

Benefits of the Joint Crediting Mechanism for accelerating to NDCs

Overseas Environmental Cooperation Center, Japan (OECC)

<https://www.carbon-markets.go.jp/eng/>

OECC's JCM Information sheet for identifying NDC sectors/projects to supported by the JCM

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

Information source
(NDC, laws, policies etc.)

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 tCO ₂
	GHG emissions in 2020: 474.1 million tCO ₂
	GHG emissions in 2030: 787.4 million tCO ₂
	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%

Overview of NDC

- Ministry of Natural Resources and Environment, 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 (tCO ₂ e)	Other Mitigation Actions (tCO ₂ e)	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							
Hydro Power							
Transmission							
Urban Infrastructures							
Waste Power							
Industrial Infrastructures							
Steel, Aluminum and Cement							

Sectors and technologies listed in the Japan's Infrastructure System Export Strategy

Emissions reduction targets of NDC

Corresponding JCM Projects in each sector

Relevant laws and policies in partner country

Relevant Ministries

Barriers for replication and challenges

Example 1:

Emissions Reduction Needs on each sector

Sector	NDC (tCO _{2e})	Other Mitigation Actions (tCO _{2e})	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 MtCO _{2e})		Introduction of Solar PV System at Shopping Mall in Ho Chi Minh (Expected GHG Emission Reductions:274tCO ₂ /year)	<p>Introduction of 0.5MW solar Power system to Aroma and Food Ingredients Factory: Indonesia</p> <p>1.6MW Solar PV Power Plant Project in Jakabaring Sport City: Indonesia</p> <p>Introduction of Solar PV System on Factory Rooftop: Thailand</p> <p>Introduction of 0.8MW solar Power System and High Efficiency Refrigerator to Food Factory: Thailand</p> <p>Introduction of 3.4 MW rooftop Solar Power System in Technical Center and Office Buildings: Thailand</p> <p>25 MW Rooftop and Floating solar Power Project in Industrial Park: Thailand</p> <p>Introduction of 27 MW Rooftop Solar Power System to Large Supermarkets: Thailand</p> <p>Introduction of 5MW Floating Solar Power system on Industrial Water Reservoir: Thailand</p> <p>Introduction of 2MW Rooftop Solar Power System for Power Supply in Factory: Thailand</p> <p>Introduction of 3.4 MW Rooftop Solar Power System to Air-conditioning parts Factories: Thailand</p> <p>Introduction of 20 MW Solar Power System in Darkhan City: Mongolia</p> <p>Installation of 2.1 MW solar power Plant for Power Supply in Ulaanbaatar Suburb: Mongolia</p> <p>Introduction of Ultra-lightweight Solar Panels for Power Generation at International School: Cambodia</p> <p>Upscaling Renewable Energy Sector Project (JFJCM): Mongolia and others</p>	FIT (it is planned the new policy in June of 2019)		<p>FIT selling electricity price (\$0.0659–0.0985/kWh) will be down and incentive secure is one of tasks.</p> <p>To clear the contents of PPT Plot type of MOIT</p> <p>One-stop-shop of PPA negotiation</p> <p>Fund raising on bond market of large project (green bond) and introduce guarantee scheme</p> <p>Local finance facilitation by the Government of Vietnam guarantee or finance by export credit agency (ECA, JBIC etc...)</p> <p>* 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 by 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.</p> <p>* 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 by State Bank of Vietnam at final date of the previous year.</p>
					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	
					Decision No.11/2017/QĐ-TTg: On the mechanism for encouragement of the development of solar power projects in Vietnam	MOIT, MPI, MO	
					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	
					Circular 16/2017/TT-BCT regulating project development and model PPA for solar development projects	MOIT	
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	MOIT						
Decree No.32/2017/ND-CP: On state investment credit	MOIT MOF						

Status: Find emissions reduction needs on each sector in country.



Expected action: Review the specific sector which will be focused on emissions reduction.

Example 2: Replication of projects in the same countries

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)
Urban Infrastructures							
Energy Saving Water Supply and Waste Treatment Site		Other Mitigation Actions (Waste Transfer Station)	Introduction of High Efficiency Water Pumps in Da Nang City (Expected GHG Emission Reductions: 1,145tCO2/year) Energy Saving by Introduction of Inverters for Raw Water Intake Pumps (Expected GHG Emission Reductions: 1,043tCO2/year)	Energy Saving Wastewater Treatment Plant in Battambang: Cambodia (JFJCM)	The prioritized projects of climate change plan in Ho chi Minh, Hanoi, Hai Phong, Da Nang and Can Tho) on Waterworks Energy Saving	MOC MOC MONRE MOC MONRE MOC MOC MOC	Place green purchase into public procurment policy
					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.		
					Decision 491/QĐ-TTG (dated May 7, 2018) Approval for the adjustments to the national strategy for general management of solid waste up to 2025 with vision towards 2050		
					Approval for the adjustments to the national strategy for general management of solid waste up to 2025 with vision towards 2050		
					Decision No.798/QĐ-TTg (2011): Approving the Program for Investment in Solid Waste Treatment during 2011-2020		
					Decision No.986/QĐ-BXD (2011): Promulgating action plan of solid waste treatment investment program in period of 2011-2020		
					Decree No. 59/2007/ND-CP: on Solid Waste Management		
Law on Eco							

Status:

- Projects implemented in the sector
- Consideration on possibility to replicate same type of projects



Expected action:

Increase make project finding efforts for potential project owners and technology suppliers

Example 3:

Transfer of experiences in other countries

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)
Industrial Infrastructures							
Steel, Aluminum and Cement	E5: Cement-making technology improvements (Mitigation Potential by 2030: 16.6 MtCO2e)	Other Mitigation Actions (Steel)		<ul style="list-style-type: none"> - 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	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)
					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)		
					Circular 20/2016/TT-BCT on energy consumption benchmark for steel industry	MOIT	Aluminum: Energy saving bench mark (MOIT circular)
					GHG emission reduction action plan for cement sector (2016)	MOC	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

Status:

- No project in the sector
- Projects implemented in other countries
- Consideration on possibility to replicate the technology?



Expected actions:

- Check barriers for replication
- Increase project finding efforts for potential project owners and technology suppliers

Example 4: Creating an enabling environments for projects

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)
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		<p>Introduction of Solar PV System at Shopping Mall in Ho Chi Minh (Expected GHG Emission Reductions: 274tCO2/year)</p> <p>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)</p> <p>Promotion of Green Hospitals by Improving Efficiency/Environment in National Hospitals in Vietnam (Expected GHG Emission Reductions: 878tCO2/year)</p>	<p>Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller: Indonesia</p> <p>Installation of Solar Power System and Storage Battery to Commercial Facility: Indonesia</p> <p>Introduction of LED Lighting to Sales Stores: Indonesia</p> <p>Energy Saving for Air-Conditioning at Shopping Mall with High Efficiency Centrifugal Chiller: Indonesia</p> <p>Introduction of 30 MW Rooftop Solar Power system to Large Supermarkets: Thailand</p> <p>Introduction of LED Lighting to Sales Stores: Thailand</p> <p>Energy Saving at Convenience Stores with High Efficiency Air-Conditioning and Refrigerated Showcase: Thailand</p> <p>Installation of Inverter-type Air Conditioning System, LED Lighting and Separate Type Fridge Freezer Showcase to Grocery Store in Indonesia: Indonesia</p>	<p>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.</p> <p>Construction and Reconstruction of buildings which is more than 2500 m2 is regulated</p> <p>Guiding procedures on Green Building Assessment</p>	MOIT MOC	<p>Established: improvement of law on economic and efficient use of energy (MOIT circular amendment)</p> <p>Newly: improvement of construction standard (MOC circular amendment)</p> <p>Energy saving report system/improvement standard in the local government (DOIT DOC circular in Hanoi, Ho Chi Minh, Hai Phong)</p>

Status:

- Identified potentials to scale up projects

Status:

- Institutional barriers
- lack of incentives etc.

Action:

- Improvements of institutional arrangements thru cooperation