/year                                       | Ministry of Transportation                                      |
| 25. | Construction of Jakarta monorail  | The construction of Jakarta monorail, 12.2 km for Blue Line and 14.8 km for Green Line is performed            | 2010-2020 | DKI Jakarta Province   | 0.52/year                                       | Ministry of Transportation<br>DKI Jakarta Provincial Government |
| 26. | Road construction / improvement and preservation                            | Enhancement of the capacity of the 19,370 km national road and preservation of the national road of 168,999 km | 2010-2014 | All provinces  | 1.10  | Ministry of Transportation                                      |

### **INDUSTRIAL SECTOR**

Emission Reduction Target (26%): 0.001 (Giga Tonne) CO<sub>2</sub>e

Emission Reduction Target (41%): 0.005 (Giga Tonne) CO<sub>2</sub>e

Policies taken to support the RAN-GRK:

Increase in Industrial growth by optimizing the use of energy

Strategies:

1. Conduct an energy audit especially on energy-intensive industries
2. Provide incentives in energy efficiency programs

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD                            | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e)   | RESPONSIBLE INSTITUTION |
|----|--|--|-----------------------------------|--|--|-------------------------|
| 1. | Application of process and technology modification | guideline for use of biomass and other technologies in cement industry as blended cement is prepared   | 2010-2020                         | 9 cement producers in 9 provinces: NAD, West Sumatra, South Sumatra, West Java, Central Java, East Java, NTT, South Sulawesi and South Kalimantan  | 2.75   | Ministry of Industry    |
| 2. | Energy conservation and audit                      | <p>a. Energy management system is set up in 9 cement producers, 35 steel producers and 15 paper pulp producers</p> <p>b. Energy management system is set up in glass and ceramic, fertilizer, petrochemical, food and drink, textile and base chemical producers</p> | <p>2010-2014</p> <p>2015-2020</p> | <ul style="list-style-type: none"> <li>• 9 cement producers in 9 provinces: NAD, West Sumatra, South Sumatra, West Java, Central Java, East Java, NTT, South Sulawesi and South Kalimantan</li> <li>• Steel producers in 12 provinces: North Sumatra, South Sumatra, Riau, Jambi, Banten, DKI, West Java, Central Java, East Java, West Kalimantan, South Kalimantan and South Sulawesi</li> <li>• 15 paper pulp producers</li> </ul> <p>8 provinces: North Sumatra, Banten, West Java, Central Java, East Java, DKI Jakarta, East Kalimantan and South Sulawesi</p> | <p>2.06, made up of:</p> <ul style="list-style-type: none"> <li>• Cement: 0.04</li> <li>• Steel: 0,64</li> <li>• Paper pulp: 0.38</li> </ul> <p>2.75</p> | Ministry of Industry    |
| 3. | Elimination of Ozone Depleting Substances (ODS)    | Elimination of ODS in 4 sectors (refrigerant, foam, chiller and fire extinguisher)   | 2010-2020                         | 10 provinces: North Sumatra, South Sumatra, Riau, West Sumatra, DKI Jakarta, Banten, West Java, Central Java, East Java, Yogyakarta  | 1.50   | Ministry of Industry    |

### **WASTE MANAGEMENT SECTOR**

Emission Reduction Target (26%): 0.048 (Giga Tonne) CO<sub>2</sub>e

Emission Reduction Target (41%): 0.078 (Giga Tonne) CO<sub>2</sub>e

Policies taken to support the RAN-GRK:

Enhancing domestic solid waste and waste water management

Strategies:

1. Enhancement of institutional capacity and regional regulations (Perda)
2. Enhancement of waste water management in urban
3. Reduction of the heaps of wastes through 3R (reduce, reuse, recycle)
4. Improvement of the waste management process at the Final Treatment Facility (FTF)
5. Improvement/construction/rehabilitation of FTFs
6. Utilization of waste/ solid waste into environmentally friendly energy products

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION  |
|----|---|--|-----------|--|--|--------------------------|
| 1. | Development on off-site and on-site systems of waste water facilities and infrastructures | <p>a. Centralized city-scale (off-site) waste water management system is available in 16 regencies/cities</p> <p>b. On-site waste water management system is available in 11,000 locations</p> | 2010-2020 | <p>16 cities, made up of:</p> <ul style="list-style-type: none"> <li>• Development: Medan, Jakarta, Tangerang, Bandung, Cirebon, Yogyakarta, Surakarta, Denpasar, Banjarmasin and Balikpapan</li> <li>• New construction: Batam, Palembang, Semarang, Surabaya, Malang, and Makassar</li> </ul> <p>All provinces</p> | 2.0  | Ministry of Public Works |

2. Construction.....

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | INDICATION OF REDUCTION (million tonne of CO <sub>2</sub> e) | RESPONSIBLE INSTITUTION  |
|----|--|---|-----------|--|--|--------------------------|
| 2. | Construction of Final Treatment Facility (FTF) and maintenance of an integrated waste management (Reduce, Reuse, Recycle (3R)) | <p>a. The management of FTF in 210 locations is improved</p> <p>b. Waste management through 3R integrated waste management program in 250 locations is improved</p> | 2010-2020 | <ul style="list-style-type: none"> <li>• Sumatra Island, 62 locations: NAD (9), North Sumatra (9), West Sumatra (6), Riau (4), Riau Islands (3), Jambi (4), Bengkulu (6), South Sumatra (7), Bangka Belitung (7), Lampung (7)</li> <li>• Java Island, 55 locations: Banten (5), Jakarta (1), West Java (12), Central Java (18), Yogyakarta (4), East Java (15)</li> <li>• Kalimantan Island, 29 locations: West Kalimantan (6), Central Kalimantan (4), South Kalimantan (10), East Kalimantan (9)</li> <li>• Sulawesi Island, 28 locations: North Sulawesi (7), Gorontalo (3), Central Sulawesi (4), South Sulawesi (7), West Sulawesi (3), North Sulawesi (4)</li> <li>• Bali and Nusa Tenggara Islands, 20 locations: Bali (7), NTB (8), NTT (5)</li> </ul> | 46.0   | Ministry of Public Works |

• Eastern Indonesia Islands.....

| NO | ACTION PLAN | ACTIVITY/OBJECTIVE | PERIOD | LOCATION   | INDICATION OF REDUCTION (million tonne of CO2e) | RESPONSIBLE INSTITUTION |
|----|-------------|--------------------|--------|--|---|-------------------------|
|    |             |                    |        | <ul style="list-style-type: none"><li>Eastern Indonesia Islands, 16 locations: Maluku (4), North Maluku (4), Papua (4), West Papua (4)</li></ul> |   |                         |

PRESIDENT OF THE REPUBLIC OF INDONESIA,

[Signed]

DR. H. SUSILO BAMBANG YUDHOYONO

True copy of the original  
SECRETARIAT OF THE CABINET OF RI  
Deputy of Economic Affair,

[Signed]

Retno Pudji Budi Astuti



ATTACHMENT II  
PRESIDENTIAL REGULATION OF THE REPUBLIC OF INDONESIA  
NUMBER : 61 YEAR 2011  
DATE : 20 SEPTEMBER 2011

**SUPPORTING ACTIVITIES OF  
NATIONAL ACTION PLAN FOR GREENHOUSE GAS EMISSIONS REDUCTION**

**I. AGRICULTURAL SECTOR**

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION              | RESPONSIBLE INSTITUTION  |
|----|--|---|-----------|-----------------------|--------------------------|
| 1. | Research on water management systems in irrigation areas | <ul style="list-style-type: none"><li>• Water management systems are available in irrigation areas</li><li>• Prototypes for water management systems are available in irrigation areas in pilot locations</li><li>• Evaluation on the prototypes for water management systems in irrigation areas is made</li><li>• Standard/guideline of water management in the irrigation areas are prepared</li></ul> | 2010-2014 | Province of West Java | Ministry of Public Works |

2. Research.....

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION   | RESPONSIBLE INSTITUTION  |
|----|---|--|-----------|--|--------------------------|
| 2. | Research on GHG emissions reduction methods in Reservoirs   | <ul style="list-style-type: none"> <li>• GHG emissions level in Reservoirs are available</li> <li>• Methods for GHG emissions reduction are available</li> <li>• Trials for GHG emissions reduction methods are done</li> <li>• Guideline for GHG emissions reduction methods in Reservoirs is formulated</li> </ul> | 2010-2014 | 3 provinces: West Java, Central Java and East Java   | Ministry of Public Works |
| 3. | Research and Development on low emission technology, Methodology for Measurable, Reportable, Verifiable (MRV) in agricultural sector (non-peat) | Low GHG emission technology which is easy to apply and produces high yields is formulated and MRV methodology is provided for agricultural sector, applied in 12 packages of food crops, 12 packages of livestock, 8 packages of plantation plants and 2 activities related with MRV in agricultural sector          | 2011-2014 | All provinces except DKI Jakarta   | Ministry of Agriculture  |
| 4. | Implementation of land clearing without burning   | Land clearing without burning is done through making composts, charcoals, charcoal briquettes, on an area of 1,800 ha  | 2010-2020 | 7 provinces: Riau, North Sumatra, Jambi, West Sumatra, East Kalimantan, Central Kalimantan and West Kalimantan | Ministry of Environment  |

**II. FORESTRY AND PEAT LAND SECTOR**

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                              |
|----|--|--|-----------|---|--|
| 1. | Survey and data collection on hydrology and geo-hydrology of peat lands                                    | Reports on the results of hydrologic and geologic survey and data collection on peat lands in 5 provinces are prepared   | 2010-2014 | 5 provinces: Riau, Jambi, West Kalimantan, Central Kalimantan and South Kalimantan    | Ministry of Public Works                             |
| 2. | Identification of marsh lands for cultivation and conservation   | Marsh lands for cultivation and conservation are identified  | 2010-2014 | 5 provinces: West Sumatra, Riau, Jambi, South Kalimantan and Central Kalimantan       | Ministry of PPN/Bappenas<br>Ministry of Public Works |
| 3. | Research on water system in peat lands   | <ul style="list-style-type: none"> <li>• Peat land water systems are available</li> <li>• Prototypes for peat land water systems are available</li> <li>• Evaluation on prototypes for peat land water systems is done</li> <li>• Standard/guideline for peat land water system is formulated</li> </ul> | 2010-2014 | 2 islands: Kalimantan and Sumatra   | Ministry of Public Works                             |
| 4. | Formulation of Presidential Regulations on National Strategic Zones (NSZ) and island Spatial Planning (SP) | 69 Presidential Regulations (Perpres) on NSZ and 7 islands SPs are drafted   | 2010-2014 | 7 islands: Sumatera, Java-Bali, Kalimantan, Sulawesi, Nusa Tenggara, Maluku and Papua | Ministry of Public Works                             |
| 5. | Formulation of river Regional Spatial Planning (RSP)   | 69 rivers RSPs are formulated  | 2010-2014 | All provinces   | Ministry of Public Works                             |

| NO  | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION                              | RESPONSIBLE INSTITUTION  |
|-----|--|---|-----------|---------------------------------------|--------------------------|
| 6.  | Provincial region spatial audit (stock taking)   | 18 activities of stock takings are done   | 2010-2014 | All provinces                         | Ministry of Public Works |
| 7.  | Spatial planning data and information gathering  | 22 activities of spatial planning data and information gathering are implemented  | 2010-2014 | All provinces                         | Ministry of Public Works |
| 8.  | Monitoring the evaluation of national and island RSPs and national infrastructure programs   | 26 activities of evaluation monitoring of national and island RSPs and national infrastructure programs are performed             | 2010-2014 | National                              | Ministry of Public Works |
| 9.  | Acceleration of the stipulation of Regional Regulation (Perda) on Province and Regency / City RSPs based on Strategic Environmental Assessment (SEA) | Drafting of 31 Perdas on Province RSPs and 497 Perdas on Regency/City RSPs is facilitated   | 2010-2014 | 31 provinces and 497 Regencies/Cities | Ministry of Public Works |
| 10. | Control the non-forestry related uses of forest areas  | Forest Area Borrow-Use Licenses are served 100% on time   | 2010-2014 | All provinces                         | Ministry of Forestry     |
|     |  | At least 80% annually of the target to require orderly payment of Non-Tax State Revenues (PNBP) from Forest Area Uses is achieved | 2010-2014 | All provinces                         | Ministry of Forestry     |
|     |  | Data and information on the use of forest areas in 33 provinces are available   | 2010-2014 | All provinces                         | Ministry of Forestry     |
|     |  | Legislations on the Use of Forest Areas are available   | 2010-2014 | National                              | Ministry of Forestry     |

| NO  | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | RESPONSIBLE INSTITUTION |
|-----|--|---|-----------|--|-------------------------|
| 11. | Forest Resources (FRs) Inventory and Monitoring                      | Up-to-date national data and information on basic geo-spatial and forestry thematic are available   | 2010-2014 | National   | Ministry of Forestry    |
|     |  | Data and information on national forest area carbon estimation are available, to calculate the forest carbon per year (updated 5 times)   | 2010-2014 | National   | Ministry of Forestry    |
|     |  | Integrated FR spatial database is available, updated 5 times  | 2010-2014 | National   | Ministry of Forestry    |
| 12. | Research and development on Forestry climate change policy           | Basic and applied sciences and technologies are produced in the field of forest climate change policy   | 2010-2014 | National   | Ministry of Forestry    |
| 13. | Formulation of the Standard Criteria of Peat Ecosystem Damage        | Standard criteria of peat dome protected area and peat cultivation area damages are formulated  | 2010-2014 | National   | Ministry of Environment |
| 14. | Formulation of the Master Plan of Province Peat Ecosystem Management | Master Plan of Province Peat Ecosystem Management is formulated in 10 provinces   | 2010-2015 | 10 provinces: North Sumatra, Riau, Jambi, West Sumatra, Central Kalimantan, West Kalimantan, South Kalimantan, East Kalimantan, Papua and West Papua | Ministry of Environment |
| 15. | Inventory and mapping of peat ecosystem's hydrological entity        | <ul style="list-style-type: none"> <li>Documented data and information on the peat ecosystem's hydrological entity are available</li> <li>Peat Hydrological Entity Map is prepared, with scale at least 1:250.000 for an area of 20 million ha</li> </ul> | 2010-2014 | 10 provinces: North Sumatra, Riau, Jambi, West Sumatra, Central Kalimantan, West Kalimantan, South Kalimantan, East Kalimantan, Papua and West Papua | Ministry of Environment |

| NO  | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION   | RESPONSIBLE INSTITUTION |
|-----|--|---|-----------|--|-------------------------|
| 16. | Inventory and mapping of peat ecosystem characteristics  | <ul style="list-style-type: none"> <li>• Documented data and information on the characteristics of peat ecosystem are available</li> <li>• Peat Characteristic Map of scale 1:100.000 is prepared for an area of 20 million ha</li> </ul> | 2010-2014 | 10 provinces: North Sumatra, Riau, Jambi, West Sumatra, Central Kalimantan, West Kalimantan, South Kalimantan, East Kalimantan, Papua and West Papua   | Ministry of Environment |
| 17. | Research and development on Low emission technology , MRV methodology on agricultural areas in peat land | Research and development of 12 packages of low emission technology, MRV methodology on agricultural areas in peat land are performed  | 2011-2014 | 11 provinces: NAD, North Sumatra, Riau, Jambi, West Sumatra, Lampung, West Kalimantan, South Kalimantan, East Kalimantan, Central Kalimantan and Papua | Ministry of Agriculture |

### III. ENERGY AND TRANSPORTATION SECTOR

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                  |
|----|--|--|-----------|---|--|
| 1. | Monitoring of natural gas supply for upstream consumers and preparation of recommendations for natural gas allocations | 5 packages of natural gas supplies are monitored   | 2010-2014 | 6 islands: Java, Sumatra, Sulawesi, Kalimantan, Maluku and Papua  | Ministry of Energy and Mineral Resources |
|    |  | 5 packages of natural gas supplies are monitored   | 2015-2020 | 6 islands: Java, Sumatera, Sulawesi, Kalimantan, Maluku and Papua | Ministry of Energy and Mineral Resources |
| 2. | Monitoring of the implementation of the policy on reducing the volume of flare gas burning                             | Data on the annual volume of flare gas burning from the result of monitoring on the implementation of the flare gas burning volume reduction policy is available   | 2010-2014 | Throughout Indonesia  | Ministry of Energy and Mineral Resources |
| 3. | Provision and management of new renewable energy and energy conservation   | <ul style="list-style-type: none"> <li>• Technical Guidance on New Renewable Energy (NRE) is performed to 900 persons</li> <li>• Technical Guidance on Energy conservation is performed to 850 persons</li> <li>• 5 reports of marine energy feasibility studies are prepared</li> <li>• 10 reports of marine-based power plant pilot projects are prepared</li> <li>• 5 reports of home uses of biomass utilization are prepared</li> </ul> | 2010-2014 | Throughout Indonesia  | Ministry of Energy and Mineral Resources |

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                  |
|----|--|---|-----------|---|--|
| 4. | Setting up of geothermal and groundwater regulations   | 50 geothermal and groundwater regulations are set up  | 2010-2014 | All provinces   | Ministry of Energy and Mineral Resources |
|    |  | 20 geothermal and groundwater regulations are set up  | 2015-2020 | All provinces   | Ministry of Energy and Mineral Resources |
| 5. | Preparation of the data classification of geothermal potential and reserve for electricity and direct use of geothermal energy | Geothermal potential and reserve data for electricity and direct use of geothermal energy is available      | 2010-2014 | All provinces   | Ministry of Energy and Mineral Resources |
| 6. | Establishment of geothermal Mining Work Areas (MWAs)   | 30 Geothermal Mining Work Areas are established   | 2010-2014 | 5 islands: Java, Sumatera, Sulawesi, Nusa Tenggara and Maluku                           | Ministry of Energy and Mineral Resources |
|    |  | 20 Geothermal Mining Work Areas are established   | 2015-2020 | 5 islands: Java, Sumatera, Sulawesi, Nusa Tenggara and Maluku                           | Ministry of Energy and Mineral Resources |
| 7. | Usage of Vegetable Fuel (VF) in total fuel use   | Data on the percentage of VF use in total fuel use is available   | 2010-2020 | All provinces   | Ministry of Energy and Mineral Resources |
| 8. | Shifting from kerosene to LPG  | 5 reports of the studies on LPG pricing policy for Public Service Obligation (PSO) and non-PSO are prepared | 2010-2020 | All provinces   | Ministry of Energy and Mineral Resources |
| 9. | Calculation and update of the emission factors in electricity's grid system  | Emission factor in 8 interconnection grids is calculated and updated  | 2010-2020 | 8 locations: Java-Bali, Kalimantan (3 systems), Sulawesi (2 systems), Batam and Sumatra | Ministry of Energy and Mineral Resources |



| NO  | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION    |
|-----|---|--|-----------|---|----------------------------|
| 10. | Research on sea wave and current power plant system                       | <p>Researches on sea wave power plant system are carried out, which include:</p> <ul style="list-style-type: none"> <li>• Electric modelling</li> <li>• Prototype for sea wave power plant</li> <li>• Prototype evaluation</li> </ul>  | 2010-2014 | Bali Strait   | Ministry of Public Works   |
| 11. | Testing on all motor vehicles, including private vehicles and motorcycles | <ul style="list-style-type: none"> <li>• Motor Vehicle Test (MVT) is performed in Cities/Regencies that have not had MVT units</li> <li>• Annual checking on all motor vehicles is done so that any vehicle which does not meet the emission limit may not be operated on roads</li> </ul> | 2010-2020 | All provinces   | Ministry of Transportation |
| 12. | Application of CO2 emission standards to passenger cars                   | CO2 emission standard starting from new cars in Indonesia is applied   | 2010-2020 | All provinces   | Ministry of Transportation |
| 13. | Development of modern logistic system                                     | 9 packets of modern logistic system (1 year 1 packet) to reduce the travel km figure are implemented   | 2010-2020 | 12 cities: Medan, Padang, Pekanbaru, Palembang, Bandung, Semarang, Yogyakarta, Surabaya, Denpasar, Makassar, Balikpapan and Banjarmasin | Ministry of Transportation |
| 14. | Application of Car Labelling  | Labelling of new cars by their fuel consumption (per 100 km) and CO2 emission (in g/k) is applied  | 2010-2020 | All provinces   | Ministry of Transportation |
| 15. | Limitation on the speed on toll roads                                     | Speed limit is applied in all toll roads in order to reduce emission by 0.07 Million Tonnes of CO2e  | 2010-2014 | All toll roads  | Ministry of Transportation |

16. Application of.....

| <b>NO</b> | <b>ACTION PLAN</b>                                   | <b>ACTIVITY/OBJECTIVE</b>   | <b>PERIOD</b> | <b>LOCATION</b>   | <b>RESPONSIBLE INSTITUTION</b> |
|-----------|--|---|---------------|---|--------------------------------|
| 16.       | Application of vehicle tax by level of CO2 emissions | Vehicle tax on private vehicles is applied (by level of CO2 emission) every 5 years, to be used for public transportation system development purposes | 2010-2014     | All provinces   | Ministry of Finance            |
| 17.       | Tree planting  | Tree planting as long as 10,000 km  | 2010-2014     | National roads throughout Indonesia, particularly urban roads | Ministry of Public Works       |

IV. INDUSTRIAL SECTOR.....

#### IV. INDUSTRIAL SECTOR

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION |
|----|---|---|-----------|---|-------------------------|
| 1. | Formulation of technical policies to reduce CO2 emissions in cement and steel industries  | Technical policies to reduce CO2 emissions in industrial sector, namely cement and steel are formulated                                     | 2010-2020 | <ul style="list-style-type: none"> <li>• 9 cement producers in 9 provinces: NAD, West Sumatra, West Sumatra, West Java, Central Java, East Java, NTT, South Sulawesi and South Kalimantan</li> <li>• Steel producers in 8 provinces: North Sumatra, West Sumatra, DKI Jakarta, West Java, Banten, West Kalimantan, South Kalimantan and South Sulawesi</li> </ul> | Ministry of Industry    |
| 2. | Facilitation and incentive for the development of low carbon and environmentally friendly technology in cement and steel industries | Low carbon technology facilitation and incentive policies in 25 producers, namely 9 cement producers and 16 steel producers, are formulated | 2010-2020 | <ul style="list-style-type: none"> <li>• 9 cement producers in 9 provinces: NAD, West Sumatra, West Sumatra, West Java, Central Java, East Java, NTT, South Sulawesi and South Kalimantan</li> <li>• Steel producers in 8 provinces: North Sumatra, West Sumatra, DKI Jakarta, West Java, Banten, West Kalimantan, South Kalimantan and South Sulawesi</li> </ul> | Ministry of Industry    |

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION |
|----|--|---|-----------|---|-------------------------|
| 3. | Formulation and development of "Green Industry" roadmap and its implementation | Green Industry Roadmap policy is formulated and implemented in 5 industrial estates and 8 industrial sectors  | 2010-2020 | 5 islands: Sumatera, Java, Kalimantan, Sulawesi and Nusa Tenggara         | Ministry of Industry    |
| 4. | Enhancement on capacity building for government officers and industrialists    | capacity building of government officers and industrialists in Climate Change through trainings in 5 islands are enhanced   | 2010-2014 | 2 islands: Sumatra and Java   | Ministry of Industry    |
|    |  |   | 2015-2020 | 3 islands: Kalimantan, Sulawesi and Nusa Tenggara                         | Ministry of Industry    |
| 5. | Implementation of the Standard of EURO IV to new motor vehicles                | EURO IV Vehicle Standard is implemented to 1 sub-sector of transportation industry to reduce emission by 5%   | 2010-2014 | 4 provinces: DKI Jakarta, West Java, Central Java and East Java           | Ministry of Industry    |
|    |  |   | 2015-2020 | 3 provinces: North Sumatra, Banten and South Sulawesi                     | Ministry of Industry    |
| 6. | CO2 emissions potential inventory in industrial sector                         | Database and CO2 emissions reduction inventory in 8 industrial sectors (pulp and paper, glass and ceramic, fertilizer, petrochemical, food and drink, textile, base chemical and non-steel metal) is formulated   | 2010-2020 | 5 islands: Sumatera, Java, Kalimantan, Sulawesi and Maluku                | Ministry of Industry    |
| 7. | Monitoring and evaluation of mitigation programs                               | Monitoring and evaluation of mitigation programs for 12 industries (cement, steel, pulp and paper, glass and ceramic, fertilizer, petrochemical, food and drink, textile, non-steel metal, transportation, chemical and electronic) are conducted on 50 companies | 2020-2020 | 6 islands: Sumatera, Java, Kalimantan, Sulawesi, Nusa Tenggara and Maluku | Ministry of Industry    |

| NO | ACTION PLAN  | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION |
|----|--|---|-----------|---|-------------------------|
| 8. | Application of the International Organization for Standardization (ISO) 50001 on energy conservation and monitoring of energy management implementation in industrial sector | Energy management is implemented and energy auditors is set up in 9 industrial sectors (pulp and paper, glass and ceramic, fertilizer, petrochemical, food and drink, textile, non-steel metal, transportation, base chemical and electronic) | 2020-2020 | 6 islands: Sumatera, Java, Kalimantan, Sulawesi, Nusa Tenggara and Maluku | Ministry of Industry    |
| 9. | Formulation of CO2 Emissions Roadmap in industrial sector  | Roadmaps of CO2 emissions reduction in 8 industrial sectors (pulp and paper, glass and ceramic, fertilizer, petrochemical, food and drink, textile, base chemical, non-steel metal, transportation, chemical and electronic) are formulated   | 2020-2020 | 6 islands: Sumatera, Java, Kalimantan, Sulawesi, Nusa Tenggara and Maluku | Ministry of Industry    |

V. WASTE MANAGEMENT SECTOR.....

## V. WASTE MANAGEMENT SECTOR

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION  |
|----|---|---|-----------|---|--------------------------|
| 1. | Implementation of GHG inventory   | GHG inventory for waste management is conducted in 372 cities during 5 years  | 2010-2014 | 11 metropolitan cities,<br>12 big cities, 72 medium cities,<br>277 small cities | Ministry of Environment  |
| 2. | Monitoring of the open burning of waste   | Waste open burning activities in 372 cities are monitored   | 2010-2020 | 11 metropolitan cities,<br>12 big cities, 72 medium cities,<br>277 small cities | Ministry of Environment  |
| 3. | Capacity building in waste management   | <ul style="list-style-type: none"> <li>• Formulation of Norms, Standards, Procedures and Criteria (NSPC) for waste management in 30 regencies/cities</li> <li>• Assistance in the formulation of City/Regency Sanitation Strategies (CSS) in relation to waste management in 150 regencies/cities</li> <li>• Institutional building (organization, human resources, community's role) in 150 regencies/cities</li> <li>• Facilitation in the development of sources for financing and developing waste investment pattern in 15 regencies/cities</li> </ul> | 2010-2014 | 150 regencies/cities  | Ministry of Public Works |
| 4. | Utilization of waste generated from land clearing as materials for making composts, charcoals and charcoal briquettes | Production of composts, charcoals and charcoal briquettes in 3 provinces, covering an area of 1800 ha   | 2010-2020 | 3 provinces: Jambi, West Sumatra and East Kalimantan                            | Ministry of Environment  |

VI. OTHER SECTORS.....

**VI. OTHER SECTORS OF SUPPORTING ACTIVITIES**

| NO   | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                            |
|--|--|--|-----------|---|--|
| <b>A. AGENCY FOR METEOROLOGY AND GEOPHYSICS (BMKG)</b> |  |  |           |   |  |
| 1.   | Construction of Global Atmospheric Watch (GAW) stations                                  | GAW stations are constructed in 2 stations/locations to measure the ambient level of CO2 content in Indonesia's atmospheric area     | 2010-2014 | 2 provinces: Central Sulawesi and Papua   | Agency for Meteorology, Climatology and Geophysics |
| 2.   | Construction of Air Quality Early Warning Information System for fire hazard information | Air Quality Early Warning Information System are constructed in 8 locations/cities to monitor air quality in forest fire-prone areas | 2010-2014 | 8 cities: Medan, Pekanbaru, Jambi, Palembang, Palangkaraya, Pontianak, Banjarmasin and Balikpapan | Agency for Meteorology, Climatology and Geophysics |
| 3.   | Climate Early Warning System (CEWS)  | 16 packages of CEWS for early warning of El Nino and La Nina as forest fire early warning are constructed                            | 2010-2014 | All provinces   | Agency for Meteorology, Climatology and Geophysics |
| 4.   | Development of a Fire Danger Rating System (FDRS)  | FDRS packages for measurement of fire levels from weather information for daily early warning of forest fire are developed           |           | All provinces   | Agency for Meteorology, Climatology and Geophysics |

B. MINISTRY OF ENVIRONMENT.....

| NO   | ACTION PLAN   | ACTIVITY/OBJECTIVE  | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                    |
|--|---|---|-----------|---|--|
| <b>B. MINISTRY OF ENVIRONMENT</b>                    |   |   |           |   |  |
| 1.   | Towards Green Indonesia   | Identification of Indonesia's land cover areas and establishment of areas with good land cover are conducted            | 2010-2020 | All provinces   | Ministry of Environment                    |
| 2.   | Environmental Governance Management                             | a package of environmental governance policy on ecosystem mapping for environmental planning is formulated              | 2010-2020 | All provinces   | Ministry of Environment                    |
| 3.   | National GHG Inventory System ( <i>SIGN</i> )                   | a National GHG inventory system is formulated   | 2010-2020 | All provinces   | Ministry of Environment                    |
| 4.   | Sustainable peat ecosystem management                           | Mapping of peat hydrological entity and peat characteristic inventory on peat land areas of 15 million ha are conducted | 2010-2020 | 7 provinces: Riau, Jambi, West Sumatra, West Kalimantan, Central Kalimantan, and South Kalimantan | Ministry of Environment                    |
|  |   | Sustainable aquaculture development in peat lands of 4,000 ha is realized   | 2010-2020 | 4 provinces: Jambi, Riau, Central Kalimantan and West Kalimantan                                  | Ministry of Environment                    |
| <b>C. MINISTRY OF MARITIME AFFAIRS AND FISHERIES</b> |   |   |           |   |  |
| 1.   | Marine Carbon Researches in Indonesia                           | 5 marine research packages in Indonesia are conducted   | 2010-2014 | Indonesia's Coastal and Coral Triangle Initiatives (CTI) regions                                  | Ministry of Maritime Affairs and Fisheries |
| 2.   | Study on Marine Hazard Response to Climate Change in SEA Region | 2 research packages of Hazard Response to Climate Change in SEA Region are conducted                                    | 2010-2012 | South China Sea and Karimata Strait   | Ministry of Maritime Affairs and Fisheries |

3. Implementation.....



| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION                    |
|----|---|--|-----------|---|--|
| 3. | Implementation of the Indonesia Global Ocean Observing System (INAGOOS)   | 2 packages of Indonesia Global Ocean Observing System (INAGOOS) activities are conducted   | 2010-2014 | Jakarta, Bali and Indonesia's Waters  | Ministry of Maritime Affairs and Fisheries |
| 4. | Implementation of the Indo-China Ocean and Climate Research Centre  | Researches in 3 locations related to Indo-China and Climate Research Centre are conducted  | 2010-2014 | Sunda Strait, Indian Ocean and Karimata Strait  | Ministry of Maritime Affairs and Fisheries |
| 5. | Formulation of the Master Plan (Detailed Zoning Plan) for <i>minapolitan</i> regions and National/ trans provincial / regency / city region Zoning Plan | 100 Master Plans (Detailed Zoning Plans) for <i>minapolitan</i> regions and 300 National/ trans province / regency / city region Zoning Plans are formulated | 2010-2020 | 50 <i>minapolitan</i> regions, 145 trans province/regency/city regions  | Ministry of Maritime Affairs and Fisheries |
| 6. | Coastal ecosystem rehabilitation (mangrove, coastal vegetation, sea grass, coral reef) in coastal regions   | 300 thousand ha of Coastal ecosystem are rehabilitated   | 2010-2020 | Marine and fishery production centres   | Ministry of Maritime Affairs and Fisheries |
| 7. | Water Conservation Area Management  | 9 million ha of water conservation area are managed  | 2010-2020 | 12 areas/regions: Riau, Padang, Kupang, Makasar, Sorong, Jakarta, Serang, Bali, Mataram (North Lombok), Pontianak Banda (Central Maluku), Aru Tenggara, Pangkajene kepulauan, Biak, Raja Ampat; and 45 regencies/cities of water conservation areas | Ministry of Maritime Affairs and Fisheries |

| NO                       | ACTION PLAN  | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION  | RESPONSIBLE INSTITUTION  |
|--------------------------|--|--|-----------|---|--|
| 8.                       | Rehabilitation in Water Conservation Areas   | 9 million ha of water conservation areas are rehabilitated                 | 2010-2020 | 23 regions: West Sumatra, Mentawai, North Sumatra Sumatra, West/North Nias, Central Tapanuli, South Nias, Riau Islands, Bintan, Batam, Lingga, Natuna, South Sulawesi, Pangkajene Islands, Selayar, South East Sulawesi, Buton, Wakatobi, NTT, Sikka, West West Papua, Raja Ampat, Papua and Biak | Ministry of Maritime Affairs and Fisheries   |
| <b>D. CROSS-SECTORAL</b> |  |  |           |   |  |
| 1.                       | Formulation of the Nationally Appropriate Mitigation Actions (NAMAs)                                       | 1 comprehensive concept of NAMAs is formulated                             | 2010-2014 | National  | Ministry of PPN/Bappenas in coordination with relevant ministries / agencies                     |
| 2.                       | Formulation of Low Carbon Development Strategy (Green Economic)  | 1 package of Climate Change Mitigation and Adaptation Policy is formulated | 2010-2014 | National  | Ministry of PPN/Bappenas in coordination with relevant ministries / agencies                     |
| 3.                       | Formulation of National Strategy for Emissions Reduction from Deforestation and Forest Degradation (REDD+) | REDD+ National Strategy is formulated                                      | 2010-2011 | National  | UKP4, Coordinating Ministry for Economic Affairs, Ministry of PPN/Bappenas, Ministry of Forestry |

4. Establishment.....

| NO | ACTION PLAN   | ACTIVITY/OBJECTIVE   | PERIOD    | LOCATION | RESPONSIBLE INSTITUTION   |
|----|---|--|-----------|----------|---|
| 4. | Establishment of REDD+ National Coordination Agency | REDD+ National Coordination Agency is established                                    | 2010-2011 | National | UKP4, Coordinating Ministry for Economic Affair, Ministry of State Apparatus Utilization and Bureaucratic Reformation |
| 5. | Establishment of independent MRV agency for REDD+   | Independent MRV agency for REDD+ is established                                      | 2010-2011 | National | UKP4, Ministry of Environment, Ministry of Forestry   |
| 6. | Establishment of financing instrument for REDD+     | a. REDD+ financing scheme is established<br>b. REDD+ financing agency is established | 2010-2011 | National | Ministry of PPN/Bappenas, Ministry of Finance, UKP4   |

PRESIDENT OF THE REPUBLIC OF INDONESIA,

[Signed]

DR. H. SUSILO BAMBANG YUDHOYONO

True copy of the original  
SECRETARIAT OF THE CABINET OF RI  
Deputy of Economic Affair,

[Signed]

Retno Pudji Budi Astuti

The image features a decorative header with three horizontal bands: a light grey band at the top, a wide teal band in the middle, and a thin light green band at the bottom. On the right side, a large, lush green tree stands on a grassy hill that is part of a globe. The globe is tilted, showing green continents and white oceans. The background is a soft, light blue sky with faint clouds.

**Presidential Regulation of The Republic of Indonesia  
No. 61 Year 2011**

on  
The National Action Plan for  
Greenhouse Gas Emissions Reduction