VIETNAM AND CLIMATE CHANGE: POTENTIAL FOR LOW CARBON DEVELOPMENT

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(2) NATIONAL TARGET PROGRAM TO RESPOND TO CC

Identify the extent of CC and assess CC impacts on sector, area and locality

Identify measures to respond to CC

Promote scientific and technological activities to respond to CC

Enhance organizational structure, institutional capacity and development and implementation of policies

Enhance public awareness and develop human resources

Promote international cooperation

Mainstream CC issues into socio-economic, sectoral and local development strategies, plans and planning

Develop and implement action plans of sectors and localities to respond to CC

Strategic objectives:
Assess CC impacts on sectors and regions and develop feasible action plans to effectively respond to CC in the short and long-term to ensure sustainable development of VN. *To take opportunities to develop towards a low-carbon economy,* and to join the international community's efforts in mitigating CC.
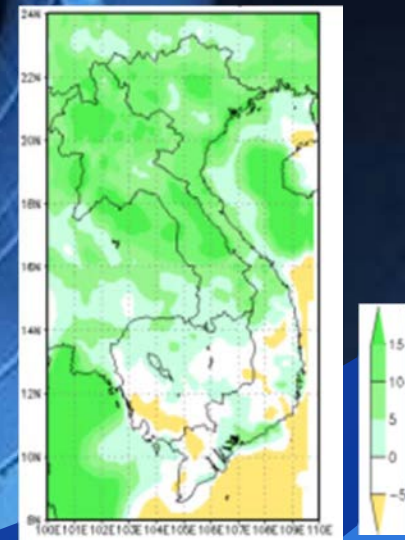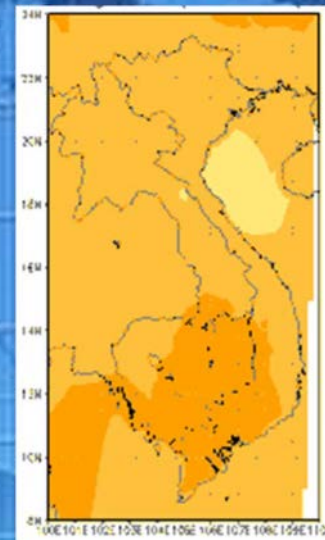
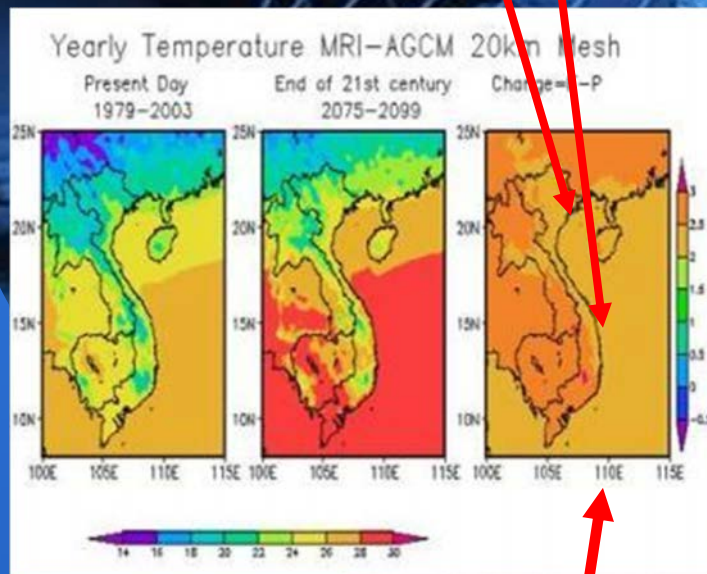# CLIMATE CHANGE, SEA LEVEL RISE SCENARIOS FOR VIETNAM
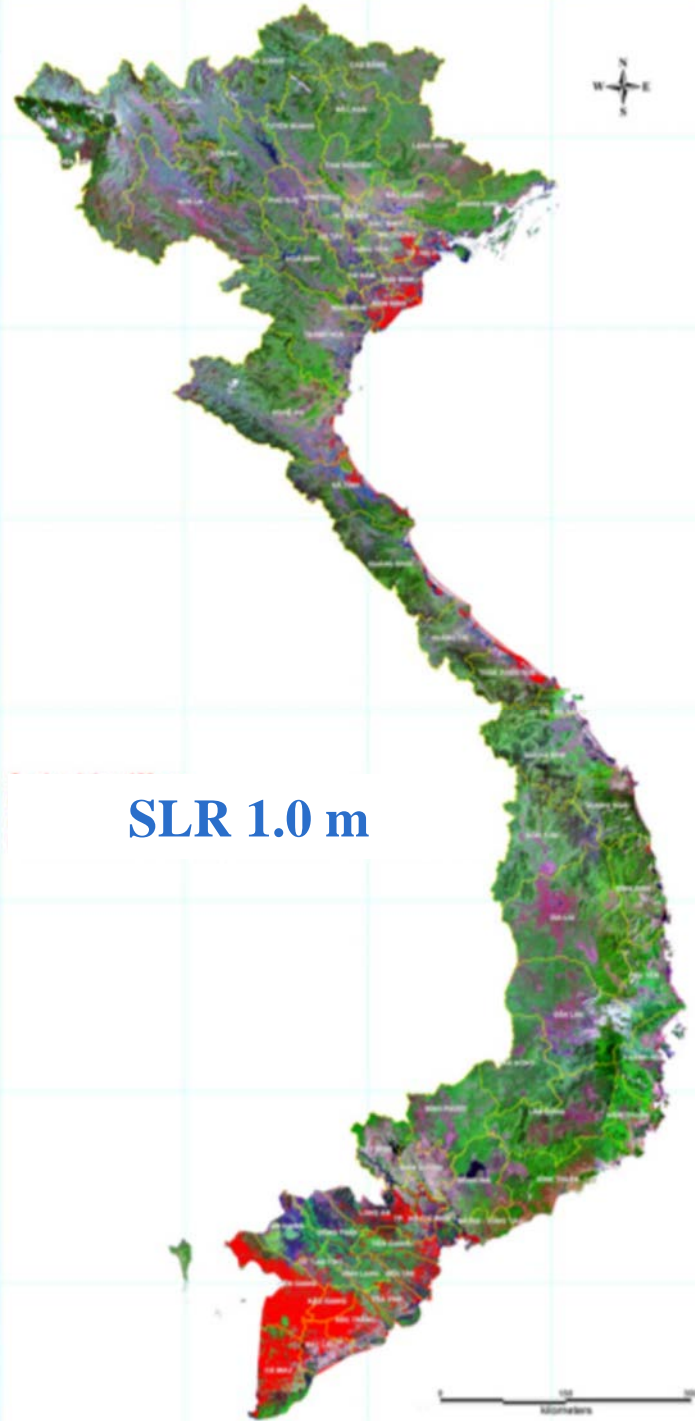
MRI/AGCM Model - Japan

PRECIS Model

+ 2.0 – 2.5 ºC

+ 2.5 – 3.0ºC

Change in Temperature

Change in Rainfall

A2 scenario

Inundation

SLR 1.0 m
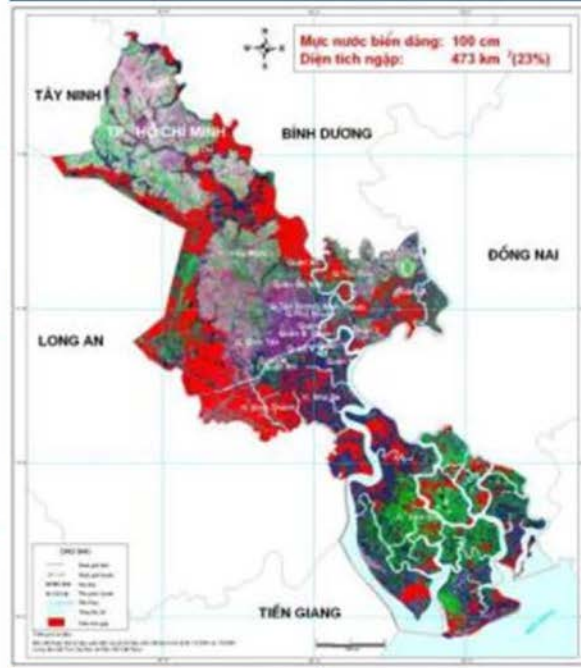
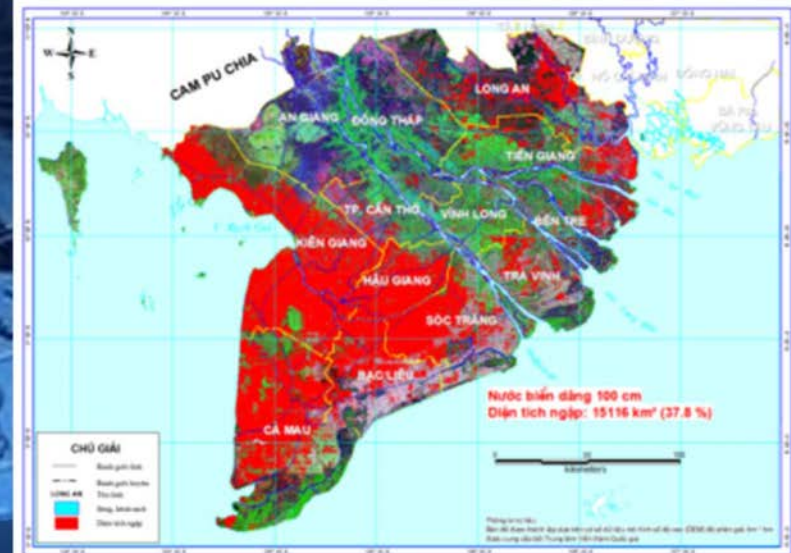SLR: 1.0 m
Inundation: 473 km^2
                    (23%)
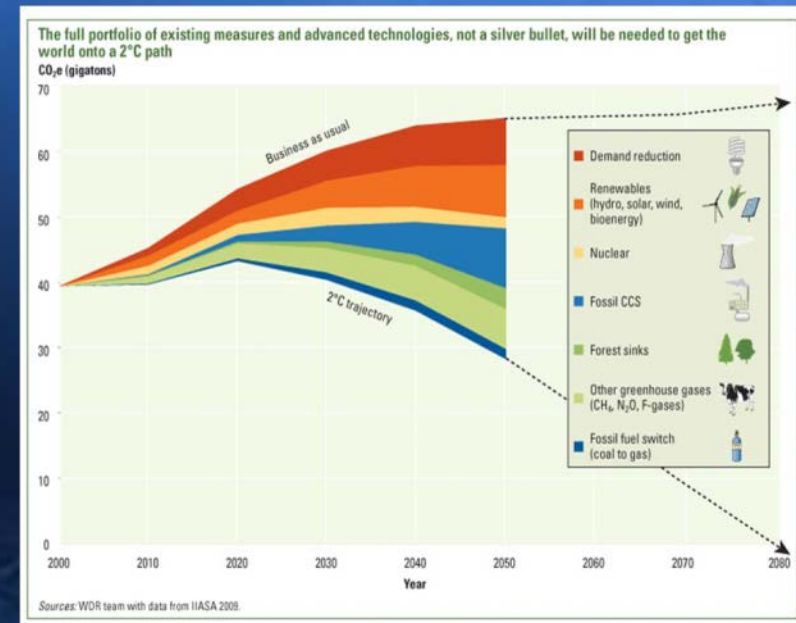
SLR: 1.00 m
Inundation: 15100 km^2
                    (38%)

Projected annual total global emissions (billion tons of CO_2 equivalent)
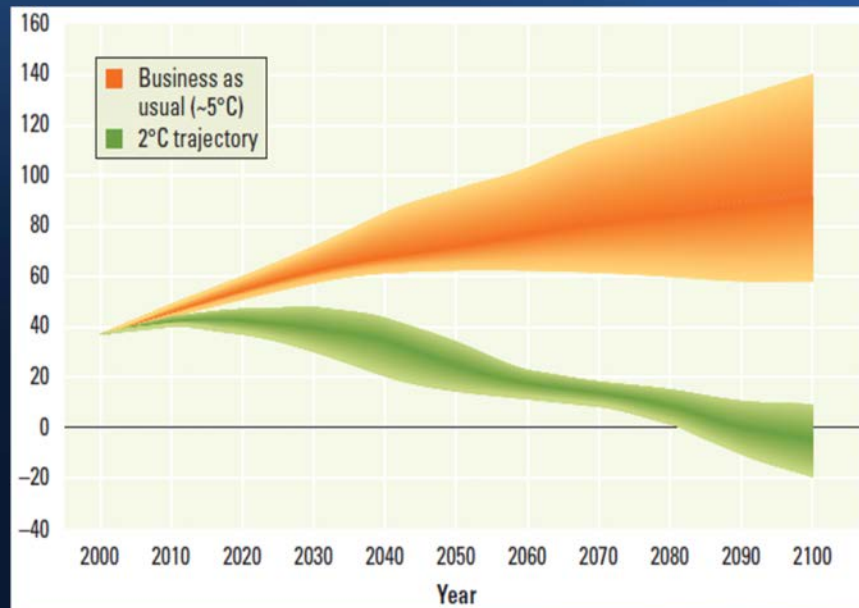
Involves a portfolio of cross sector adaptation and mitigation measures

Low Carbon Studies:

- ✓ Focused on high GHG emitters
- ✓ Determined GHG mitigation potential
- ✓ Assessed financing needs and other requirements

Low Emission Development Study

1) National development goals and objectives

2) National Greenhouse Gas Inventory and Economic Data

3) Long-term Business as Usual (BAU) Economic and Emissions Projection

4) Alternative Pathway of Emission Mitigation

5) Prioritized Actions and Implementation Plans

6) Implementation and Financing Plans

National development goals and objectives

Sectoral GDP growth projections

Sector	2011 -2020	2021 -2030
GDP growth, of which:	7.2	7.0
Industry	8.2	7.5
Agriculture	3.0	2.5

Projected structure of GDP by sector

Sector	2010	2020	2030
GDP , of which	100	100	100
Industry	44.7	47.8	48.7
Agriculture	17.3	12.5	48.7

Population growth projection

Period	Growth rate
2010 - 2020	1.0
2020 - 2030	0.7

Projected forest coverage and forest land

Forest type	2010	2020	2030
Natural forest	9.7	9.7	9.7
Planted forest	1.9	4.4	4.8
Savannah	3.4	1.0	0.2
Total	11.6	14.1	14.5

Livestock number projections

Breed	2010	2020	2030
Beef cattle	7.8	12.5	13.5
Dairy cattle	0.2	0.5	0.7
Buffalo	2.9	2.9	2.9
Pig	29.9	34.8	49.0

End-use energy demand projections

Unit: KTOE

Sector	2010	2020	2030
Industry	14,176	27,846	48,556
Transportation	9,404	16,317	29,088
Agriculture	738	905	1,112
Residential	16,874	23,648	37,175
Commercial/institutional	2,346	5,416	9,895
Total	43,538	74,131	125,825

National GHG Inventory 2000

GHG emissions by sub-sector in energy

Sub-ssector	CH	N O	CO	NOx	CO e	%
Enteric fermentation	368				7,730	11.9
Manure management	164				3,447	5.3
Rice cultivation		1,782			37,429	57.5
Agricultural soils		45.8			14,219	21.8
Burning of savannas	9.97	1.23	261	4.46	590	0.9
Burning of agricultural residues	59.1	1.39	1,214	50.28	1,672	2.6
Total	2,383	48.5	1,476	54.7	65,090	100
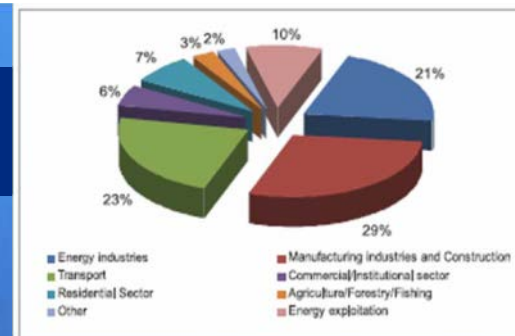
Unit: thousand tonnes

GHG emissions from agriculture

Emission source	2000	
	Emission	%
Fuel combustion		
- Energy industries	11,205	21.2
- Manufacturing industries	15,113	28.6
- Transportation	11,946	22.6
- Commercial/Institutional sector	2,971	5.6
- Residential sector	3,933	7.5
- Agriculture/Forestry/Aquaculture	1,384	2.6
- Others	1,174	2.2
Fugitive emissions		
- Solid fuel	1,874	3.6
- Gasoline and Oil	3,169.	6.1
Total	52,773	100

GHG emissions from LULUCF

Source/sink	Emissions of CO	Removals of CO	CH	N O	CO e
forest woody biomass stocks	0	-49,830			-49,830
Forest and gras-sland conversion	40,665		140	0.96	43,909
Abandonment of Managed Lands	0	-7,330			-7,330
CO2 uptake/ emission	46,943	-18,588			28,355
Total	87,608	-775,748	140	0.96	15,104

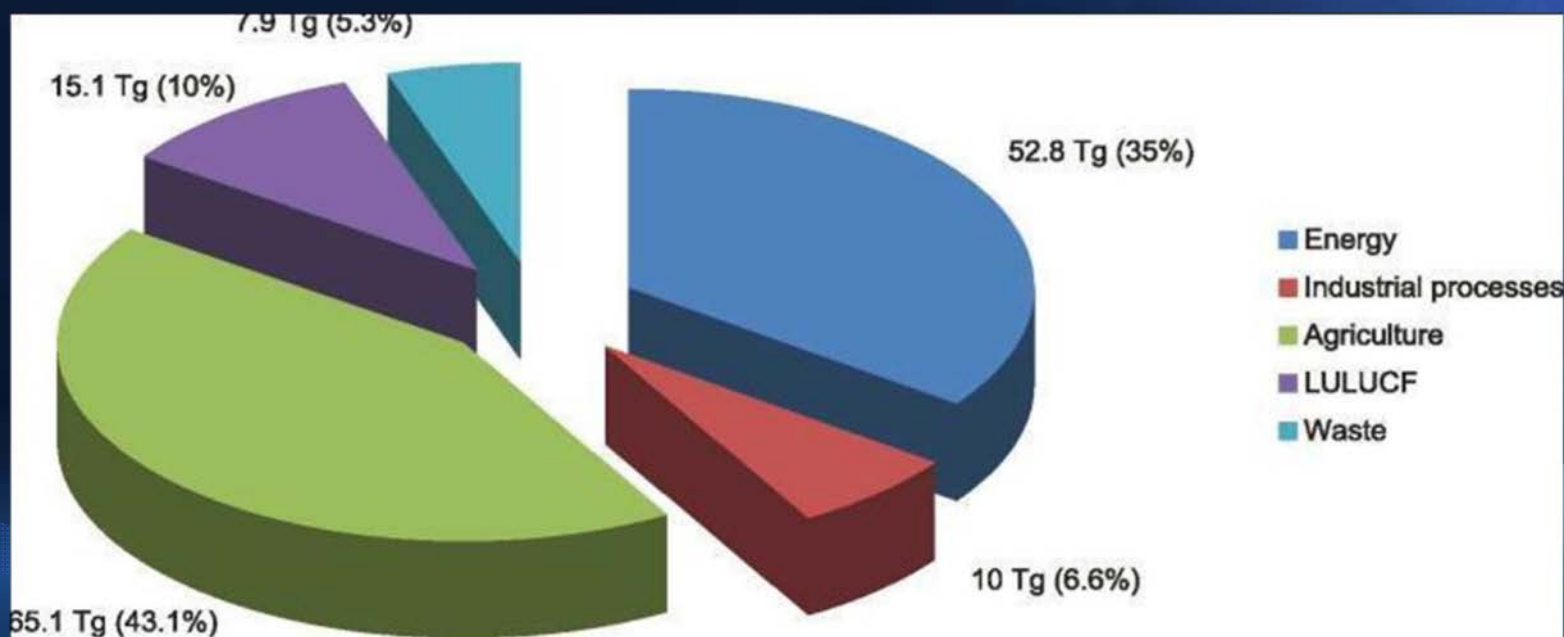# National GHG Inventory 2000

National GHG inventory by sector in 2000

Unit: thousand tonnes

Sector	CO	CH	N O	CO e	Percentage
Energy	45,900	308	1.27	52,773	35.0
Industrial processes	10,005	0	0	10,005	6.6
Agriculture	0	2,383	48.5	65,090	43.1
LULUCF	11,860	140	0.96	15,104	10.0
Waste	0	331	3.11	7,925	5.3
Total	67,765	3,164	53.8	150,899	100

National GHG Emission projection

GHG emission projections

Unit: million tonnes of CO_2e

Sector	2010	2020	2030
Energy	113	251	471
Agriculture	65.8	69.5	72.9
LULUCF	–9.7	–20.1	–27.9
Total	169	300	516
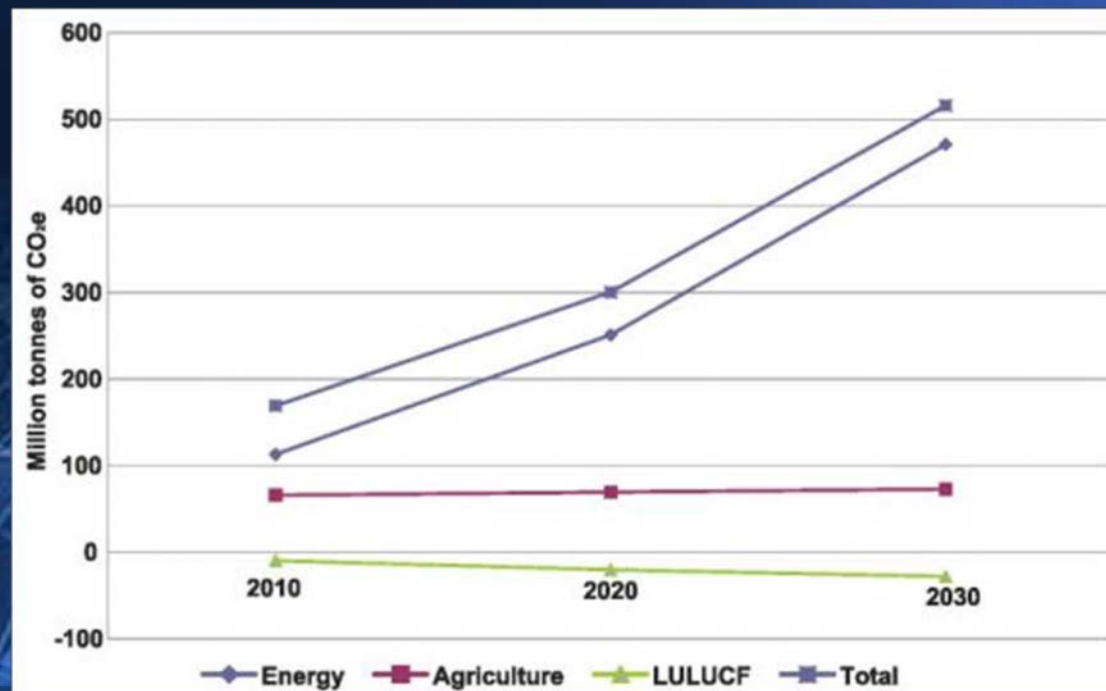
Abatement Potential

Energy sector

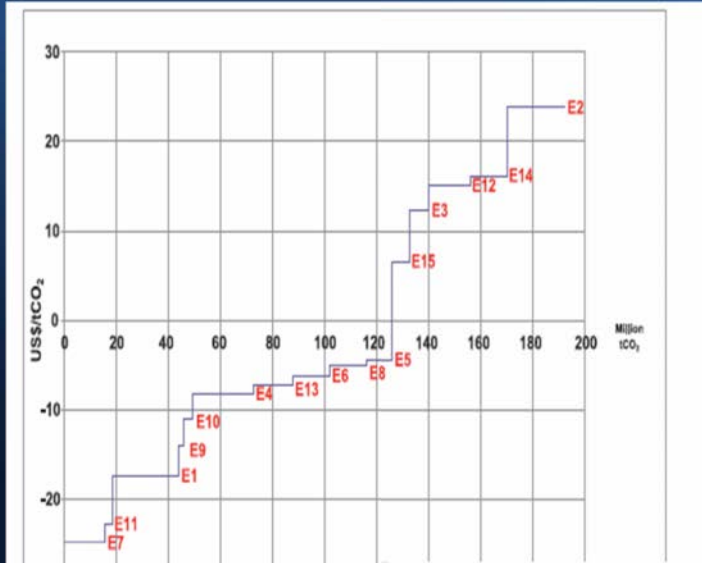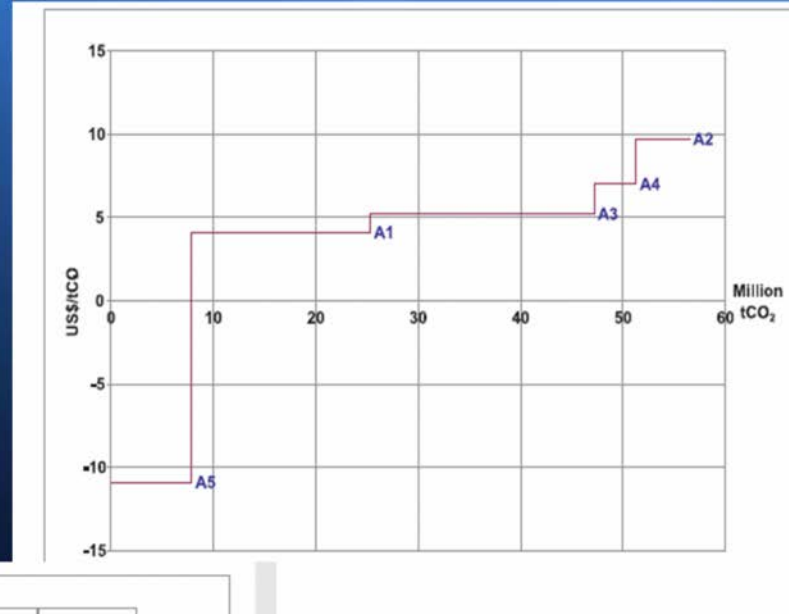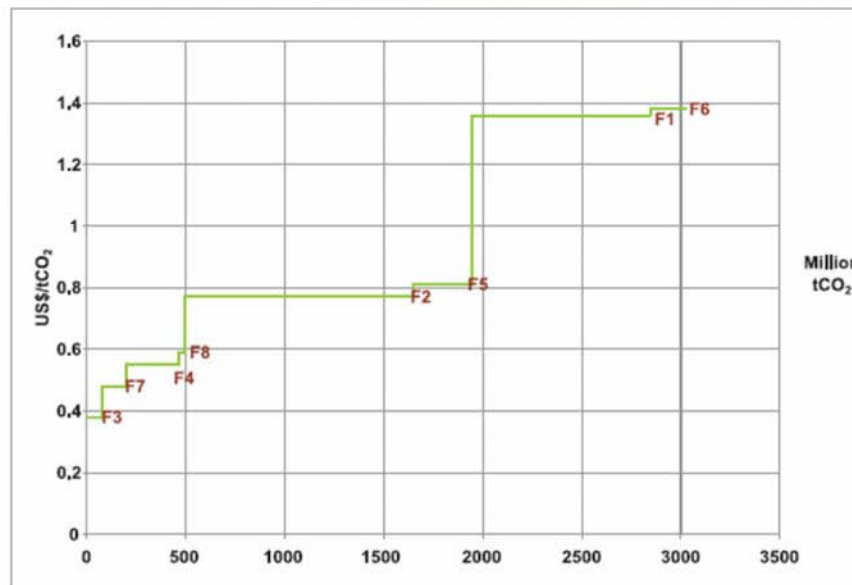

Figure 4.2. Cost of emission reduction initiatives

Agricultural sector

reduction initiatives curve for mitigation options in agriculture

LULUCF

1. High potential at low cost, but

2. Implementation and Financing Plans??

DIFFICULTIES IN THE IMPLEMENTATION

1) Poor awareness (scope, level, measures) at all levels and sectors (from officials to communities);
2) Weak coordination for mainstreaming CC in national/local policies & plans due to "*mainstreaming overload*";
3) Lack of tools and methodologies for policy development;
4) Lack of knowledge.

Work on Progress

1) National Scientific Program on Climate Change
2) National Strategy on Climate Change

- National Action Plan.

- Strategy on Green Growth.

Work Plan 2011

Output 3.2: Mitigation measures and investments
- *Indicator: Related material for LCE developed and indentified*
- *Baseline: Studies on LCE has just been started in Vietnam*
- *Target: Comprehensive methodology for study on LCE for VN*

Activity result 3.2.1: Identify opportunities to develop towards a LCE
- *Indentify methodology for study on LCE for VN*
- *Development of BAU emission projection*
- *Cost - benefit assessment; Technological need assessment*
- *Mitigation options*

THANK YOU