

# Low Carbon Technology Assessment Facilitating Effectiveness of Viet Nam's Nationally Determined Contributions

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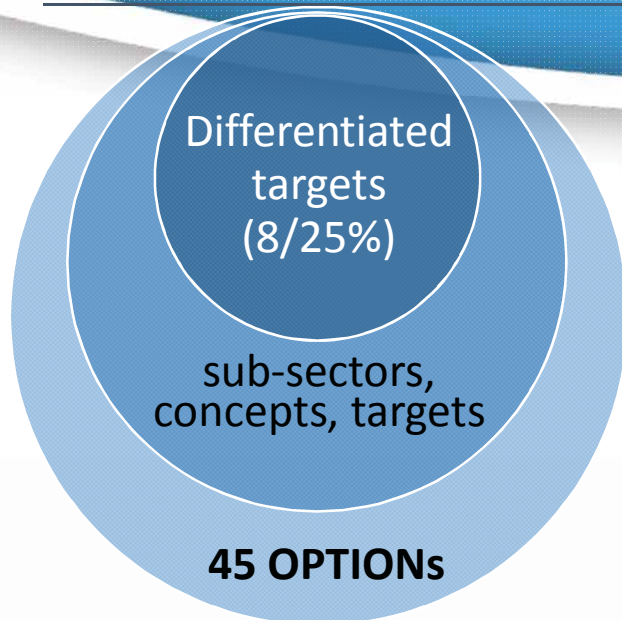
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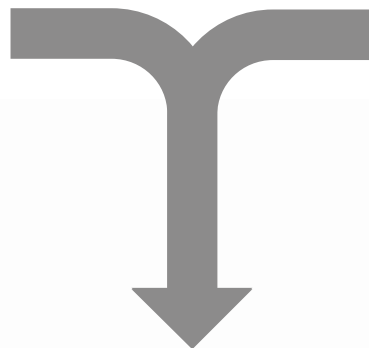
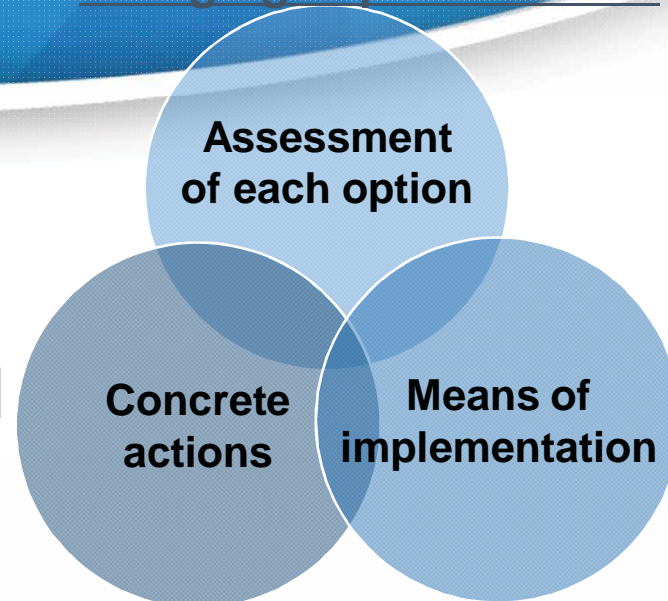


# , Objectives of SPI-NAMA LC Tech Assessment

## Viet Nam's NDC at Glance



## Bridging Implementation



## Low Carbon Technology Assessment for NDC

### Objectives

1. Identifying and Assessing **Low Carbon Technologies** applicable to each mitigation option of INDC & F-gas (HFC)
2. Explores concrete **Opportunities for Technology Transfer / Deployment**

# NDC implementation toward Low Emission Development

## NDC

A national climate change action strategy aiming to GHG emission reduction

### Energy /Transport

- 17 options are identified, 10 options from Energy efficiency and industry, 7 options from Power generation, 3 options from transport sector.
- It reflects National Target Programme on Energy Efficiency (2006), Law on Economical and Efficient Use of Energy (2010) as well as the Power Development Master Plan No. VII (2011).

### Agriculture

- 11 out of 15 options are higher priority.
- It mainly consist of crop production subsector related activities, followed by irrigation, livestock and fisheries subsectors.

### LULUCF

- 9 options including protection national/coastal forest, plantation of coastal forest, national forest regeneration are described.
- It reflects the goal that *Viet Nam will reduce its GHG emissions by 8% by 2030 compared to the BAU scenario.*

### Waste

- 4 options are.
- Mitigation measures are identified in the policy document of the waste sector in Viet Nam, i.e. "Decision No.2149/QD-TTg".

Added!

### F-gas

- F-gas sector is not included in the INDC, yet it has high potential for GHG emission reduction.
- There is no regulation is developed in Viet Nam.

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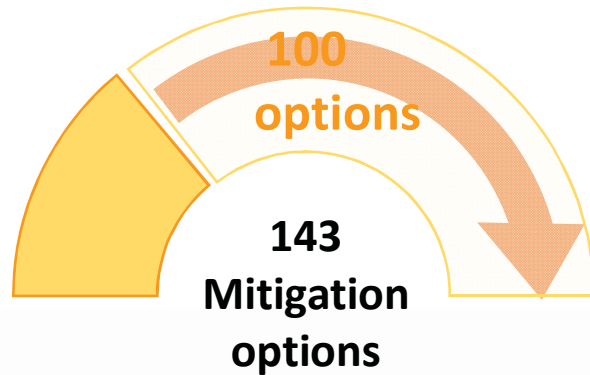
Additional mitigation options and technologies

Technology sheet

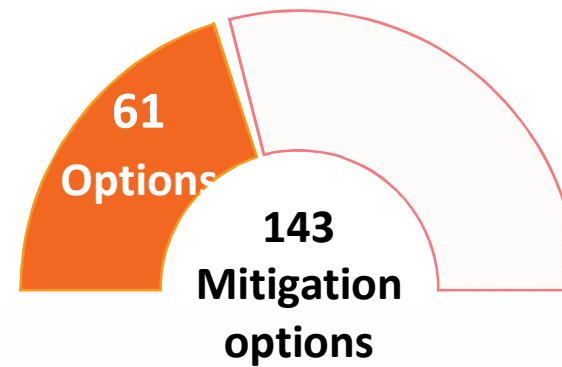
E3 High Efficiency Residential Lighting	
Baseline Technology	Suggested Low Carbon Technology(ies)
Incandescent lamp	<ul style="list-style-type: none"> <li>LED (Light-Emitting Diode)</li> <li>CFL (Compact Fluorescent Lamp)</li> </ul>
Photo Image <sup>1)</sup>	
	<p>LED</p> <p>CFL</p>
Summary of Technology	<p><b>LED:</b> Electricity is passed through a semiconductor, which produces photons. LED can produce more usable white light per unit of energy than metal halide, sodium vapor, and fluorescent and halogen light sources.</p> <p><b>CFL:</b> Fluorescent lamps contain mercury which causes the tube to produce light mostly in the UV region of the spectrum.</p> <ul style="list-style-type: none"> <li>50% reduction in electricity consumption by CFL and 80% reduction by LED compared with incandescent lamp.</li> </ul>
Technical Advantages	<ul style="list-style-type: none"> <li>Their small size, durability, long operating lifetime, wavelength specificity, relatively cool emitting surfaces, and linear photon output with electrical input make these solid state light sources ideal for use places in such as plant lighting designs.</li> </ul>
Mitigation Potential	<p>0.04 tCO<sub>2</sub>e/year/unit (Incandescent to LED)</p> <p>0.02 tCO<sub>2</sub>e/year/unit (Incandescent to CFL)</p> <p>(Cumulative: 29.3 MCO<sub>2</sub>e in 2010-2030<sup>2)</sup>)</p>
(Initial) Cost	<p>LED: 3 USD/unit, CFL: 2 USD/unit</p> <ul style="list-style-type: none"> <li>Electricity consumption of lighting accounts for larger percentage of the total household electricity consumption.</li> </ul>
Viet Nam's Context	<p><b>Legal Framework:</b></p> <ul style="list-style-type: none"> <li>Law No 50/2010/QH12 (2010)</li> </ul> <p><b>Existing Policy &amp; Measures</b></p> <ul style="list-style-type: none"> <li>TCVN 8249: 2009</li> <li>TCVN 7451-2: 2005</li> <li>TCVN 8248: 2009</li> <li>TCVN 7451-1: 2005</li> <li>TCVN 7896: 2008</li> <li>TCVN 7897: 2008</li> </ul> <p><b>Current State of Market and Production:</b> N/A</p>

# Results and Findings from the Assessment work

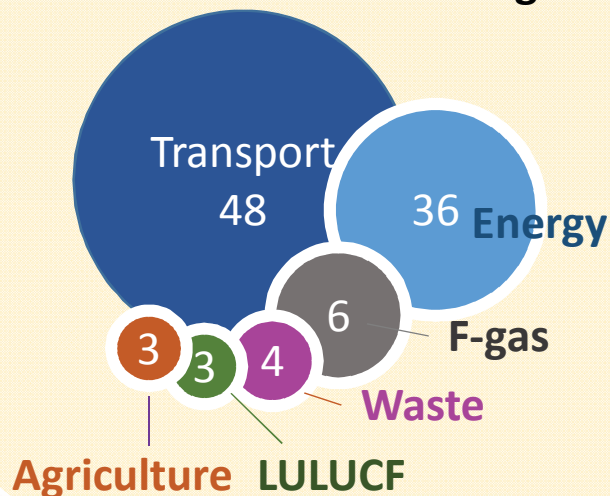
✓ More than half of mitigation options are newly suggested.



✓ 61 options have relatively smaller barriers



## # of additional technologies



Sector	Technologies with smaller barriers
Energy Efficiency	Solar Water Heater
Power Generation	Solar PV Power Plants
Transport	Passenger Transport Modal Shift from Private to Public
Agriculture	Introduction of Biochar
LULUCF	Protection of Natural Forest
Waste	Semi anaerobic landfill operation
F-gas	F-gas Destruction



# Contribution to implementation of NDC

Toward full implementation of NDCs, LMs are expected to take actions step-by-step.

- Ensure the effectiveness of legal system
- Provide sufficient Information to LMs when making decision and implementing
- Contribute to NDC implementation and its periodic review

\* Evaluation criteria will assure objectiveness of decision making for prioritization.

**Low Emission  
Development  
in Viet Nam**



**Accelerated  
implementation**

**Initial  
implementation**

**Early actions**

**Several steps taken by:**

- ✓ Removing barriers
- ✓ Promoting/harnessing coordination with stakeholders
- ✓ Partially supported by International cooperation

Pre-2020

2020

2030

Further

Thank you for your attention

