

Environmental Infrastructure: Important Sector, Policy, Country and Region
Formulate Policy and Law which are based on JCM Project examples, Each Country and Region

Viet Nam

Submitted the INDC in 2016
Contribution to the GHG emission mitigation

Sector	Energy, Agriculture, LULUCF, Waste
Period	from 01/01/2021 to 31/12/2030
BAU Scenario	GHG emissions in 2010: 246.8 million tCO2
	GHG emissions in 2020: 474.1 million tCO2
	GHG emissions in 2030: 787.4 million tCO2
	The BAU starts from 2010 (the latest year of the national GHG inventory)
Unconditional Contribution	To reduce GHG emissions by 8% compared to BAU
Conditional Contribution	The above-mentioned 8% contribution could be increased to 25%

References:

- Socialist Republic of Viet Nam, 2015, "Intended Nationally Determined Contribution of Viet Nam"
- Ministry of Natural Resources and Environment, 2015, "Viet Nam's Intended Nationally Determined Contribution"
- Japan International Cooperation Agency, Overseas Environmental Cooperation Center etc. 2017, "Socialist Republic of Viet Nam Project to Support the Planning and Implementation of Nationally Appropriate Mitigation Actions (NAMAs)/Low Carbon Technology Assessment (SPI-NAMA/LC Tech) Progress Report"
- Japan International Cooperation Agency, Overseas Environmental Cooperation Center etc. 2017, "Socialist Republic of Viet Nam Project to Support the Planning and Implementation of Nationally Appropriate Mitigation Actions (NAMAs)/Low Carbon Technology Assessment (SPI-NAMA/LC Tech) Second Progress Report"
- Ministry of Natural Resources and Environment of Viet Nam and JICA Technical Assistance Project to Support the Planning and Implementation of NAMAs in a MRVable Manner (SPI-NAMA), 2018, "Low Carbon Technology Catalogue: Mitigation actions in the Context of Viet Nam's Nationally Determined Contributions and Beyond"

Sector	NDC (tCO2e)	Other Mitigation Actions (tCO2e)	Representative JCM Projects (registered projects and financed projects)	Representative JCM Projects in other countries (registered projects and financed projects)	Relevant Law and Policy	Relevant Ministry	Others (expected improvement policy/ representative vietnamese association)
Power Generation Infrastructures Renewable energy: PV, Wind, Hydro, Biomass and others							
Solar PV	E17: Solar PV Power Plants (Mitigation Potential by 2030: 12.3 MtCO2e)		Introduction of Solar PV System at Shopping Mall in Ho Chi Minh (Expected GHG Emission Reductions: 274 tCO2/year)	Introduction of 0.5MW solar Power system to Aroma and Food Ingredients Factory; Indonesia 1.6MW Solar PV Power Plant Project in Jakabaring Sport City; Indonesia Introduction of Solar PV System on Factory Rooftop; Thailand Introduction of 0.3MW solar Power System and High Efficiency Refrigerator to Food Factory; Thailand Introduction of 3.4 MW rooftop Solar Power System in Technical Center and Office Buildings; Thailand 25 MW Rooftop and Floating solar Power Project in Industrial Park; Thailand Introduction of 27 MW Rooftop Solar Power System to Large Supermarkets; Thailand Introduction of 5MW Floating Solar Power system on Industrial Water Reservoir; Thailand Introduction of 2MW Rooftop Solar Power System for Power Supply in Factory; Thailand Introduction of 3.4 MW Rooftop Solar Power System to Air-conditioning parts Factories; Thailand Introduction of 20 MW Solar Power System in Darkhan City; Mongolia Installation of 2.1 MW solar power Plant for Power Supply in Ulaanbaatar Suburb; Mongolia Introduction of Ultra-lightweight Solar Panels for Power Generation at International School; Cambodia Upscaling Renewable Energy Sector Project (JFJCM); Mongolia and others	FIT (it is planned the new policy in June of 2019) Decision No.428/QĐ-TTg (2016): The approval of revisions to the national power development plan from 2011 to 2020 with visions extended to 2030 Decision No.11/2017/QĐ-TTg: On the mechanism for encouragement of the development of solar power projects in Vietnam Decision 2068/2015/QĐ-TTg Approving the development strategy of renewable energy of Vietnam by 2030 with a vision to 2050 Circular 16/2017/TT-BCT regulating project development and model PPA for solar development projects Circular 05/2019/TT-BCT amending and supplementing a number of articles of the Circular 16/2017/TT-BCT regulating project development and model PPA for solar development projects Decree No.32/2017/NĐ-CP: On state investment credit	MOIT MOIT, MPL, MOF MOIT, MOC, MOST, MOF, MARD, MPI MOIT MOIT MOIT MOF	FIT selling electricity price (\$0.0659-0.0985/kWh) will be down and incentive secure is one of tasks. To clear the contents of PPT Plot type of MOIT One-stop-shop of PPA negotiation Fund raising on bond market of large project (green bond) and introduce guarantee scheme Local finance facilitation by the Government of Vietnam guarantee or finance by export credit agency (ECA, JBIC etc.) * Notable provisions of Decision 2068/QĐ-TTg on Solar Power: - The electric power produced from the solar energy shall increase from around 10 million kWh in 2015 to around 1.4 billion kWh in 2020; around 35.4 billion kWh in 2030 and around 210 billion kWh by 2050; bring the percentage of power produced from the solar power in the total production power from the negligible rate for the time being to around 0.5% by 2020, around 6% by 2030 and around 20% by 2050. - To develop the equipment using solar energy to provide heat for households, industrial and industrial production and services. The total solar energy providing heat from 1.1 million TOE by 2020 to around 3.1 million TOE by 2030 and 6.0 million TOE by 2050. * Notable provision of circular 05/2019/TT-BVT: effective from January 1, 2018, FIT is adjusted according to central exchange rate of VND with US dollar which is issued
Solar PV and Storage Battery				Installation of Solar Power System and Storage Battery to Commercial Facility; Indonesia Smart Micro-Grid system for Preparing Outer Islands for Sustainable Energy Development Project in Addu atoll; Maldives			

Wind Power	E13: Wind Power Plants by Domestic Funding (Mitigation Potential by 2030: 2.7 MtCO2e) E14: Wind Power Plants by International Funding (Mitigation Potential by 2030: 71.8 MtCO2e)			Los Altos II Wind Farm Project; Mexico	FIT Decision No.428/QĐ-TTg (2016): The approval of revisions to the national power development plan from 2011 to 2020 with visions extended to 2030	MOIT	Improvement selling electricity price on FIT One-stop-shop of PPA negotiation Fund raising on bond market of large project (green bond) and introduce guarantee scheme Local finance facilitation by the Government of Vietnam guarantee or finance by export credit agency (ECA, JBIC etc...) * Notable provision of Decision 2068/QĐ-TTg on Wind Power: - For period to 2030, giving the priority to development of wind power on land; research is done to develop the offshore wind power source and over the continental shelf after 2030. - The power output produced from the wind power shall increase from around 180 million kWh in 2015 to around 2.5 billion kWh by 2020; around 16 billion kWh by 2030 and around 53 billion kWh by 2050; bring the percentage of power produced from the wind power in the total production power from the negligible rate for the time being to around 1.0% by 2020, around 2.7% by 2030 and around 5.0% by 2050. * Notable provisions of Decision 39/2018/QĐ-TTg regarding FIT: 1. The buyer shall purchase the whole electricity output generated by the wind power project at the purchase price at the delivery point as follows: a) With regard to onshore wind power projects: The purchase price at the delivery point is VND 1,928 per kWh, excluding VAT and equivalent to 8.5 UScents/kWh according to the USD/VND exchange rate quoted by the State Bank of Vietnam on August 30, 2018 - USD 1 = VND 22,683. The electricity purchase price shall be adjusted according to the VND/USD exchange rate. b) With regard to offshore wind power projects: The purchase price at the delivery point is VND 2,223 per kWh, excluding VAT and equivalent to 9.8 UScents/kWh according to the USD/VND exchange rate quoted by the State Bank of Vietnam on August 30, 2018 - USD 1 = VND 22,683. The purchase price shall be adjusted according to the VND/USD exchange rate.
					Decision No.37/2011/QĐ-TTg: Providing the mechanism to support the development of wind power projects in Viet Nam	MOIT	
					Decision 2068/2015/QĐ-TTg Approving the development strategy of renewable energy of Vietnam by 2030 with a vision to 2050	MOF	
					Decision 39/2018/QĐ-TTg amending a number of articles of Decision No.37/2011/QĐ-TTg on mechanism for provision of assistance in development of wind power projects in Vietnam	MOIT, MOC, MOST, MOF, MARD, MPI	
					Circular 02/2019/TT-BCTregulating the wind power project development and power purchase agreement for wind power projects in Vietnam		
					Circular No.96/2012/TT-BTC: Guidelines for financial mechanism to support electric price for wind power projects on grid tie	MOF	
Hydro Power	E12: Small Hydro Power Plants (Mitigation Potential by 2025: 83.7 MtCO2e)			Rehabilitation Project of Power Generation System at Karai 7 Mini Power Plant; Indonesia 10 MW Mini Hydro Power Plant Project in Lae Ordi River in North Sumatera; Indonesia 10 MW Mini Hydro Power Plant Project in North Sumatra; Indonesia 4 MW Mini Hydro Power Plant Project in Taguibo River in Mindanao; Philippines 15 MW Mini Hydro Power Plant Project in Siguil River in Mindanao; Philippines 0.16 MW Micro hydro Power System in Taguibo Water Supply Facility, Mindanao; Philippines	Decision No.428/QĐ-TTg (2016): The approval of revisions to the national power development plan from 2011 to 2020 with visions extended to 2030	MOIT	Financing on bond market, coporate level (EVN, IPP) (green bond)
					Circular No.32/2012/TT-BCT: Regulation on implementation of wind power project development and power purchase and sale contract form for wind power projects	MOIT	

Energy Management					Decision 280/2019/QĐ-TTg; approving national program on energy efficiency for period 2019 – 2030	MOIT	Numerical energy saving targets were set: 5 – 7 % of total energy consumed nationally will be saved for the period 2019-2025; 8 – 10 % of total energy consumed nationally will be saved for the period 2019-2030.
		Other Mitigation Actions			Law on Economical and Efficient Use of Energy (No. 50/2010/QH12)		The law provides economical and efficient use of energy; policies and measures to promote economical and efficient use of energy; and the rights, obligations and responsibilities of organizations, households and individuals in economical and efficient use of energy.
LED Street Lighting				Energy Saving for Industrial Park with Smart LED Street Lighting System: Indonesia			Place green purchase into public procurement policy
Communication and Data Center							
Smart-city, IoT and AI Technology							Japanese Case: BEMS, CEMS, HEMS in Minato-Mirai, Yokohama city
Solid Waste Recycle	W3: Recycling of Solid Waste (Mitigation Potential – Domestic Resources by 2030: 253,069tCO2 – International Supports by 2030: 926,953tCO2)				Decree No. 59/2007/ND-CP: on Solid Waste Management	MOC	Numerical targets of solid waste collected, treated and recycled are set at Decision 491/QĐ-TTg
					Circular No. 38/TT-BNN (2014): Guide to Plan for Sustainable Forest Management	MOLISA	
					Decree No. 19/2015/ND-CP: Detailing the implementation of a number of articles of the Law on Environmental Protection	MONRE	
					Decision No. 1440/QĐ-TTg (2008): the Prime Minister approving the Planning on construction of solid waste treatment facilities in three Northern, Central Vietnam and Southern key economic regions up to 2020.	MOC	
					Decision 491/2018/QĐ-TTg: Approval for the adjustments to the national strategy for general management of solid waste up to 2025 with vision towards 2050	MOC, MONRE	
					Decision No.798/QĐ-TTg (2011): Approving the Program for Investment in Solid Waste Treatment during 2011–2020	MOC	
					Decree 38/2015/ĐD-CP on Management of Waste and Discarded Materials	MONRE	
					Circular 128/2016/TT-BTC: providing the exemption of export duty for environmentally friendly products	MOIT	
Transport Infrastructures							
Public Transport Fuel conversion and Electric Vehicles					Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun. 2010)	MOIT MOT	Formulate traffic plan in the local governments Place green purchase into public procurement policy
CNG		Other Mitigation Actions		Introduction of CNG-Diesel Hybrid Equipment to Public Bus in Semarang: Indonesia	Decision No.280/QĐ-TTg (2012): Development of urban public transport by bus for period 2012 to 2020 (8 Mar. 2012)	MOIT	
	Decision No.318/QĐ-TTg (2014): Action plan in reductin CO2 emissions activities in Vietnam civil aviation period 2016–2020.				MOT MPI		
Electric Vehicles and Motorcycles					Fuel Efficiency Standard Decision No.1211/QĐ-TTg (2014): Development planning of Vietnam automobile industry by 2020 with a vision to 2030. Decision No.1168/QĐ-TTg (2014): Strategy to develop automotive industry in VietNam by 2025, orientation towards 2035.	MOIT MOIT	Formulate emission environmental standard in the local governments (Hanoi, Ho Chi Minh) Control regulation on private transport in the local cities
Renewable Energy /Energy Efficiency Port (Shore Power Supply, Automatic RTG etc...)		Other Mitigation Actions		Introduction of Energy Efficient Equipment to Bangkok Port: Thailand	Formulating Green Port Plan (2019): partly supported by JICA SPI-NAMA Decision 2068/2015/QĐ-TTg Approving the development strategy of renewable energy of Vietnam by 2030 with a vision to 2050	MOIT, MOC, MOST, MOF, MARD, MPI	Demonstration project on MOT green port plan by MOT Specified a port by JICA SPI-NAMA
					Decision No.4146/QĐ-BGTVT (2015): Approving the Planning for development of Inland waterway transportation flot from 2015 to 2020, with an orientation to 2030.	MOT	Green port ISO Vietnamese relevant association: Vietnam Seaports Association (VPA)
Renewable Energy /Energy Efficiency Airport (Shore Power Supply, Airconditioner etc...)		Other Mitigation Actions			Formulating Green Airport Plan: on the survey stage Decision 2068/2015/QĐ-TTg Approving the development strategy of renewable energy of Vietnam by 2030 with a vision to 2050	MOIT, MOC, MOST, MOF, MARD, MPI	Formulate MRV on green airport plan
					Decision No.4206/QĐ-BGTVT (2016): Action plan in reduction CO2 emissions activities in Vietnam civil aviation period 2016–2020.	MOT	
Substitution of Ethanol for Gasoline in Transport	E7: Substitution of Ethanol for Gasoline in Transport (Mitigation Potential by 2030: 14.2 MtCO2e)				Introduced E5 (5% mixed fuel) regulation Decision NO.177/QĐ-TTg (2007): Approving the scheme on development of biofuel up to 2015, with a vision to 2025 Decision No.53/2012/QĐ-TTg: Roadmap for application of ratios for blending biofuels with traditional fuels	MOIT	Formulate QVCN
					Decree No.24/2007/ND-CP: Detailing the Law on Corporate Income Tax	MOLISA	
Freight Transport Switch from Road	E9: Freight Transport Switch from Road (Mitigation Potential by 2030: 26.7 MtCO2e)		Modal Shift from Truck to Cargo Ship with Freshness Preservation Reefer Container (Expected GHG Emission Reductions: 11,025tCO2/year)		Decision No.214/QĐ-TTg (2015): Adjustment of Viet Nam railway development strategy to 2020, vision to 2050 Decision No.4088/QĐ-BGTVT (2013): Sustainable Development Action Plan of Ministry of Transport for period 2013–2020 Decision No.4146/QĐ-BGTVT (2015): Planning for development of Inland waterway transportation flot from 2015 to 2020, with an orientation to 2030 Decision No.1456/QĐ-BGTVT (2016): Green Growth and Climate Change Action plan of Ministry of Transport for period 2016–2020	MOT MOT	

Industrial Infrastructures							
Steel, Aluminum and Cement	E5: Cement-making technology improvements (Mitigation Potential by 2030: 16.6 MtCO2e)	Other Mitigation Actions (Steel)		Power generation by Waste Heat Recovery in the Tuban Plant of PT Semen Indonesia; Indonesia Power Generation by Waste-Heat Recovery in Cement Industry; Indonesia Introduction of 12 MW Power Generation system by Waste Heat Recovery for Cement Plant; Thailand	Adopted energy saving and efficiency benchmarks in the steel sector Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010)	MOIT	Steel: Vietnam Steel Association (VSA) Independent company:Hoa Phat Group, VnSteel, Hoa Sen Group, Pomina Steel, Nam Kim Steel, Ton Dong A Cement: Energy saving bench mark (MOIT circular) Aluminum:Energy saving bench mark (MOIT circular) Circular 20/2016/TT-BCT regulates the quota on energy consumption of the following processes of production in the steel industry for the period that extends to the year of 2020 inclusive and the period that extends from 2021 to 2025 inclusive: Sintering of iron ore; iron making by blast furnace; steelmaking by (top-blown) converter; steelmaking by electric arc furnace; steelmaking by induction furnace; steel rolling
					Adopted energy saving and efficiency benchmarks.(2016) Circular 20/2016/TT-BCT on energy consumption benchmark for steel industry	MOIT	
					GHG emission reduction action plan for cement sector (2016)	MOC	
Chemical and Pulpe		Other Mitigation Actions (Pulpe)		Introduction of High Efficiency Ion Exchange Membrane Electrolyzer in Caustic Soda Production Plant; Thailand	Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010)	MOIT	Energy saving bench mark Cheap credit system, interest subsidy system Energy consumption benchmarks for paper manufacturing and chemical industries are regulated at circulars 24/2017/TT-BCT and 02/2014/TT-BCT respectively
					The draft regulation on energy efficiency measures is finalized. Circular 24/2017/TT-BCT on energy consumption benchmark for paper manufacturing	MOIT MOIT	
					Circular 02/2014/TT-BCT on on solutions for economical and efficient use of energy in industries	MOIT	
Factory Co-Generation Factory Energy Efficiency (Chiller, Refrigerator, Pump, Process etc)				<Factory Co-Generation> Introduction of Gas Co-generation System and Absorption Chiller to Motor Parts Factory; Indonesia Installation of Gas Co-generation System for Automobile Manufacturing Plant; Indonesia Introduction of Co-generation System to Motor Parts Factory; Thailand Installation of Co-generation Plant for On-Site Energy Supply in Motorcycle Factory; Thailand Introduction of Gas Co-generatoin System and Absorption Chiller to Fiber Factory; Thailand <Factory Energy Efficiency> Introduction of High Efficiency Injection Molding Machine to Plastic Parts Factory; Indonesia Energy Saving by Introduction High Efficiency Autoclave to Infusion Manufacturing Factory; Indonesia Introduction of Absorption Chiller to Chemical Factory; Indonesia Energy Saving for Air-conditioning and Process Cooling at Textile Factory; Indonesia Energy Saving in Industrial Wastewater Treatment System for Rubber Industry; Indonesia Introduction High Efficiency Looms in Weaving Mill; Indonesia Introduction of High Efficiency Once-through Boiler in Golf Ball Factory; Indonesia Reducing GHG Emission at Textile Factories By Upgrading to Air-saving Loom; Indonesia Energy Saving through Introduction of Regenerative Burners to the Aluminum Holding Furnace of the Automotive Components Manufacturer; Indonesia Energy Efficient Refrigerants to Cold Chain Industry; Indonesia Energy Saving for Textile Factory Facility Cooling by High-efficiency Centrifugal Chiller; Indonesia Energy Saving by Installation of Double Bundle-type Heat Pump; Indonesia Energy Saving for Air-Conditioning in Tire Manufacturing Factory with High Efficiency Centrifugal Chiller; Thailand Installation of High Efficiency Air Conditioning System and Chillers in Semiconductor Factory; Thailand Energy Saving by Air-Conditioning control System in Precision Parts Factories; Thailand Introduction of High-efficiency Boiler System to Rubber Belt Plant; Thailand Introduction of Heat Recovery Heat Pumps to Food Processing Factory; Thailand Introduction of Energy Efficient Refrigeration system in Industrial Cold Storage; Thailand Introduction of Energy Saving Refrigerator and Evaporator with Mechanical VaporRecompression in Amino Acid Producing Plant; Thailand Introduction of High Efficiency Chilled Water Supply System in Milk Factory; Thailand Energy Saving for Semiconductor Factory with High Efficiency Centrifugal Chiller and Compressor; Thailand Reducing GHG emission at Textile Factory by Upgrading to Air-asving Loom(Samutprakam); Thailand Installation of High Efficiency Centrifugal Chiller for Air Conditioning System in Clothing Tag Factory; Bangladesh	ETS		
					Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010)	MOIT	
Brick-Making	E6: Brick-making technology improvements (Mitigation Potential by 2030: 19.0 MtCO2e)				Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010)	MOIT	
Oil Refinery		Other Mitigation Actions		The Optimum Load Allocation for Utility Equipment; Boiler, Steam Turbines; Indonesia	Need the energy saving benchmark formulation		
					Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/ND-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010) The draft regulation on energy efficiency measures is finalized. Developing energy saving and efficiency benchmarks (Plastic).	MOIT	

Commercial Infrastructures							
Renewable energy/Energy Efficiency Shopping Mall and Office	E10: High Efficiency Commercial Air Conditioning (Mitigation Potential by 2030: 11.1 MtCO2e) Not describe about Energy Efficiency per construction in INDC		Introduction of Solar PV System at Shopping Mall in Ho Chi Minh (Expected GHG Emission Reductions: 274tCO2/year) Low Carbon Hotel Project in Vietnam: Improving the Energy Efficiency of Commercial Buildings by Utilization of High Efficiency Equipment (Expected GHG Emission Reductions: 294tCO2/year) Promotion of Green Hospitals by Improving Efficiency/Environment in National Hospitals in Vietnam (Expected GHG Emission Reductions: 878tCO2/year)	Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller: Indonesia Installation of Solar Power System and Storage Battery to Commercial Facility: Indonesia Introduction of LED Lighting to Sales Stores: Indonesia Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller: Indonesia Introduction of 30 MW Rooftop Solar Power system to Large Supermarkets: Thailand Introduction of LED Lighting to Sales Stores: Thailand Energy Saving at Convenience Stores with High Efficiency Air-Conditioning and Refrigerated Showcase: Thailand Installation of Inverter-type Air Conditioning System, LED Lighting and Separate Type Fridge Freezer Showcase to Grocery Store in Indonesia: Indonesia	Revision of "Urban Engineering Infrastructure (QCVN07:2010/BXD)" and "Regional and Urban Planning and Rural Residential Planning (QCVN01:2008 BXD) in Rural Residential Planning (QCVN01: 2008 BXD) in 2013-2014. Construction and Reconstruction of buildings which is more than 2500 m2 is regulated Guiding procedures on Green Building Assessment	MOIT MOC	Established: improvement of law on economic and efficient use of energy (MOIT circular amendment) Newly: improvement of construction standard (MOC circular amendment) Energy saving report system/improvement standard in the local government (DOIT DOC circular in Hanoi, Ho Chi Minh, Hai Phong)
Residential Infrastructures							
Renewable Energy/Energy Efficiency Smart Meter and Home System							
High Efficiency Residential Air Conditioning High Efficiency Residential Refrigerator High Efficiency Residential Lighting Solar Water Heater	E1: High Efficiency Residential Air Conditioning (Mitigation Potential by 2030: 12.4 MtCO2e) E2: High Efficiency Residential Refrigerators (Mitigation Potential by 2030: 12.4 MtCO2e) E3: High Efficiency Residential Lighting (Mitigation Potential by 2030: 38.3 MtCO2e) E4: Solar Water Heaters (Mitigation Potential by 2030: 16.6 MtCO2e)				Law No. 50/2010/QH12: Law on Economical and Efficient Use of Energy No: 50/2010/QH12 (as regulated by Decree No.21/2011/NĐ-CP on the Law on Economical and Efficient Use of Energy and Measures for its Implementation) (17 Jun, 2010) E1, E2: Decree No. 21/2011/NĐ-CP: Detailing the Law on Economical and Efficient Use of Energy and measures for its implementation E1: Decision No. 03/2013/QĐ-TTg: Amending and supplementing a number of articles of the Prime Minister's Decision No. 51/2011/QĐ-TTg of September 12, 2011, promulgating the list of devices and equipment subject to energy labeling and application of the minimum energy efficiency, and the implementation roadmap E2: Energy efficiency labeling for household refrigerators became compulsory (2014) Technical standards on energy performance testing (2016) E4: EVN Subsidized program (1M VND/unit) (Still some tasks leave after finished subsidized progr.)	MOIT MOST	Update energy labeling system (contents of energy saving quality) Place green purchase into public procurement policy
Agricultural Infrastructures							
Rice Cultivation System (Waste Water and Pump)	A3: Alternative Wetting and Drying, and Improved Rice Cultivation System (small scale) (Mitigation Potential by 2030: 0.94 MtCO2e) A5: Integrated Crop Management (ICM) in Upland Annual Crop Cultivation (Mitigation Potential by 2030: 0.50 MtCO2e) A9: Alternate Wetting and Drying, and Improved Rice Cultivation System (large scale) (Mitigation Potential by 2030: 7.02 MtCO2e) A14: Improved Irrigation for Coffee (Mitigation Potential by 2030: 3.39 MtCO2e)				Decision No.3119/QĐ-BNN-KHCN (2011): Green House Gas (GHG) emissions reduction in the Agriculture and Rural Development sector up to 2020, the Ministry of Agriculture and Rural Development Decision No.543/QĐ-BNN-KHCN (2011): To promulgate the Action Plan on Climate change response of agriculture and rural development sector in the period 2011-2015 and vision to 2050, the Minister of Agriculture and Rural Development	MARD	
Aquaculture					Decision No.3119/QĐ-BNN-KHCN (2011): Green House Gas (GHG) emissions reduction in the Agriculture and Rural Development sector up to 2020, the Ministry of Agriculture and Rural Development Decision No.543/QĐ-BNN-KHCN (2011): To promulgate the Action Plan on Climate change response of agriculture and rural development sector in the period 2011-2015 and vision to 2050, the Minister of Agriculture and Rural Development	MARD	
Technical Improvement (Improvement Quality and Power Generation)	A12: Improvement of Quality and Services Available for Aquaculture, such as Inputs and Foodstuff (Mitigation Potential by 2030: 0.14 MtCO2e) A13: Improvement of Technologies in Aquaculture and Waste Treatment in Aquaculture (Mitigation Potential by 2030: 1.21 MtCO2e) A13: Improvement of Technologies in Aquaculture and Waste Treatment in Aquaculture (Mitigation Potential by 2030: 1.21 MtCO2e)				Decision No.24/2014/QĐ-TTg: Support mechanism for development of biomass power projects in Viet Nam, the Prime Minister of Government Fuel Efficiency Standard Decision No.3119/QĐ-BNN-KHCN (2011): Green House Gas (GHG) emissions reduction in the Agriculture and Rural Development sector up to 2020, the Ministry of Agriculture and Rural Development Decision No.543/QĐ-BNN-KHCN (2011): To promulgate the Action Plan on Climate change response of agriculture and rural development sector in the period 2011-2015 and vision to 2050, the Minister of Agriculture and Rural Development Circular No. 19/2013/TT -BNNPTNT (2013): Guiding to use energy economically and efficiently in agricultural production Decree No. 21/2011/NĐ-CP: Detailing the Law on Economical and Efficient Use of Energy and measures for its implementation Decree No. 134/2013/NĐ-CP: Regulations on sanction against administrative violation in the field of electricity, safety of hydroelectric dam, thrifty and effective use of energy	MOIT, MOST MARD MOIT	
Other Mitigation Actions		Other Mitigation Actions	Energy Saving and Work Efficiency Improvement by Introducing a New Chip-On-Board LED System in Vietnam (Expected GHG Emission Reductions: 823tCO2/year)				
F-gas							
Destruction of F-gas		Other Mitigation Actions	Development of collection Scheme and Introduction of Dedicated System for Destruction of Used Fluorocarbons (Expected GHG Emission Reductions: 6,294tCO2/year(after starting destruction of F-gas))	Project on Introduction of Scheme for Fluorocarbons Recovery and Destruction with Utilization of Existing Waste Incineration Plant: Thailand	Mandatory Energy Efficiency labeling for household refrigerator (2014) Technical standards on energy performance testing for household refrigerator (2016) AC testing and rating method (2017) Mandatory Energy Efficiency labeling for AC (2013)	MOIT MOST	Establish legal framework (Destruction obligation policy, standard)
Alternative Device with Low GWP		Other Mitigation Actions					