

**SUMMARY FOR POLICY MAKERS**

**DCC**  
Department of Climate change



---

# **ANALYSIS OF INTERNATIONAL EXPERIENCES OF FORMULATION AND IMPLEMENTATION OF CLIMATE CHANGE STRATEGIES AND THE GLOBAL CONTEXT**

*BACKGROUND REPORT FOR THE FORMULATION OF VIET NAM'S  
NATIONAL CLIMATE CHANGE STRATEGY (NCCS) FOR THE PERIOD 2021 TO 2050*



© Patrick McGregor// Unsplash

**NOVEMBER 2021**

# OUR WORK IS MADE POSSIBLE BY:

## Donors



## Partners



United Nations  
Climate Change



# TABLE OF CONTENTS

<b>LIST OF ACRONYMS</b> .....	<b>4</b>
<b>FOREWORD</b> .....	<b>6</b>
By CAITLIN WIESEN, Resident Representative of The United Nations Development Programme in Viet Nam .....	6
<b>SPM-1: INTRODUCTION</b> .....	<b>8</b>
<b>SPM-2: RESPONDING TO GLOBAL TRENDS</b> .....	<b>10</b>
SPM-2.1 The Science of Global Climate Change .....	10
SPM-2.2 International Climate Change Policy and Viet Nam's Legal System .....	15
SPM-2.3 Climate Change Action and SDGs, Pandemics, and Social Inclusion .....	17
SPM-2.4 Climate Change and Global Environmental Degradation .....	22
SPM-2.5 GHG Emissions, International Trade and Foreign Investment .....	25
SPM-2.6 Geopolitical Considerations .....	28
SPM-2.7 Hot Topics at COP26 .....	30
<b>SPM-3: INSTRUMENTS FOR CLIMATE CHANGE STRATEGY IMPLEMENTATION</b> .....	<b>33</b>
SPM-3.1 Public Investments, Public-Private Partnerships and Accessing Finance .....	33
SPM-3.2 Carbon Taxes and Carbon Cap-and-Trade .....	35
SPM-3.3 Subsidies, Incentives and Public Funds .....	38
SPM-3.4 Insurance .....	39
SPM-3.5 Sector Planning, Integrated Planning .....	41
SPM-3.6 Regulation and Enforcement to Enhance Private Green Investment .....	43
SPM-3.7 Capacity Building, Training and Awareness Raising .....	45
SPM-3.8 Research, Science and Technology Development and Application .....	46
<b>ACKNOWLEDGEMENTS</b> .....	<b>49</b>
<b>DISCLAIMER</b> .....	<b>50</b>
<b>REFERENCES</b> .....	<b>51</b>

# LIST OF ACRONYMS

<b>ADB</b>	Asian Development Bank
<b>AFTA</b>	ASEAN Free Trade Area
<b>AI</b>	Artificial Intelligence
<b>AIIB</b>	Asian Infrastructure Investment Bank
<b>AR6</b>	Sixth Assessment Report on Climate Change (IPCC 2021)
<b>ASEAN</b>	Association of Southeast Asian Nations
<b>BAU</b>	Business-as-Usual
<b>BTR</b>	Biennial transparency report
<b>CBAM</b>	Carbon Border Adjustment Mechanism (EU)
<b>CBD</b>	Convention on Biological Diversity
<b>CCS</b>	Carbon Capture and Storage
<b>CDM</b>	Clean Development Mechanism (under the KP)
<b>CE</b>	Circular Economy
<b>COPs</b>	Conferences of Parties (UNFCCC, CBD)
<b>COVID-19</b>	Corona virus disease that started in 2019
<b>CPEIR</b>	Climate Public Expenditure and Investment Review
<b>CPTPP</b>	Comprehensive and Progressive Agreement for Trans-Pacific Partnership
<b>CRTs</b>	Common reporting tables
<b>CTF</b>	Common tabular formats
<b>DRR</b>	Disaster Risk Reduction
<b>EbA</b>	Ecosystems-based Adaptation
<b>EEZ</b>	Exclusive Economic Zone
<b>EIA</b>	Environmental Impact Assessment
<b>EMs</b>	Ethnic Minorities
<b>ESG</b>	Environmental, Social, and Governance (standards)
<b>ETF</b>	Enhanced Transparency Framework
<b>ETS</b>	missions Trading System
<b>EU</b>	European Union
<b>FDI</b>	Foreign Direct Investment
<b>FTAs</b>	Free Trade Agreements
<b>G20</b>	Group of 20 developed and large countries
<b>GCF</b>	Green Climate Fund
<b>GDP</b>	Gross Domestic Product
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse gas

<b>INDC</b>	Intended Nationally Determined Contribution
<b>IoT</b>	Internet of Things
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>IT</b>	Information Technology
<b>LED</b>	Light Emitting Diode
<b>LTS</b>	Long-Term Strategy
<b>LULUCF</b>	Land Use, Land Use Change and Forestry
<b>MONRE</b>	Ministry of Natural Resources and Environment
<b>MPI</b>	Ministry of Planning and Investment
<b>MRC</b>	Mekong River Commission
<b>MRV</b>	Measurement, Reporting and Verification
<b>NAP</b>	National Adaptation Plan
<b>Nbs</b>	Nature-based Solutions
<b>NBSAPs</b>	National Biodiversity Strategies and Action Plans (CBD)
<b>NCCS</b>	National Climate Change Strategy
<b>NDC</b>	Nationally Determined Contribution
<b>NIR</b>	National inventory report
<b>NGOs</b>	Non-governmental organisations
<b>ODA</b>	Official Development Assistance
<b>OECD</b>	Organisation for Economic Co-operation and Development
<b>PA</b>	Paris Agreement (UNFCCC)
<b>PV</b>	(solar) Photovoltaic
<b>PwD</b>	People with Disabilities
<b>R&amp;D</b>	Research and Development
<b>RPS</b>	Renewable Portfolio Standard
<b>SBI</b>	Subsidiary Body for Implementation
<b>SBSTA</b>	Subsidiary Body for Scientific and Technological Advice
<b>SDGs</b>	Sustainable Development Goals
<b>SEDP</b>	Socio Economic Development Plan 2021-2025
<b>SPM</b>	Summary for Policy Makers
<b>SSPs</b>	Shared Socioeconomic Pathways (IPCC, AR6)
<b>UN</b>	United Nations
<b>UNDP</b>	United Nations Development Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change
<b>USA</b>	United States of America
<b>USD</b>	United States dollar
<b>VRE</b>	Variable Renewable Energy
<b>VSDG</b>	Viet Nam SDG
<b>WTO</b>	World Trade Organization



**BY CAITLIN WIESEN**  
**Resident Representative, UNDP Viet Nam**

At the Climate Change Summit held at COP26, Glasgow, United Kingdom, the Prime Minister Pham Minh Chinh declared that Viet Nam is committed to achieving Net-Zero carbon emissions by 2050 as well as participating in all key global pledges at COP26. The net-zero emissions by 2050 is an ambitious target, but achievable with the strong leadership of the Government

It is now time to align policies, legal framework, strategies, plans, investments to achieve these new climate targets. UNDP, in collaboration with development partners, and other stakeholders, is working closely with the Department of Climate Change, Ministry of Natural Resources and Environment in preparing a new National Climate Change Strategy for the period 2021-2050, with the vision to 2100. The new Climate Change Strategy needs to foster innovation, technology transfer, cooperation and resource harmonization in two important ways. The first is in making a just transition across key sectors (energy generation and consumption – electricity, industry, agriculture, transportation, and construction) for emission reduction; Secondly, ensuring that climate adaptation solutions are prioritized through climate finance and development investments to protect the most vulnerable people who are at the frontline of the battle against the impacts of climate change and disasters.

This report is part of UNDP's technical support package to the formulation of the new Climate Change Strategy. It includes latest analysis and recommendations on policy actions that Viet Nam should consider prioritizing to achieve the national climate targets, in line with the Paris Agreement, and to join global efforts to reduce global warming below 1.5oC by the end of this century. The report provides valuable lessons and case studies from various developing and developed countries and economies who are making progress and in transforming their economies to become carbon neutral by 2050 or sooner.

The report also provides critical recommendations and priorities for young Vietnamese who are passionate and aspire to define a greener development pathway for Viet Nam. Youth are the leaders of Viet Nam's future, and we hope our analysis offers some innovative thoughts where young people can lead and take action in realizing relevant policy choices and priorities they want for their future.

Finally, it is a pleasure to share this report with all of you. This is one of UNDP's commitments to support the Government of Viet Nam in delivering on its Climate Promise. UNDP would like to thank all the donors of our Global Climate Promise Programme and NDC Global Support Programme in making this work possible. Our special thanks to the Green Climate Fund, which provided financial contribution in mobilizing expertise for this assignment.

We look forward to our continued partnership with all stakeholders in supporting Viet Nam in taking stronger steps to reach its ambitions for a green and sustainable future, where no one is left behind.

**CAITLIN WIESEN,**

Resident Representative, UNDP Viet Nam

# SPM-1. INTRODUCTION

The Intergovernmental Panel on Climate Change (IPCC) has demonstrated with greater confidence than ever that climate change is happening, that it is caused by greenhouse gas (GHG) in the atmosphere, and that immediate reduction of greenhouse gas (GHG) is required to prevent the worst effects (IPCC 2021). Viet Nam is very vulnerable to climate change, as the effects are intensifying, so it must pay much attention to climate change adaptation. For the same reason it has a high stake in global greenhouse gas (GHG) emissions reduction.

The Government of Viet Nam has developed a series of national climate change policies since 2008. It has submitted its updated Nationally Determined Contribution (NDC) to the United Nations Framework Convention on Climate Change (UNFCCC) in 2020. It has started formulation of the National Climate Change Strategy 2021-2050 with outlook to 2100 (NCCS), which is Viet Nam's long-term strategy (LTS) on climate change.

The NCCS will build on various analytical efforts, including a review of the Intended Nationally Determined Contribution (INDC), preparation of the updated NDC, and work done towards

the formulation of the National Adaptation Plan (NAP) (SR Viet Nam 2020a, 2020b, 2020c). The Ministry of Natural Resources and Environment (MONRE) requested the United Nations Development Programme (UNDP) and the German international development agency (GIZ) to support the formulation of the NCCS through several background reports, including this report on international experience of climate change strategies in the global change context. This report reviews (a) climate change trends and forecasts, (b) international climate change agreements, (c) international issues affecting global climate change (globalisation, geo-political trends and security, pandemic risks, and global environmental degradation), and (d) National Climate Change Strategies from developed and developing countries and their results, weaknesses and success factors.

This summary for policy makers (SPM) focuses on the recommendations to Viet Nam's NCCS based on analysis of international trends and examples of LTSs of other countries. It looks at adaptation and mitigation targets, and policy instruments that can be used to implement Viet Nam's NCCS. We have attempted to make the recommendations appropriate to the Vietnamese situation, noting that many might also be considered by other countries.





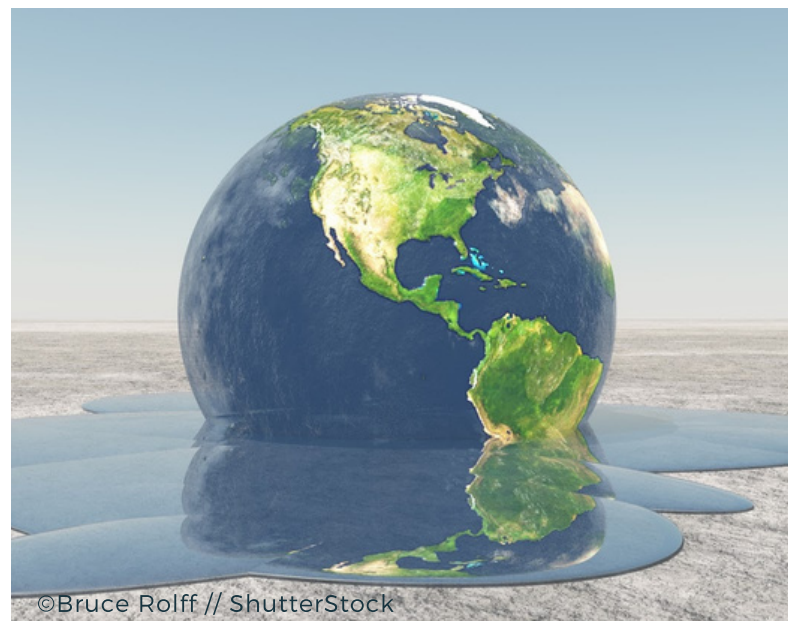
## SPM-2. RESPONDING TO GLOBAL TRENDS

### SPM-2.1: The Science of Global Climate Change

The period between 2011-2020 was the warmest decade on record, and 2016, 2019, and 2020 were the three warmest years ever observed (WMO 2021). Climate change is already impacting the global population, everywhere. There were exceptional droughts, heatwaves, floods, and storms in 2020 and the first half of 2021, which coincided with the COVID-19 pandemic. Global average temperatures were higher in recent years compared to the warmest multi-century period in the past 100,000 years (Figure 1). This is because humankind has increased atmospheric GHG to unprecedented levels, especially carbon dioxide (CO<sub>2</sub>) and methane (CH<sub>4</sub>).

Climate change is impacting Viet Nam strongly, and future effects depend on how fast the world will be limiting emissions (Figure 2). The IPCC has shown that the effects of climate change will be severe even if the world achieves the Paris Agreement (PA) target of 2°C maximum average global warming, and preferably no more than 1.5°C warming. The effects will be least severe if warming would be limited to 1.5°C (IPCC 2018), but this requires

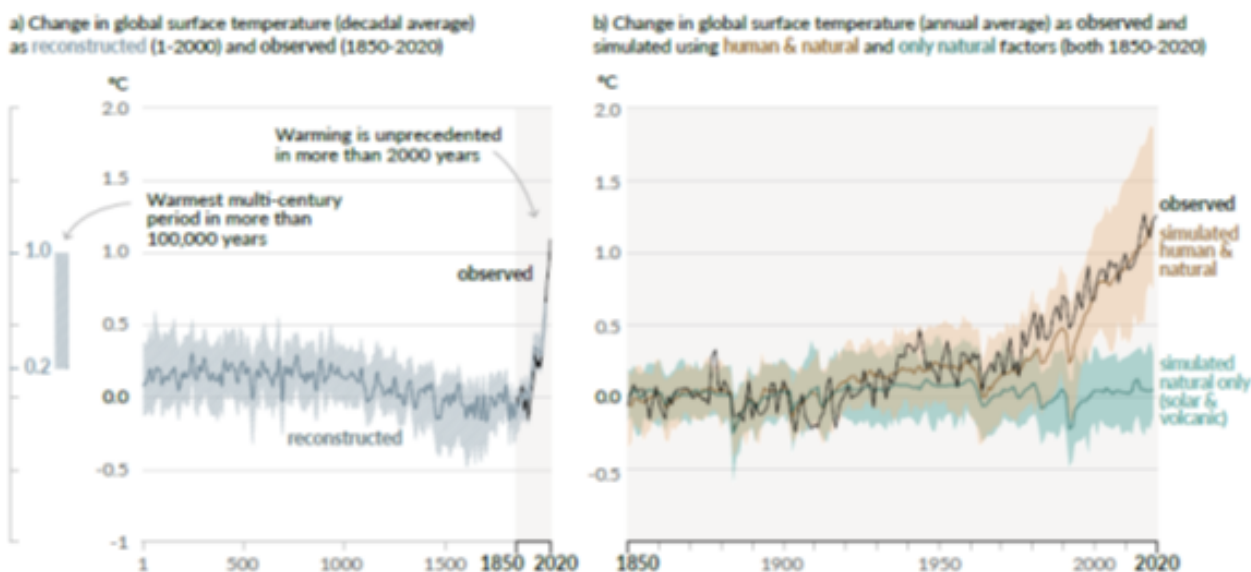
immediate, rapid and large-scale reductions in GHG emissions (IPCC 2021). However, recent data from the UNFCCC show that current global commitments to reduce future emissions as provided in NDCs and long-term strategies (LTSs) will likely lead to 2.7°C average warming by 2100 compared to the pre-industrial era (UNFCCC 2021e) (see Table 1 for targets of selected countries). This is roughly equivalent to “shared socio-economic pathway 2-4.5” (SSP2-4.5), a medium level global emissions scenario. As shown in Figure 2, this will lead to an ice-free Arctic in the second half of the century and severe ocean acidification and raises the risk of dramatic sea level rise in the coming centuries.



©Bruce Rolff // Shutterstock

**Figure 1.** History of global temperature change and causes of recent warming

**Changes in global surface temperature relative to 1850-1900**



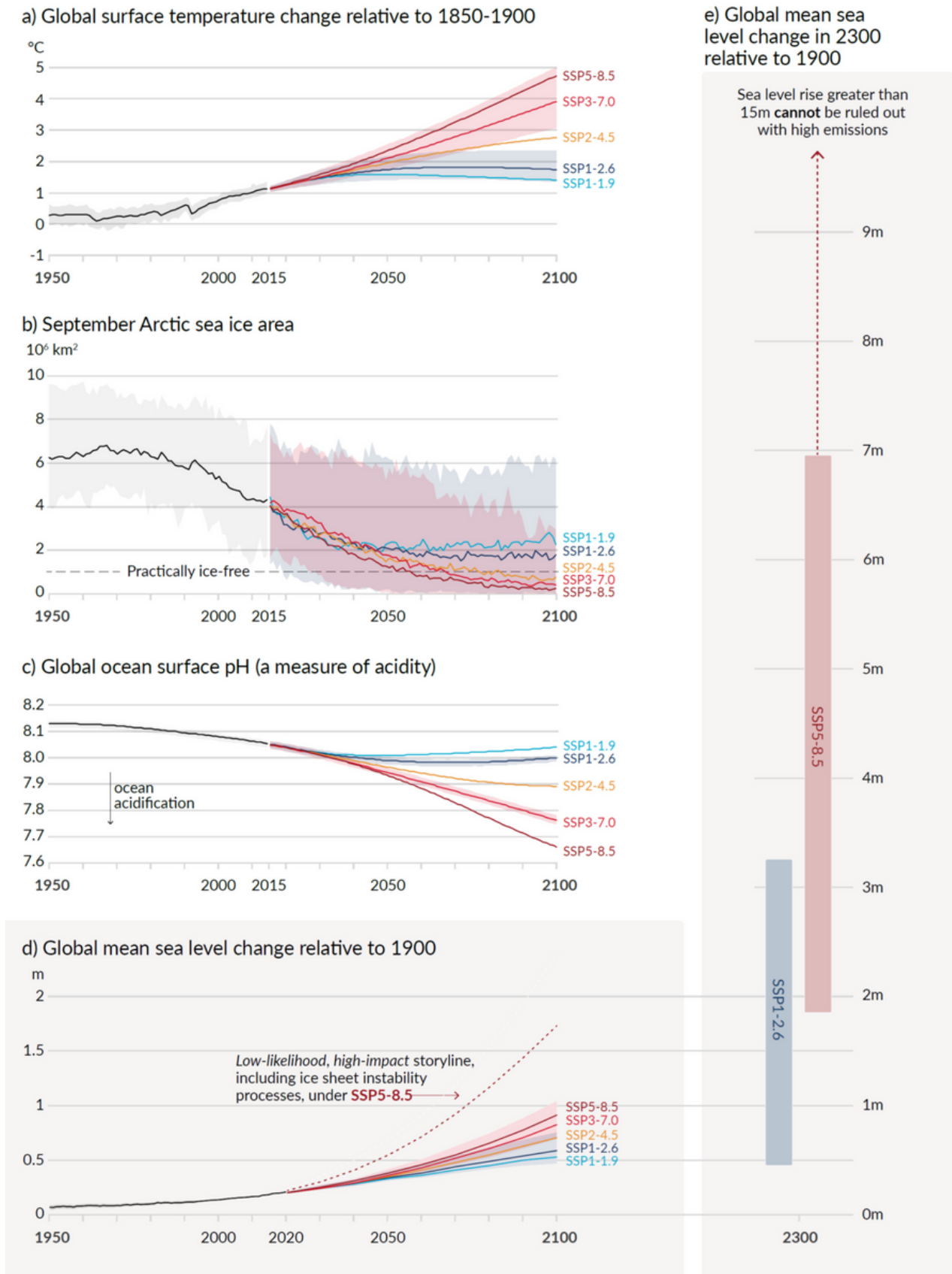
Source: IPCC 2021, Figure SPM.1

Viet Nam has been severely affected by climatic shocks and stresses, shown by measuring effects on human lives and GDP over the past decades. These shocks and stresses are getting worse because of climate change even if the PA targets of 1.5 or 2oC maximum average warming would be achieved. Viet Nam’s high level of vulnerability means that it must continue to strengthen climate change adaptation, which is our first recommendation for the NCCS. Viet Nam is already investing, for example in coastal protection, and plans are shown in the NAP. But ambitious adaptation requires international support to developing countries, as highlighted in Viet Nam’s updated NDC. It should actively participate in the UNFCCC discussions on a global adaptation goal, which will help national planning and monitoring.

In the run-up to COP26 and at COP26 in late 2021 additional commitments to reduce long-term GHG emissions have been made by several countries. However, the emissions mitigation efforts and plans are still insufficient and for UNFCCC Parties to jointly make it possible to achieve global net-zero emissions, by 2050 or soon thereafter, requires additional efforts. The countries with the largest historical emissions must make most efforts to reduce emissions, by more than currently planned. Developing countries with substantial and often growing emissions, such as Viet Nam, must make the best possible efforts to limit their emissions growth and to plan for emissions reduction as soon as possible. Viet Nam might adopt an ambitious target date for GHG emissions peaking and for “net-zero” emissions and indeed, at COP26, Prime

Minister Pham Minh Chinh announced Viet Nam's commitment to net zero by 2050 (Table 1):

**Figure 2.** Human activities affect all the major climate system components, with some responding over decades and others over centuries



Source: IPCC 2021, Figure SPM.8.

**Table 1.** Emissions reduction targets of selected countries

Country / Group	2030 CO <sub>2</sub> e target (NDCs) (unconditional/conditional)	CO <sub>2</sub> e peaking yr	Net zero year
<b>Australia</b>	26-28% below 2005	2007	2050
<b>Bangladesh</b>	5/15% below BAU		2050
<b>Brazil</b>	43% below 2005		2060 (possibly 2050)
<b>China</b>	60-65% below 2005	2030	2060
<b>EU-27</b>	55% below 1990		2050
<b>Germany NDC = EU</b>	Germany as such: 65% below 1990		2045
<b>India</b>	GDP emissions intensity 33- 35% below 2005 level		emissions /capita < emissions / capita of developed world
<b>Indonesia</b>	29/41% below BAU		Considering 2060
<b>Japan</b>	46% below 2013	2013	2050
<b>Malaysia</b>	GDP emissions intensity 45% below 2005 level		2050
<b>Maldives</b>	10/24% below BAU		2050
<b>Mexico</b>	22% below BAU		Not decided yet
<b>Philippines</b>	2.71/75% below BAU	2030	2070
<b>Russia</b>	30% below 1990		2050
<b>South Africa</b>	28% below 2015	2020-2025	2050
<b>South Korea</b>	40% below 2018		2050
<b>Thailand</b>	20/25% below BAU		
<b>UK</b>	68% below 1990		2050
<b>USA</b>	50-52% below 2005		2050
<b>Viet Nam</b>	9/27% below BAU		2050

Sources: <https://www.visualcapitalist.com/race-to-net-zero-carbon-neutral-goals-by-country/> [http://m.koreaherald.com/amp/view.php?ud=20211008000703&\\_\\_twitter\\_impression=true&s=03](http://m.koreaherald.com/amp/view.php?ud=20211008000703&__twitter_impression=true&s=03) and others

- Set a target date for national GHG emissions peaking and subsequent national emission reduction. An example of this is China (2030), as most developed countries have already reached peak emissions. For Viet Nam this will mean that sector plans must be made consistent with the national peaking target, especially energy sector plans. This will require a comprehensive, multi-sector and well-coordinated approach following on from the work done for the updated NDC.
- The target date of 2050 for becoming emissions-neutral is in line with many other countries. The EU, South Africa, Japan, Bangladesh and Laos are among the countries with the same target date while, China and Brazil have set it for 2060. This ambitious target for Viet Nam will require short-, medium- and long-term milestones for all the

key sectors and mechanisms to monitor progress.

At COP26 Viet Nam also committed to reducing methane emissions by 30 percent, limiting deforestation and phasing out coal power in the 2040s.

For Viet Nam to achieve peak emissions and emissions neutrality, a dramatic expansion of variable renewable energy (VRE) and energy storage capacity will be needed, as well as electrification of e.g., transport. This might include measures such as battery energy storage (BES); green hydrogen for energy storage and heavy industry; pumped storage (hydro-electricity); carbon capture and storage techniques; and others. These include expensive measures that are currently being researched, and as they will mature, carbon pricing measures could make them attractive (see further in section SPM-3).



## SPM-2.2: International Climate Change Policy and Viet Nam's Legal System

As a member of the UNFCCC, Viet Nam has demonstrated its responsibility to contribute to the reduction of GHG emissions through the intended NDC in 2016 and the updated NDC in 2020. Viet Nam's updated NDC has identified contributions in terms of GHG emission reduction and climate change adaptation that are consistent with Viet Nam's Socio-Economic Development Plan (SEDP).

Like several other countries, Viet Nam is encouraged to apply a number of policy solutions in the National Climate Change Strategy for the 2021-2050 period, as follows.

- Continue to actively engage with the international processes under the UNFCCC and related initiatives, such as the Nitric Acid Climate Action Group (NACAG).
- Formulate a separate law on climate change adaptation and emission reduction to ensure full and comprehensive implementation of Viet Nam's international commitments under the UNFCCC, unify goals and solutions for all sectors, and assign roles and responsibilities to ministries, localities and other stakeholders in the implementation monitoring and evaluation of climate change policies and actions. This would follow experiences of several other countries, including Japan (Box 1), China, the UK and the Philippines.
- Develop laws, strategies and plans in different sectors that help GHG emissions reduction and/or increase resilience, articulating solutions such as: (a) Nature-based Solutions (NbS) in coastal and riverbank protection, mountain slope management; (b) green carbon and protection of the sea; (c) regulation on land use planning, construction and urban planning, including “sponge cities” to deal better with floods and drought; (d) environmental impact assessment in which climate change is fully mainstreamed; (e) electrification of road vehicles, ships and rail transport; (f) circular economy and reduced plastic pollution; (g) risk transfer solutions such as disaster risk insurance; and (h) a revised law on electricity and/or a law on renewable energy. Thailand is an example that has integrated mitigation goals as well as the responsibilities of relevant agencies in energy, transport, industry and waste management in the NDC implementation roadmap for the period 2021-2030, including sectoral mitigation targets.

## Box 1. Japan's Climate Change Act

In 2018, Japan's National Diet passed the Climate Change Adaptation Act. This established a comprehensive Adaptation Programme, including:

1. Clear roles of national and local governments, private sector operators, and citizens to promote climate change adaptation efforts;
2. Commitment that the NAP shall promote adaptation in all sectors, and develop methodologies for monitoring and evaluation the progress of adaptation efforts;
3. Mandate the Ministry of the Environment to revise climate change impact assessments and NAP every five years, while the National Institute for Environmental Studies operates the Climate Change Adaptation Platform (A-PLAT) as a centre for climate change information and monitoring.
4. It promotes adaptation measures through reliable scientific information such as developing agricultural products with high-temperature-resistant varieties, setting up fishing grounds based on the changes of fish distribution, maintaining embankment and flood control facility, developing flood risk maps and promoting heat illness prevention measures.

- Eliminate all subsidies and (indirect) support measures for production and consumption of fossil fuels such as diesel, kerosene, LPG, and coal, as repeatedly agreed in international fora linked to the UNFCCC and for example the Group of 20 (G20<sup>1</sup>). Generate carbon prices through adoption of a domestic carbon-cap-and trade system and/or (increased) carbon taxes. (see further section SPM-3.2)
- Integrate indicators on climate change adaptation and emission reduction into 5-year socio-economic development plans and corresponding plans of ministries and local authorities. This will help monitor, evaluate and implement climate change policies. The climate change Monitoring, Reporting and Verification (MRV) system should align with this, and with monitoring of progress on the

---

<sup>1</sup> Group of 20 developed and large countries



(Viet Nam) Sustainable Development Goals (SDGs), gathering knowledge of how social groups such as youth, women, elderly, People with Disabilities (PwD) and Ethnic Minorities (EMs) are affected by climate change and are assisted by climate change responses.

- Strengthen Viet Nam’s transparency system (MRV of GHG emissions in particular) as well as means of implementation including public as well as private finance, for example through international cooperation based on Article 6 of the Paris Agreement.



## SPM-2.3: Climate Change Action and SDGs, Pandemics, and Social Inclusion

### *Sustainable Development Goals*

The 17 SDGs adopted by the United Nations Member States in 2015 have been “Vietnamized” into 115 Viet Nam SDG (VSDG) targets in the “National Action Plan for Implementation of Agenda 2030 for Sustainable Development” (SR Viet Nam 2018). SDG1 (no poverty), SDG7 (affordable and clean energy) and SDG11 (sustainable cities and communities) are on-track, but the SDG15 (life on land) score reduced in the latest international dashboard (Sachs et al., 2021). Climate action (SDG13), scores high but is stagnating. The lowest performance is in SDG9 (industry, innovation and infrastructure), SDG14 (Life Below Water) and SDG15 (life on

land). Overall, Viet Nam ranked 51 out of 165 countries, and has done well compared to countries with the same GDP and conditions.

Although Viet Nam’s CO2 emissions have been modest in the past, they are rising fast and plans in for example the power sector suggest that emissions will continue to rise for decades to come. The global situation means that Viet Nam must make the greatest possible effort to mitigate emissions, for example by improving energy efficiency and expanding renewable energy, which relates to SDG7 (energy) and SDG13 (climate change). Viet Nam’s low performance on SDG9

(Industry, Innovation and Infrastructure) is a reason to redouble efforts on that. We recommend that science and technology must be given priority if Viet Nam wants to gain a leading position in technologies of the future (Industry 4.0, IT equipment, Artificial Intelligence, electric vehicles, renewable energy, etc.), and benefit from that.

### **Pandemics**

The COVID-19 pandemic has prompted analysis of the risks posed by pandemics/zoonotic diseases and their links with climate change effects and responses. The compounding impacts of extreme weather events, illness and death because of the virus, mobility restrictions because of COVID-19 responses and, in some countries, economic mismanagement, political unrest or war, have caused economic downturns, loss of employment, disruptions of agriculture, and a severe increase of food insecurity. In countries without affordable universal health coverage, existing inequalities have been reinforced. In Viet Nam, GDP growth dropped to 3.9% in 2020, which can be related mainly to the pandemic and was compounded by drought and salinisation in the Mekong River Delta and extreme floods in the Central region.

COVID-19 is the most impactful

zoonotic virus in recent history, but it is not the only recent zoonotic disease outbreak. More zoonotic diseases can be expected, because of proximity of people and animals, whereas risks are enhanced by climate change effects. The responses to pandemics and climate-related disasters should reduce multiple risks at once. There have indeed been many calls to address green growth, climate change and biodiversity protection as part of public investment in COVID-19 recovery (“build back better”). However, such spending has been limited to developed and large developing countries, and the “green” part of pandemic recovery spending has remained limited in all but a few countries.



To address the challenges, Viet Nam's decision makers should consider to:

- Ensure that COVID-19 recovery spending contributes to green, low-emissions and climate-resilient goals;
- Conduct interdisciplinary, cross-sectoral risk assessments, including planning for low-probability, high-impact events (climate extremes, pandemic, other disasters);
- Ensure comprehensive MRV and access to quality data to understand compounding risks of pandemics, climate change and other disasters, to enable an integrated risk reduction approach in decision making and socio-economic development planning processes;
- Address structural inequalities, to reduce exposures and vulnerabilities for multiple risks. For example, climate change action can reduce air pollution with major environmental-health benefits and reduced health treatment costs. Displacement can be prevented by creating green local employment opportunities and improved resilience, such as a stimulus with efficient drip irrigation and LED lighting equipment.
- Support enterprises to enhance their business continuity while considering multiple risks, such as pandemics and climate risks.

## Social Inclusion

The Paris Agreement (PA) and other documents under the UNFCCC show that the rights of ethnic minorities (EMs), children/youth, People with Disabilities (PwD) and climate-vulnerable groups should be considered. The Sendai Framework for Disaster Risk Reduction 2015-2030 provided similar guidance for disaster risk reduction. The Preamble of the PA says:

*"[...] Parties should, when taking action to address climate change, respect, promote and consider their respective obligations on human rights, the right to health, the rights of indigenous peoples, local communities, migrants, children, persons with disabilities and people in vulnerable situations and the right to development, as well as gender equality, empowerment of women and intergenerational equity."*

Article 7 of the PA on adaptation recognises the importance of vulnerability as well as the importance of traditional knowledge of certain social groups. At COP 25 (2018) Parties agreed on a 5-year enhanced Lima work programme on gender and its gender action plan. This is to advance



with priorities such as (i) capacity building, knowledge management and communication; (ii) gender balance, participation, and women's leadership; (iii) coherence; (iv) gender responsive implementation; and (v) monitoring and reporting. In accordance with a decision at COP 21 (2015), the Local Communities and Indigenous Peoples Platform (LCIPP) was established in June 2021. It has three functions: 1. Knowledge, 2. Capacity for engagement, and 3. Climate change policies and actions. Under the latter it articulates the roles that EM groups

can take in contributing to the targets of the NDCs *"the platform also facilitates the undertaking of stronger and more ambitious climate action by indigenous peoples and local communities that could contribute to the achievement of the nationally determined contribution of the Parties concerned."*

Many countries have included social inclusion in their NDC, NAP and/or LTS, for example Bangladesh, India, Indonesia, Nepal, Philippines (Box 2), USA (Box 3), and Thailand.

## **Box 2. The Philippines and Social Inclusion**

1. The Philippines' National Climate Change Action Plan (NCCAP) (2011-2028) shows strong inclusion of women, youth, EMs and PwD, highlighting critical aspects of social inclusivity of the climate change strategies: "Adaptation measures shall be based on equity, in accordance with common but differentiated responsibility; special attention must be given to ensure equal and equitable protection of the poor, women, children and other vulnerable and disadvantaged sectors."
2. The empowerment of women is the overarching goal of the NCCAP, both for adaptation and mitigation efforts (NCCAP, 2011).
3. The Philippines NDC (2021) stresses "meaningful participation" of target groups in policymaking as well as implementing climate actions, including women, children, youth, persons with diverse sexual orientation and gender identity, differently abled, indigenous peoples, elderly, local communities, civil society, faith-based organizations, and the private sector.
4. "The People's Survival Fund to respond to adaptation needs of local communities" received an annual allocation of 20 million USD since 2015. It funds local climate change adaptation projects that are not

funded by other agencies, based on 3 criteria: a) poverty incidence (40%); b) exposure to climate risk (30%); and c) presence of biodiversity areas (30%). The members of the fund include representatives of women's groups, non-governmental organisations, business, academia, and the departments of Finance and Budget and Management.



Viet Nam should follow good practice on social inclusion of other countries in the NCCS. More specifically the following is recommended:

1. Ensure that youth, women, EMs and PwD are involved in the formulation process of climate policies.
2. The Principles or Preamble, Goals, Outcomes and/or Outputs of Climate Strategies should refer to women, youth, EMs and PwD.
3. Climate action budget should be allocated to Government agencies and social-political organizations promoting the participation and empowerment of women/youth/EMs/PwDs.
4. The use of the designation 'vulnerable groups' should be based on national and disaggregated realities.
5. Mainstream and include youth, women, EMs, and PwD in the Goals/Outcomes/Outputs of climate policies
6. Include a dedicated section on the roles and contributions of women, youth, EMs and PwD to Leave No One Behind in the NCCS.

## Box 3. The USA and Social Inclusion

1. The USA highlights consultation with youth and EMs in its updated NDC (2021) and Clean Power Plan (2015). It has applied an inter-agency process across the federal government and consulted a range of other stakeholders, including groups representing tens of millions of advocates and activists including youth.
2. The USA's Infrastructure Bill frames PwD accessibility as a cross-cutting issue in a transition towards low-carbon modes of transportation and infrastructure, by recalling the Americans with Disabilities Act throughout the document.
3. The USA's Clean Power Plan (2015) gives guidance on the term "vulnerable":
  - The [Environmental Protection] agency uses the terms "vulnerable" and "overburdened" in referring to low-income communities, communities of colour, and indigenous populations that are most affected by, and least resilient to, the impacts of climate change.
  - This community-based definition of vulnerability considers historical injustices (such as location to power plants, disproportionate impact from air pollution) that limit ethnic minority communities' ability to adapt to climate change.

## SPM-2.4: Climate Change and Global Environmental Degradation

### *Biodiversity*

Article 6 of the Convention on Biological Diversity (CBD), states that each Party must develop national strategies, plans or programmes and integrate the conservation and sustainable use of biological diversity into sector policies. This should show how the country intends to fulfil the objectives of the CBD. Since 2010, 176

Parties to the CBD have submitted National Biodiversity Strategies and Action Plans (NBSAPs). These are emphasising institutional, legal and financial tools for implementation.

Many countries are at a preliminary stage of mainstreaming biodiversity, some are setting targets for mainstreaming with

connecting biodiversity action with climate change responses (UNEP, 2018). According to Viet Nam's "National Biodiversity Strategy to 2020, with a vision to 2030" (2015) it intends to protect and sustainably use biodiversity resources to provide the basis for sustainable development in the context of climate change. This document was submitted to the CBD.

Several CBD as well as UNFCCC related agreements refer to Ecosystems-based Adaptation (EbA) and Nature-based Solutions (NbS). These are expected to have adaptation, mitigation, biodiversity conservation co-benefits. Several countries have reflected EbA and NbS in NBSAPs and climate change policies such as NDCs, including Viet Nam. It is recommended that the NCCS refers to those policies and intentions, stressing that they should be implemented in for example coastal zones and mountainous regions.

### **Plastic Pollution and Circular Economy**

Plastic is largely derived from fossil fuels, so reducing the production and consumption of plastics will have climate change mitigation advantages. Plastic pollution is a global challenge, a pervasive, near-unmanageable threat to living and non-living systems. Similar to GHGs and persistent organic pollutants (POPs), plastic pollution

cannot be restricted by territorial boundaries because it is able to migrate through water bodies, disperse through air, and be transported to remote locations through human intervention. Various health conditions such as thyroid dysfunction, obesity, diabetes, and reproductive impairment have been attributed to plastic pollution. Plastic has wildlife and environmental impacts and increases vulnerability of ecosystems as the effects of climate change are increasing (Iroegbu et al. 2021). The fishing industry is increasingly affected, which signifies millions of direct and indirect livelihoods and jobs in e.g., Viet Nam.

In almost every country, multiple groups are campaigning against plastic pollution. In addition, governments, world leaders, and other stakeholders participate in discussions, conventions, and resolutions in efforts to find solutions for plastic pollution. There is however a lack of commitment by governments and global plastic economy stakeholders to address the challenges. The threat of plastic pollution is not abating, and remediation will require renewed effort. Viet Nam's Government issued a policy in 2020 to address marine debris.

To address the unsustainable use of all sorts of (natural) resources the notion

of circular economy (CE) is gaining recognition in many countries. Going beyond efficiency improvements, CE looks at the full lifecycles of products, optimising efficiency (“reduce”), re-use of resources and components, recovery of components, and recycling. The CE should contribute to reducing GHG emissions from extraction, production, and consumption of materials, optimising the energy efficiency and use of renewable energy in these processes. Viet Nam has included CE in the new Law on Environmental Protection.

It is recommended that the Government of Viet Nam reinforces its policies on plastic manufacture, recycling and consumption in the context of climate change, including with commitments to be made in the NCCS. This is a core part of its pursuit of a circular economy and will help achieve multiple co-benefits. It is also recommended to continue to develop, implement and monitor circular economy policies that are socially inclusive and that are cross-sectoral to address the challenges of increased natural resource extraction and waste in sectors such as agriculture, construction and industry.

## ***International River Management Challenges: the Mekong & Red rivers***

The flow patterns of the Mekong and the Red rivers are affected by climate change and the construction and operation of reservoirs in the mainstream and tributaries in all riparian countries, including Viet Nam, China, Laos for both rivers, and Myanmar, Thailand and Cambodia for the Mekong river. Hydro-electricity, agriculture, clean water supply and biodiversity are threatened by sub-optimal management, whereas climate change and sea level rise demand modification of management strategies to reduce risks to farmers and human settlements in Viet Nam and other riparian countries. These major rivers are also important transport routes.

Hydroelectric dams and water diversion in the upstream of the Mekong river satisfy national water and electricity demand, but downstream countries are affected by reduced and fluctuating water flow and reduced (fertile) suspended particles and sediment. The Mekong Delta is facing flood and drought risks, with the latter accompanied by deep saline water intrusion. Major river floods such as those in 2000, 2001 and 2011 cause loss





of life and property, and droughts with salinity intrusion and water shortages such as in 1998, 2016 and 2020 in the Mekong Delta are threatening socio-economic development. Climate change appears to increase drought risks in the dry season whereas extreme rainfall is predicted to increase in the wet season, across the river basin. The Mekong Delta also faces occasional tropical storms combined with storm surges (e.g., 1997), as well as coastal erosion and riverbank erosion that are enhanced by sea level rise, changes in the river flow and sand mining from the riverbed.

To protect the Mekong river water flow pattern, quantity and quality of water for agriculture, aquaculture, industry and domestic water supply, requires dialogue and close cooperation with all riparian countries, including China even though it is not member of the Mekong River Commission (MRC). It is recommended that international diplomacy on Mekong river basin management will be intensified, through the MRC and other

## **SPM-2.5: GHG Emissions, International Trade and Foreign Investment**

Viet Nam has a steadily growing international trade volume, with overall slightly more export than import over the past years. Its main trading partners include ASEAN neighbours, China, the EU, Japan, South Korea, and

multilateral and bilateral diplomatic channels.

Of the Red - Thai Binh River Basin nearly half is located in China, a fraction in Laos and just over half in Viet Nam. There is also an uneven water flow distribution during the year, with many hydroelectric dams in China and Viet Nam's northern mountains region, causing water shortages in the dry season. Climate change is a cause of decreased rainfall and also affects the river flow in the dry season. The reduced river flow is associated with riverbed and riverbank erosion, and saline water intrusion into the estuaries. Freshwater demand for social-economic development is increasing, whereas water pollution has been increasing too.

It is recommended that the NCCS highlights the importance of intensified international diplomacy with regards to management of international rivers, both multilaterally and bilaterally with regards to both of these large international rivers.

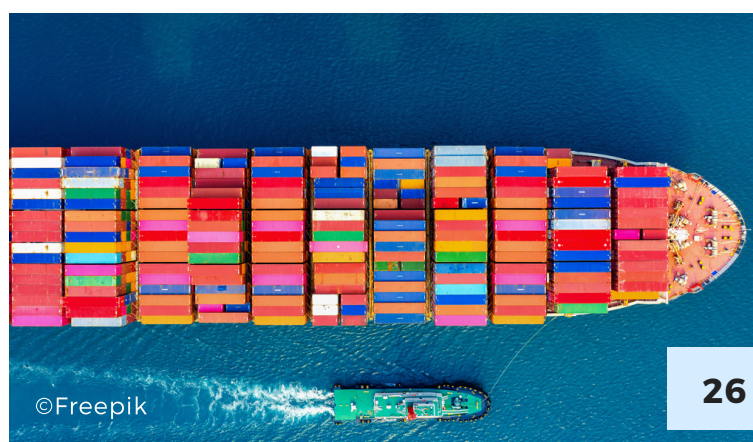
the USA. With some of those there are strong imbalances in import and export. Viet Nam joined the Association of Southeast Asian Nations (ASEAN) in 1995 and at that time also joined the ASEAN Free Trade Area

(AFTA). It became a member of the World Trade Organization (WTO) in 2007, and in addition it has free trade agreements (FTAs) with all its main trading partners, many of which are members of the Comprehensive and Progressive Agreement for Trans-Pacific Partnership (CPTPP).

Import includes for example machinery and fuels, and export is strongly dominated by manufactured goods such as mobile phones and heavy steel objects such as ships and wind towers. Manufactured export products require inputs such as energy and metals and can have comparatively high “carbon contents” as a result. Many foreign direct invested (FDI) companies are producing in Viet Nam for export, such as famous footwear and clothes brands, or for both the domestic market and exports such as beer and animal feed producers. FDI companies may want to reduce their environmental impacts and the carbon contents of their produce because of expectations of their customers, and for example try to produce and/or purchase variable renewable energy (VRE) such as solar Photovoltaic (PV).

Some trade agreements have environmental and even climate change related stipulations. The EU is the first to have announced a carbon

border adjustment mechanism (CBAM) in the context of climate change, to help reduce emissions in the EU as well as its trade partners. The EU has a timetable for CBAM introduction through the 2020s, but it has not yet been approved by the European Parliament. The CBAM is limited to goods with the highest risks of “carbon leakage”, meaning that strict EU emissions limits might cause goods to be imported or production capacity would shift to outside the EU without the CBAM. The CBAM would require the EU’s trade partners to have similar GHG emissions reduction targets in the concerned sectors for not raising an import levy, and the levy could imply costs to Vietnamese producers and exporters. The CBAM prioritises cement, fertilisers, iron and steel, and aluminium, and Viet Nam thus faces a new barrier to exports those to the EU. Viet Nam’s exports of those commodities to the EU are small so any impact would also be small. However, Viet Nam wants to grow exports, the mechanism could be expanded to other goods, and other export markets might set up a similar mechanism.



On the other hand, Viet Nam is progressing with the development of its domestic carbon (GHG emissions) cap-and-trade system, and it already has a law on environmental tax. These policy instruments generate domestic emissions prices, which will prevent a levy on exports to the EU under the CBAM. They would thus create an opportunity for Viet Nam. They would ensure that technological improvement takes place in Viet Nam's industry, making it cleaner and more efficient. The revenue thus generated stays in-country, as tax or as funds in the domestic emissions market. In addition, because CBAM does not concern end-products, it is expected that CBAM and domestic measures in countries such as Viet Nam will have only minor effects on consumer prices.

To create this opportunity, Viet Nam should inform itself of the sectors affected by CBAM and ensure that domestic carbon cap-and-trade and carbon tax includes those sectors and relevant materials. It would make Viet Nam more competitive compared to other exporters to the EU. These are also the most likely the first sectors and materials that other countries might choose should they follow the EU's example, so Viet Nam would also position itself well in those export markets.

Viet Nam is receiving comparatively

large amounts of foreign direct investment (FDI), in different sectors. Consumer and shareholder movements on for example "divestment" out of fossil fuel operations, risk analysis by international pension funds and insurance companies, and political pressures building up in for example the G20, are all causing scarcity of FDI for coal-thermal power plants or other highly polluting concerns. The past few years have also seen many investment funds that apply environmental, social, and governance (ESG) standards in deciding which companies or projects to invest in, meaning they prioritise clean investment opportunities. Current FDI establishments in Viet Nam are also greening their operations, for example by accessing renewable energy. These trends seem unstoppable. Problems with securing FDI for under-construction coal-thermal power plants have already occurred and are likely to increase, unless the chosen technology would be the most efficient technology available, which would make electricity production cost per unit power more expensive than solar PV or wind power. But Viet Nam's chances of securing high levels of future FDI require it to ensure that there are ample green investment opportunities. The NCCS can facilitate that by applying various policy instruments, as discussed in section 3.

## SPM-2.6: Geopolitical Considerations

Over the past decades climate change has moved from being subject to geopolitical relations that were driven by many other things, to a key factor in shaping geopolitical relations and outcomes (E3G 2019; Policy Exchange 2021). This shift is driven by a change in perceptions of the impacts of climate change, to being a threat to human development as well as global peace and security. Particularly important in changing perceptions have been reports by the IPCC. In addition, climate change can now be felt in daily life, as weather records and extreme events have occurred in every part of the world. Civil society movements, notably in the EU, USA and other members of the Organisation for Economic Co-operation and Development (OECD) are calling on their governments to act. G20 summits have addressed relevant issues repeatedly, such as the phase out of subsidies on the use of fossil fuels, in which some members peer review progress of the others in achieving this.

The EU took a gradually more ambitious stance on emissions reduction. It recently increased its target for emissions reduction in 2030 from 50% to 55% below 1990 emission levels and has an agreed target for climate neutrality by 2050. This is consistent with the PA, provided most

other countries in the world set similar ambitions. The EU and now also the USA and some other rich countries are sending signals to China, India, Russia, Brazil, Indonesia and other high emitting countries such as Viet Nam to move in the same direction as the EU. This will of course only work if rich countries reduce emissions rapidly themselves, because they are responsible for most historical GHG emissions, and their credibility is challenged by their still very high per capita emissions. Nevertheless, as climate change has become important geopolitically, they are putting pressure on developing countries such as Viet Nam to increase targets for reducing emissions. This happens partly through targeted ODA (as EU grants focus on the energy transition), trade relations and through diplomatic exchanges.

The PA and for example the EU's commitment to it are also very strong signals to the global fossil fuel industry, transport, and other sectors, that the time has come for a shift away from fossil fuel consumption towards the use of VRE, electricity, battery storage and for example green hydrogen (as storage and as fuel in heavy industry and transport). The large oil, gas and coal companies, some of the largest private and state-owned enterprises of

the world, must therefore change dramatically. Several of them have much political influence and are trying to slow down the energy transition, to maintain the value of their reserves of oil, gas and coal. But climate experts are clear: to limit average global warming to no more than 2oC, most of the known oil, gas and coal reserves must “stay in the ground”, signifying financial losses for the fossil fuel industry. Companies are under pressure from some of their shareholders as well, demanding e.g., that they should be growing their investment in VRE.

In addition, many of the world’s savings accumulate in pension funds, and pension holders have started to argue against investments in e.g., fossil fuel companies, on environmental grounds and because owning shares in those companies is a financial risk (Policy Exchange 2021). Large private banks are reducing and eliminating financing of companies in coal mining and coal-thermal power production, as all major economies have declared to cease sovereign guarantees for coal-thermal power production facilities in foreign countries. The insurance industry is both a source of investment capital (because insurance policy holders pay annual premiums), and an important means of reducing the risks of the fossil fuel industry by insuring their investment projects. This industry is also changing, with some companies

joining the “Net-Zero Insurance Alliance” that commits them to the PA targets (UN Environment Programme – Finance Initiative 2021). For example, most major European insurance companies have decided to end their underwriting of coal-related activities.

The geopolitical trends are strongly affecting the relations between super-powers. The USA and EU compete with China over trade, technology, and access to natural resources. Military competition links to access to marine fossil fuel reserves and control over international shipping routes. Much of the struggle of large and rich countries is over accessing and controlling both the technologies of the future and the natural resources required for them. These technologies include Industry 4.0, the Internet of Things (IoT), IT equipment, Artificial Intelligence (AI), electric transport (electric generators and motors, batteries) and renewable energy. The USA, China, EU, Japan, the UK and South Korea dominate this. Viet Nam is already assembling and producing many components of these new technologies. It also has reserves of for example “rare earth elements” that are needed in technologies such as mobile phones, hard disks and magnets for electric generators and motors. But it has limited research and development (R&D) capacity in the public and business sectors to be able to become a leader on such

technology, and it has no refining capacity for rare earth elements.

To turn the pre-dominance of climate change in geopolitics into opportunities, requires Viet Nam to (a) acquire and develop new, future technologies in several sectors, increase R&D and technological innovation whereas it currently lags on SDG9 (Industry, Innovation and Infrastructure); (b) deploy future, new technology in energy production and use, transport and industry, also waste

management and agriculture; (c) exploit minerals that are key in such new and future technologies, including refining rare earth elements in an environmentally sound manner; (d) ensure access to resources without the risk of foreign interference, such as exploiting gas and wind power in the exclusive economic zone (EEZ) of Viet Nam; and (e) ensure reduced dependency on strategic imports, in particular fossil fuel imports which could suffer from e.g., impediments to international shipping.



United Nations  
Climate Change



UN CLIMATE CHANGE  
CONFERENCE UK 2021  
IN PARTNERSHIP WITH ITALY

©UNFCCC

## SPM-2.7: Hot Topics at COP26

Developing countries such as Viet Nam have paid attention to the following issues at COP26, and negotiations on most will have to continue:

### **(1) Market mechanisms and non-market mechanisms (PA Articles 6.2, 6.4 and 6.8)**

- Article 6.2: standard procedures for operating carbon markets; mode of international exchange of emission reductions from policy contributions in the NDC; the unit of exchange of greenhouse gases.
- Article 6.4: baseline determination and complementarity for carbon credit exchange projects; the

transfer of credits earned from projects under the Clean Development Mechanism (SDM); rate of contribution of proceeds from credit exchange projects to the Adaptation Fund.

- Article 6.8 (non-market mechanisms): mechanism for sharing information, knowledge and experience on GHG emission reduction.

### **(2) Transparency in climate change response and climate change response support**

Regulations for monitoring and evaluating the implementation of GHG emission reduction and adaptation to

climate change are consistent with the requirements of the Enhanced Transparency Framework (ETF) of the Paris Agreement; the form, frequency, and information that developed countries need to share on financial support, technology transfer and capacity building for developing countries to respond to climate change; measures to monitor, check and determine the level of resource contribution from developed countries to climate change responses in developing countries.

### ***(3) Commonly applicable time frame and reporting format***

National NDC submission cycle (every 5 years, 10 years and NDC phases); information to be included in the NDC; roadmap and support responsibilities for developing countries to apply reporting according to the common template; the application of the carbon market mechanism between countries with different time frames in the NDC; the assessment of the global effort to implement the NDC and the reports under the Transparency Framework when the time frame of different countries is not the same.

### ***(4) Promoting adaptation to climate change***

A global adaptation goal; method of validating adaptation efforts; methods of assessing adaptation needs and mobilizing resources for adaptation in developing countries; assessment of

the adequacy and effectiveness of support for adaptation.

Decision 4/CP.23 on the Koronivia Joint Work on Agriculture (KJWA) recognizes the potential of agriculture in tackling climate change (COP23, 2017). In joint sessions of the UNFCCC's Subsidiary Body for Implementation (SBI) and Subsidiary Body for Scientific and Technological Advice (SBSTA), Parties will address topics related to soils, nutrient use, water, livestock, methods for assessing adaptation, and the socio-economic and food security dimensions of climate change across the agricultural sector. The report on progress and outcomes of work as well as the future topics will be released. The Parties will address aspects of "best practices, innovations and technologies that increase resilience and sustainable production in agricultural systems according to national circumstances" in Glasgow.

### ***(5) Loss and damage***

A risk reduction implementation framework to help countries develop strategies to manage climate change risks.

The fourth meeting of the Task Force on Displacement has been conducted in September 2020 to report on the status of the implementation of the 2nd Plan of Action; to exchange views on the recent development in other global processes and initiatives to

identify potential synergies and linkages to the implementation of the Plan for Action. The members noted a new initiative to respond to COVID-19 and shared some pipeline proposal for implementing the plan for action. To prepare for COP26, the report of the Task Force on Displacement could be an entry point; there is a need to update the Plan for Action and a need to engage with the technical and ad hoc members, including from Youth NGOs.

#### **(6) Resources for climate change responses**

Review the financial contributions of developed countries to climate change responses of developing countries in the period 2016-2020 against the target of \$100 billion per year; determine financial goals for the periods 2021-2025 and 2025-2030, and specific goals for each year.

#### **(7) Assessment of efforts of countries**

Assess the level of implementation of commitments on reducing GHG emissions of developed countries for the period before 2020 as committed in the Kyoto Protocol, the PA; new level of commitment from 2021 onwards through review of updated NDCs of all countries.

#### **(8) Promote fair and inclusive climate actions**

Mobilize the participation of all organizations, individuals, businesses and communities in climate change adaptation and GHG emissions mitigation. How to limit the impact of the implementation of climate change responses in one place, with one target group not affecting other target groups.

#### **(9) Reporting requirement for developing countries**

Article 13.1 of the Paris Agreement states: *“In order to build mutual trust and confidence and to promote effective implementation, an enhanced transparency framework for action and support, with built-in flexibility which takes into account Parties' different capacities and builds upon collective experience is hereby established”.*

At COP 25 in Madrid, the SBSTA worked on the remaining elements of the enhanced transparency framework, including: development of common reporting tables (CRTs) and common tabular formats (CTF) that Parties must use in their reports; unify the structure of the biennial transparency report (BTR), national inventory report (NIR) and technical expert report (TER); as well as designing a training program for experts in the technical assessment process. The first BTRs and then the



NIRs (if submitted as an independent report) are due by 31 December 2024. The transparency provisions in the PA that build on the existing MRV system, and adaptation communication should be submitted and updated without adding an additional burden on developing countries.



## SPM-3. INSTRUMENTS FOR CLIMATE CHANGE STRATEGY IMPLEMENTATION

There is a wide variety of market-based and other policy instruments that countries have applied in their NDCs and LTSs to achieve their objectives and targets for climate change adaptation and mitigation. Viet Nam is already applying or developing several

of those instruments, whereas some could be refined or improved for implementation of the NCCS, and others could be added. The following overview refers to countries that have applied them, in the main text and in boxes.

### SPM-3.1: Public Investments, Public-Private Partnerships and Accessing Finance

#### *Climate change expenditure monitoring and budgeting*

Climate change expenditure monitoring and budgeting are powerful instruments for policy makers to be able to know whether what is happening with recurrent expenditure and investment is consistent with policies, and how this could improve through budgets. Viet Nam's public sector expenditure on climate change is predominantly on climate change

adaptation responses, according to Viet Nam's Climate Public Expenditure and Investment Review (CPEIR) (MPI 2015), which is currently being updated. The CPEIR was retrospective and will inform new rounds of budgeting to improve on past practice. Ongoing monitoring of climate public expenditure to inform climate change budgeting is taking place in several countries, but Viet Nam does not yet have a climate expenditure monitoring and budgeting system.

The pre-dominance of public expenditure on adaptation is consistent with policies such as the updated NDC. Public climate finance including ODA is mainly spent on investments in water management such as coastal protection, irrigation and drainage, as well as transport infrastructure such as roads that can be affected by floods and landslides whereas many serve as escape and/or supply routes in the case of disasters. This adaptation focus of public finance is justified and is consistent with Vietnamese policy. It is recommended through the NCCS Viet Nam institutionalises expenditure monitoring in connection with the NCCS contents and uses lessons from climate public expenditure and investment monitoring in future budgeting rounds. It should develop a climate expenditure monitoring and budgeting system, to improve consistency between policies and actual public expenditure. This should also capture off-budget public expenditure such as tax exemptions and financing from special funds (see section SPM-3.3).

### ***Public-private partnerships***

The private sector is expected to be the focus for investments in emissions mitigation actions, whereas in some cases it be interested in adaptation investments too. Public-private

partnerships (PPPs) can be applied to for example infrastructure that enables renewable energy (smart electricity grid, electricity storage); Nature-Based Solutions (NbS) for coastal and riverbank erosion protection and prevention that may be combined with improved coastal aquaculture and/or tourism; or transport electrification, with urban rail systems or electric charging points for vehicles.

### ***Climate finance***

All developing countries are seeking financial and technical support from developed countries as well as international organizations such as the World Bank, Asian Development Bank (ADB), Asian Infrastructure Investment Bank (AIIB), Green Climate Fund (GCF), Global Environment Facility (GEF), UN agencies and NGOs to increase resilience to climate change and reduce emissions. Some of those have private sector facilities but all focus on public sector financing. Viet Nam has been receiving comparatively large amounts of such international assistance and continues to have opportunities. However, the amounts are likely to remain limited when compared to needs of both public and private sector financing of climate change responses. Thus, the larger part of finance in Viet Nam should be expected to come from the Vietnamese Government and from the

business sector (domestic private investment and FDI).

Financing of green public investment can be sourced by issuing Green Sovereign Bonds, possibly for specific infrastructure. For example, Mexico has been issuing green bonds and Malaysia initiated a similar instrument (Box 9), whereas GIZ has provided technical assistance to Viet Nam's State Bank and Ministry of Finance on this option. Carbon taxes could generate some

revenue that could be used towards public climate change expenditure as well (see section SPM-3.2).

It is recommended that the NCCS advises on the development of a climate finance strategy, that could cover climate ODA, green climate bonds, carbon tax revenues, as well as mobilization of domestic and foreign private capital for investments in GHG emissions reduction and adaptation to climate change.

### **SPM-3.2: Carbon Taxes and Carbon Cap-and-Trade**

Tax and other fiscal tools are used by numerous countries for limiting the use of fossil fuels and encouraging the use of clean energy and energy-saving technologies. Most countries have tax policies (e.g. tax exemptions) and financial support mechanisms (targeted subsidies) for companies to develop clean and renewable energy, battery technology, energy efficient manufacturing equipment, etc.

Both carbon taxes and carbon cap-and-trade (i.e., a GHG emissions trading system, ETS) create a carbon price, or better a price on GHG emissions because not all GHGs contain carbon.

Taxes and fees raise revenue for the authorities that will be partially used to cover the administrative costs involved. An ETS generates value that stays within the community of operators in these markets, but the systems also involves operational costs. Tax and ETS are not mutually exclusive, as they may be applied to different industrial sub-sectors and goods and services. Both should focus on the high emitting sectors and industries. The administration of carbon tax or markets may be costly, and to be cost-effective requires mechanisms to remain as straightforward as possible.



# **CARBON TAX**

## Box 4. German policy instruments for LTS / NDC implementation – energy examples

- Public financing, of various measures through the issuing of Green Sovereign Bonds.
- National carbon pricing, system in the transport sector, heating of buildings and industrial energy that fall outside the EU ETS. This includes a national emissions trading system with a gradually increasing fixed price of carbon and auctioning of allowances from 2026 onwards.
- Support programmes and incentives for reducing greenhouse gas emissions, including reduction of the VAT for train tickets, subsidies and tax cuts for e-mobility, subsidy to replace oil heaters.
- Regulatory measures, including a ban on the installation of oil heaters from 2026.

Source: Coalition of Finance Ministers for Climate Action, 2020.

The EU emissions trading system (EU ETS) has been in operation since 2005 and is the most developed carbon market. It sets emission reduction targets per sector and maximum allowable emission rights of industries in certain sectors – the emission rights in the market is come from industries that emit less than their emission rights, the quantity of tradeable rights and the demand from high emitting industries to buy them determines the “carbon price”. A reduction of emission rights as per EU policies thus tends to increase the carbon price and serves as an incentive for high emitting industries to invest in emission reduction technologies and processes. The EU ETS was recently expanded to include aviation. China and South

Korea initiated domestic carbon markets too.

Viet Nam is advancing the preparation of legislation on a domestic ETS as well as participation in market-based mechanisms as intended under Article 6 of the PA, in a draft Decree on GHG mitigation and green growth. The market-based mechanisms in Article 6 include international exchange of emission reductions from policy contributions, and the Sustainable Development Mechanism (SDM) to manage off-sets between operators in different countries similar to the Clean Development Mechanism (CDM) under the Kyoto Protocol, with numerous projects in Viet Nam (see also section SPM-2.7).

## Box 5. Finnish policy instruments for LTS / NDC implementation – energy examples

- Taxes and fees. Introduction of traffic congestion charging in city regions. Taxation of fossil fuels will increase (fuel tax consists of an energy content tax and a carbon dioxide tax). Changes in income tax and benefits to protect low-income people.
- Public subsidy for building vehicle charging infrastructure and sustainably produced biogas. Purchase subsidy for electric cars. Government budget to support public transport services in large urban regions. Premium system for renewable energy generation, based on a competitive tendering process and investments in which different renewable energy sources compete (the aid was granted for 7 wind power projects).
- Awareness raising. Government programme for the promotion of walking and cycling.
- Regulation that petrol stations have electric car charging points. Quota obligation biofuels.

Source: Ministry of Economic Affairs and Employment, 2019.

The NCCS for the period to 2050 should promote the role of both carbon taxes and ETS for reducing GHG emissions, as well as Viet Nam's role in international market-based mechanisms such as the SDM.

- In the period to 2030, it is necessary to establish and operate a domestic ETS; to develop regulations and organize the implementation of international carbon credit exchange and clearing mechanisms in accordance with the provisions of national law and international treaties; study and apply the non-market mechanism under Article 6

of the Paris Agreement as well. For the period from 2031 to 2050, it is recommended to research the connection of the domestic carbon market with the regional and global carbon markets; and organize the implementation of market and non-market mechanisms to mitigate GHG emissions in accordance with Viet Nam's socio-economic conditions.

- Development of Viet Nam's domestic ETS must use lessons from the EU ETS. It must identify the costs and benefits of ETS; the best mechanism to apply; the technical human and financial

capacities of the government and enterprises required for success; economic, social and environmental impacts as well as opportunities of an ETS; a transparent MRV system at national, sectoral and sub-sectoral levels, in line with Viet Nam's economic conditions and regulations; and the priority sectors. The latter should happen in the context of the EU's CBAM (see section SPM-2.5), with export advantages created by Viet Nam if it includes iron & steel, aluminium,

cement, and fertilizer manufacture in its domestic mechanism. advantages created by Viet Nam if it includes iron & steel, aluminium, cement, and fertilizer manufacture in its domestic mechanism.

- Viet Nam could set and increase carbon taxes on specific products and uses, e.g., fossil fuels in transport or power production. It could set specific levies such as congestion charges for cars in city centres (as is done in e.g., London, UK).

### **SPM-3.3: Subsidies, Incentives and Public Funds**

Subsidies and incentives, or loans from dedicated government funds are also public expenditure. Generally, these support measures should be temporary, so as not to prevent consumers and businesses to rely too strongly on public support. Instead, subsidies and incentives should aim to start new trends, innovations, enable transitions, and to encourage roll-out with private investments or help to mature certain markets.

Viet Nam already has several subsidy arrangements and special funds. For example, there are several policies to support small farmers; there are low tax rates for import of for example renewable energy related equipment; an innovation fund on science and technology; and the Viet Nam

Environmental Protection Fund lends to green investments by small and medium enterprises; and the National Fund for Disaster Management was established in 2021. There are several other funds and mechanisms, including some with international finance. What all these are financing and how they support implementation of policies such as the NCCS is however not fully clear.

The costs of tax exemptions and public expenditures through extra-budgetary funds were not all collected and analysed in the Viet Nam's CPEIR (MPI 2015) and could not be comprehensively accessed for the 2021 update of the CPEIR as they are not all part of the regular budgets (see section SPM-3.1). Thus it is recommended that

an inventory be made of all extra-budgetary public finance mechanisms that may have a link to climate change responses and ascertain their consistency with climate change policies.

Based on such analysis, Viet Nam should consider reinforcing existing mechanisms and to formulate additional incentive programs that can help transition towards e.g., clean energy and clean industrial production. This can be done through grants or low interest loans to enable start-up enterprises with innovations; grants for capacity building initiatives; low interest loans for modern, energy

### **SPM-3.4: Insurance**

The international insurance industry is changing (see also section SPM-2.6). The large international (re-)insurance companies are at the forefront of assessing how risks from climate change are increasing, as they are facing increasingly large disaster risks and associated insurance claims. The industry is also moving away from insuring risks associated with fossil fuel exploration. And the insurance industry is a primary source of finance (foreign investment capital), shifting away from investment in polluting projects such as coal-thermal power plants.

Insurance is covering climate change-related and other disaster risks,

efficient equipment; tax reductions or price support for innovative equipment, electric transport, and energy efficient and renewable energy equipment.

It is however clear that the existing public schemes and funds hardly address climate change adaptation actions and increased resilience – they are focused on clean and green development, on emissions mitigation. Therefore Viet Nam should consider establishing a National Adaptation and Mitigation Fund, possibly using green infrastructure bonds to generate the capital.

especially in developed countries, where businesses and consumers pay premiums for various eventualities to off-set major damage from e.g., the effects of hurricanes. In Viet Nam, attempts have been made to develop “index insurance” for flood risks to smallholder agricultural production, with government subsidies, but this was discontinued. In several other countries various insurance schemes are operating that reduce climate change related risks, such as Fiji (see Box 6), Japan, Bangladesh and countries in the Caribbean, from where lessons have already been documented.

Risk financing strategies are diverse. They include loans, micro-credit, subsidies & tax breaks, reserve funds, catastrophe bonds, micro-insurance, agriculture insurance, insurance & reinsurance, and risk pools. The NCCS should promote that the Government work with national insurance companies, international re-insurance providers, as well as development partners working on climate change and disaster risk reduction<sup>2</sup>, to develop and introduce insurance products for risks to production, productive assets of farmers and (small, medium) businesses, and infrastructure affected by typhoons, storm surges, river floods, droughts and other disasters.



## Box 6. Fiji's policy instruments for NAP implementation – adaptation examples

- A Climate Vulnerability Assessment (CVA) was the basis to develop the adaptation and resilience plan. It identifies the importance of evidence-based decision making and well-managed public finances as key issues.
- A comprehensive approach to resource mobilisation is proposed, with public finance; autonomous adaptation by the private sector, households, and communities; the incorporation of risk transfer mechanisms and contingency finance; and increasing local-level financing mechanisms, modalities, and fiduciary management.

Fiji's National Adaptation Plan (NAP) includes actions that require public, private and /or community investment, and/or regulation, on:

- Information services and management (public); mainstreaming climate change issues into national and local level development

<sup>2</sup> See for example <https://www.indexinsuranceforum.org/>



planning (public); awareness and knowledge (public); local-level action on e.g., food and nutrition and the agricultural system, health systems, and human settlements (public, private, community); investment in resilient infrastructure, green infrastructure and protection of biodiversity and the natural environment to maintain ecosystem services and natural capital that underpin society and economic growth (public, private, community); enhance insurance protection of energy assets and updating private sector financial services to incorporate environmental and climate risks (private).

Source: Government of the Republic of Fiji (2018)

### **SPM-3.5: Sector Planning, Integrated Planning**

Most countries use planning instruments, for example to set targets and to articulate how their NDCs and LTSs must be implemented. Viet Nam's Law on Planning of 2017 is streamlining its long-standing practices of master planning, reducing the number of provincial-sectoral plans and stressing the need for better sectoral and regional integration. Masterplans in Viet Nam are a key determinant of public investment budgets, as they include public investment as well as private investment proposals. They are an instrument that connects with Viet Nam's 5-year Social Economic Development Planning (SEDP) and annual SEDP and budgeting cycles, in a political process somewhat similar to China (Box 7).

Climate change responses are not articulated in a separate masterplan in Viet Nam, but directions are formulated at the strategic level in the

NCCS and in 5-yearly SEDPs. Concrete climate change responses must be mainstreamed in sectoral masterplans in a manner similar to Thailand (Box 8). For example, the national master plan on irrigation (water management), is addressing disasters and water-related climate change adaptation measures. And the national power development plan (PDP) articulates expected investment in renewable, hydro and thermal power generation plants (mostly private investment) and power transmission infrastructure (mostly public finance), which have major impact on increase or decrease of future GHG emissions. All national sectoral masterplans must be consistent with regional (integrated, multi-sectoral) masterplans, so that sectoral interests are balanced. The Law on Planning offers opportunities for including climate change responses, as is happening in the case of the Mekong Delta Regional

Masterplan (expecting approval in December 2021), which includes climate change and sea level rise adaptation, as well as GHG emissions mitigation actions. Implementation

will be the responsibility of sector ministries and the provincial authorities, and a Mekong Delta region coordination council was set up to support that.

### **Box 7. China's 5-year Social Economic Plans**

Following a week-long meeting, the National People's Congress of China on 12 March 2021 formalised the "outline for the 14th five-year plan and long-term targets for 2035". The 5-year plan's outline set a 18% reduction target for "CO2 intensity" and 13.5% reduction target for "energy intensity" from 2021 to 2025. It also referred to China's longer-term climate goals and introduced the idea of a "CO2 emissions cap". This 14th 5-year plan's outline devoted four of its 20 indicators on economic and social development to energy and climate change.

### **Box 8. Thailand's Social Economic Planning and Climate Change**

Thailand has addressed climate change in its national economic and social development plans under the National Strategy (2018-2037). The Climate Change Master Plan 2015-2050 is specifically on climate change mitigation, adaptation, capacity building and cross-cutting issues. Energy targets are considered in the Power Development Plan, the Alternative Energy Development Plan and the Energy Efficiency Plan. The Environmentally Sustainable Transport System Plan encourages the development of road-to-rail model shift for both freight and passenger transport. Climate change adaptation has been incorporated into sectoral policies such as the Strategy for Climate Change in Agriculture, the Climate Change Adaptation Plan on Public Health, the 20-year Water Resources Management Master Plan. A vehicle tax based on CO2 emissions was applied in 2016 to promote low carbon vehicles.

It is recommended that the NCCS will call for all national-sectoral, regional as well as provincial (integrated, multisectoral) masterplans to include clear climate change adaptation and GHG emission mitigation objectives and actions (investment proposals). Mainstreaming climate change responses will ensure appropriate

### **SPM-3.6: Regulation and Enforcement to Enhance Private Green Investment**

Several regulations, applied by a multitude of countries “force” or incentivise the business sector and consumers into green investment, purchase, or behaviour:

- Environmental Impact Assessment (EIA) is required in Viet Nam for all significant investments, for example in major investments in water management, transport, power generation or large-scale manufacturing facilities. However, compared to the use of this instrument in other countries, climate change mitigation and adaptation are not always treated clearly and effectively, so EIA does not lead to improved designs and investments. The EIA regulation and its application should be strengthened to become a more effective instrument on climate change adaptation and GHG emissions mitigation, as is the case in other countries. This would on occasion “force” investors to invest

levels of public investment finance. Appropriate sectoral regulations should encourage green private investment to also help achieve the climate change adaptation and GHG emissions mitigation targets. Investments targeting co-benefits in adaptation and mitigation should be promoted where possible.

more in protective measures and/or choose energy efficient, low emissions technology over the perhaps cheaper, old fashioned and dirtier alternatives.

- An example to stimulate renewable energy is “renewable portfolio standards” (RPS). This regulates power producing companies to have a minimum amount of renewable energy capacity in their power generation portfolios. The NCCS and forthcoming electricity policy should consider applying RPS for the largest power producers in Viet Nam, based on international experience. Growth in variable renewable energy (VRE) can also be enabled by requiring owners of wind and solar PV portfolios to invest in a minimum battery energy storage (BES) capacity in their portfolios whilst enabling them to sell power from batteries at times of high retail prices, which will help to stabilize the national grid.

## Box 9. Malaysia's low-carbon policy toolkit

Policy approach	Low-carbon policy tools
Strengthen Forest Management and Conservation	(i) Increased gazettement of forests to encourage their long-term protection; (ii) Establishment of Conservation Trust Fund; (iii) Implementation of REDD+
Increase Renewable Energy Use	(i) Establishment of Feed in Tariff; (ii) Introduction of Net metering; (iii) Creation of Green Technology Financing Scheme; (iv) Increased RE electricity generation by non-Feed-in Tariff; regulated public and private licensees and other mechanisms; (v) Introduction of B10 biodiesel; and (vi) Launch of green sukuk investment instrument (= an Islamic bond in which returns are used to invest in environmentally sustainable infrastructure projects)
Improve Urban Planning and Promote Public Transportation	(i) Improved integration of urban nodes and planning (and related plans); (ii) Development of rail-based public transport; and (iii) Removal of fossil fuel subsidies

Source: Susskind et al. (2020)

- Viet Nam already has a labelling system on energy efficiency of equipment, which is influencing consumer behaviour, as is the experience in other countries. A ban on certain energy inefficient equipment should also be considered by Viet Nam, to ensure that some old technology is discarded and replaced by efficient technology more rapidly (see Box 4 on Germany). Regulation of (minimum) energy standards is also available, but resources for enforcement are limited. In addition, given international

developments such as the CBAM of the EU, Viet Nam should consider carbon foot print labelling of commodities and products that are consumed domestically and also exported.

- Regulation that petrol stations have charging points for electric cars forces the owners to invest and makes the purchase of electric vehicles more attractive (see Box 5 on Finland). Viet Nam should also consider regulation to ban motorbikes and/or cars with internal combustion engines from (parts of) cities by a certain date.

which gives a signal to both industry and consumers that electrification is the future, as has been done by municipalities in different countries in order to improve urban air quality.

- Regulation can “force” adaptation to climate change effects by updating and tightening design and construction standards and requirements, for example with regards to minimum heights of the ground floor of buildings and access roads, minimum drainage capacities or for example regulations on rainwater harvesting, water treatment and re-use. Sea level rise and predictions on changes in the extremes of temperatures, rainfall and drought have been used in many countries

to upgrade dikes, canals, bridges, etc. and through the NCCS Viet Nam could commit to reviewing and upgrading its infrastructure and building construction codes in the context of climate change.



### **SPM-3.7: Capacity Building, Training and Awareness Raising**

Most countries provide training to improve the quality of human resources, especially young people. For example, Japan and India encourage the participation of young people and women in the planning and implementation of climate change policies. Japan develops research programs for scientists under the age of 40 for innovations on energy and environment. Most countries have programs to improve community awareness of climate change and responses to climate change, including

communities that are strongly affected by disasters. Improvement of disaster monitoring, warning and communication systems using the latest IT capabilities is also common.

The NCCS should include capacity building and training programmes on climate change adaptation and disaster risk management, as well as “technologies of the future” and related skills. This should be provided by established training and education institutions at different levels. The

targets might include government focal points for disaster risk management at the provincial level, and young women and men aspiring to work in e.g., renewable energy, energy efficiency technologies, or electric vehicle manufacture, operation and maintenance. Capacity building requires public funding, and policy can also incentivise private enterprises to build capacities of (existing and new) personnel in different parts of value chains. Improved capacities will improve efficiencies, reduce emissions and/or increase resilience, which improves profitability and business continuity in times of crisis. Examples are programmes to improve capacities on (a) the analysis of energy efficiencies in manufacturing businesses by energy service companies (ESCORs); (b) development and application of renewable energy equipment; (c) public and private systems that measure parameters such as water levels, pH and salinity that are

shared in real time through the internet; (d) early warning systems and disaster risk data collection, for use by experts and the wider population; and other options.

The NCCS should also set targets to increase popular awareness of the causes of climate change and responses to climate change. This includes awareness of flood, drought and salinity intrusion risks as well as behaviours and products that reduce emissions and improve resilience. Campaigns to increase popular awareness of climate change challenges and solutions could involve the mass organisations, including the Youth Union, and they should connect to parallel international organisations, UN agencies, and international campaigns. Viet Nam should enhance awareness of future generations through better inclusion of climate change in the curriculum at different levels of education.

### **SPM-3.8: Research, Science and Technology Development and Application**

All major countries are aiming to take part or lead in the technologies of the future and the resources required for them. Viet Nam must get into an advanced position with regards to “industry 4.0”, IT and the internet of things (IoT), AI and big data analysis, renewable energy, electric transport,

etc., as it is aiming to become a modern industrialised nation. The NCCS should promote that Government will bring together large national enterprises and public research organisations and make strategic investments in development of technology and application of the

technologies of the future, i.e., research programmes that may take the form of PPPs. An important way to “unleash” the research capacities of private enterprises, perhaps in cooperation with public sector research organisations, is illustrated by how the USA, EU and UK pre-financed COVID-19 vaccine development by private enterprises and promised to buy large quantities of vaccines should development be successful. The governments reduced the commercial risks of the private enterprises, who could bring their large research capacities to focus on resolving a single problem. The result was that several effective vaccines were developed and made available very fast by historical comparison, using the latest technologies for vaccine development and manufacture.

According to the experience of several countries, in order to reduce greenhouse gas emissions and improve resilience, it is necessary to study technological alternatives to the status quo, and decide on those based on financial, social and environmental criteria. For example, Japan and China have issued many policies to support the development of low emissions vehicles, especially public transport; India has a policy to support the use of LED light bulbs to save energy in buildings. Viet Nam has also done technology analyses, for example in the

context of NDC formulation (JICA 2018), which needs to be repeated, deepened and led by national experts from both research institutes and private enterprises. This should include the “best available technologies” (BAT), at any given moment, as well as potential technologies that are at earlier stages of research and development. Technologies should be continuously assessed so that Vietnamese private and state-owned enterprises can decide on their investment in development, adaptation and/or adoption of modern and future technologies.

This concerns a very wide range of technologies, for example the following:

- (a) Technologies to increase fossil fuel use efficiency and reduce emissions of various pollutants in power production, cement, iron and steel, aluminium, fertilizer and paper production;
- (b) Variable renewable energy (VRE) such as wind, solar PV, wave power, as well as biofuel which have good potentials in Viet Nam;
- (c) Green hydrogen that can displace fossil fuels in heavy industry (iron, steel and aluminium), be used in large transport, and serve as energy storage in connection with variable renewable energy (VRE);
- (d) Technologies that are underdeveloped in Viet Nam,

- including technological approaches to carbon capture and storage (CCS) and nuclear fusion technology;
- (e) High capacity and smart power transmission systems and management practices, to enable distributed power production and inclusion of large amounts of VRE;
  - (f) Energy efficient lighting (public lighting, service establishments, manufacturing facilities, homes) and energy efficient equipment in cooling and heating for households, service establishments, and industrial facilities;
  - (g) Electric transport (bikes, cars, trucks, buses, ships), including battery technology;
  - (h) Technologies, including blockchain technology, for tracking origin and type of inputs into products throughout their value chains, for example to register embedded energy, carbon, water use, and the use of agrochemicals on fruits, to be able to inform local as well as remote consumers in a trustworthy manner;
  - (i) Biotechnology, with applications in the health sector, livestock, aquaculture, crops and forestry that can improve human health and livelihood resilience in the face of climate change and other stresses, decrease GHG emissions and/or increase carbon storage;
  - (j) Waste management technologies, including sorting, separating, reusing and recycling waste, recovery of precious metals from waste, composting organic waste, capture and use of methane from waste, incineration in waste-to-energy plants and existing thermal power plants (“co-firing”);
  - (k) Technologies to enhance energy efficiency of buildings and increasing resilience of urban areas and industrial zones, including approaches to drainage such as “sponge cities”;
  - (l) Technologies to improve water use efficiency in agriculture and aquaculture, and e.g., desalinate water for household and industry in coastal zones;
  - (m) Technologies to protect and restore land, water, wetlands and biodiversity, including nature-based solutions (NbS) in support of coastal, riverbank and mountain slope erosion prevention;
  - (n) Forestry programmes to strengthen GHG sinks, in addition to already planned measures, such as reforestation of watershed protection forests, natural forest protection and regeneration, afforestation, sustainable forest and plantation management;
  - (o) Smart agriculture based on industry 4.0 technologies, big data analysis and the IoT.



## ACKNOWLEDGEMENTS

This SPM was written by Koos Neefjes, Nguyen Khac Hieu, and Nguyen Anh Duc, with contributions by Janto Hess, Morgane Rivoal and Hoang Ngoc Xuan Mai. Comments and suggestions on different drafts were provided by Pham Van Tan and prof. Tran Thuc of the MONRE drafting team of the National Climate Change Strategy (NCCS), and Bui Viet Hien, Dao Xuan Lai, Khusrav Sharifov, Susanne Olbrisch and James Vener of UNDP. Their contributions were gratefully received, but the content of this report remains the responsibility of the authors alone.

## DISCLAIMER

The views expressed in this information product are those of the author(s) and do not necessarily reflect the views or policies of the United Nations Development Programme (UNDP), donor agencies, or the UN Member States. The designations employed and the presentation of material in this information product do not imply the expression of any opinion whatsoever on the part of UNDP concerning the legal or development status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.

The mention of specific companies or products of manufacturers, whether or not these have been patented, does not imply that these have been endorsed or recommended by UNDP in preference to others of a similar nature that are not mentioned.

Third-party content – UNDP do not necessarily own each component of the content contained within this report. UNDP therefore do not warrant that the use of any third-party-owned individual component or part contained in the work will not infringe on the rights of those third parties. The risk of claims resulting from such infringement rests solely with you. If you wish to re-use a component of the work, it is your responsibility to determine whether permission is needed for that re-use and to obtain permission from the copyright owner. Examples of components can include, but are not limited to, tables, figures, or images.

UNDP do not warrant that the information contained in this product is complete and correct and shall not be liable whatsoever for any damages incurred as a result of its use.

This publication should be cited as:

UNDP. 2021. *Summary for Policymakers - Analysis of international experiences of formulation and implementation of climate change strategies and the global context.*

## REFERENCE

Coalition of Finance Ministers for Climate Action. 2020. Long-term strategies for climate change – a review of country cases. Report on Helsinki Principle 1 E3G. 2019. The Geopolitics of Climate Change.

<https://www.e3g.org/publications/the-geopolitics-of-climate-change-ungsg-climate-action-summit/>

Government of the Republic of Fiji. 2018. Republic of Fiji National Adaptation Plan - A pathway towards climate resilience

IPCC. 2018. Summary for Policymakers. In: Global Warming of 1.5°C. An IPCC Special Report on the impacts of global warming of 1.5°C above pre-industrial levels and related global greenhouse gas emission pathways, in the context of strengthening the global response to the threat of climate change, sustainable development, and efforts to eradicate poverty [Masson-Delmotte, V., P. Zhai, H.-O. Pörtner, D. Roberts, J. Skea, P.R. Shukla, A. Pirani, W. Moufouma-Okia, C. Péan, R. Pidcock, S. Connors, J.B.R. Matthews, Y. Chen, X. Zhou, M.I. Gomis, E. Lonnoy, T. Maycock, M. Tignor, and T. Waterfield (eds.)].

IPCC. 2021. Summary for Policymakers. In: Climate Change 2021: The Physical Science Basis. Contribution of Working Group I to the Sixth Assessment Report of the Intergovernmental Panel on Climate Change [Masson-Delmotte, V., P. Zhai, A. Pirani, S. L. Connors, C. Péan, S. Berger, N. Caud, Y. Chen, L. Goldfarb, M. I. Gomis, M. Huang, K. Leitzell, E. Lonnoy, J.B.R. Matthews, T. K. Maycock, T. Waterfield, O. Yelekçi, R. Yu and B. Zhou (eds.)]. Cambridge University Press. In Press.

Iroegbu, Austine Ofondu Chinomso, Suprakas Sinha Ray, Vuyelwa Mbarane, João Carlos Bordado, and José Paulo Sardinha. 2021. Plastic Pollution: A Perspective on Matters Arising: Challenges and Opportunities. ACS Omega 2021, 6, 30, 19343–19355

<https://www.ncbi.nlm.nih.gov/pmc/articles/PMC8340096/pdf/ao1c02760.pdf>

JICA. 2018. Low Carbon Technology Assessment - Facilitating Effectiveness of Viet Nam's Nationally Determined Contributions. By numerous experts in the period 2017-2018.

Ministry of Economic Affairs and Employment. 2019. Finland's Integrated Energy and Climate Plan

MPI. 2015. Financing Viet Nam's Response to Climate Change: Smart Investment for a Sustainable Future. Ministry of Planning and Investment (MPI), World Bank and UNDP.

Policy Exchange. 2021. The Geopolitics Of Climate Change: Environmental Policy increasingly reaches the heart of all policy areas, starting with questions of the global balance of power. Papers include, a.o.: General David Petraeus - A Framework for the Geopolitical Risks of Climate Change; Hon Malcolm Turnbull AC - Australia's Need to put Climate at the Heart of its Geostrategy; Rt Hon Lord Hague of Richmond - The Convergence of British Foreign Policy with Climate Policy; Erin Sikorsky and Sherri Goodman - NATO's Mission in an Age of Climate Change. [www.policyexchange.org.uk](http://www.policyexchange.org.uk)

Republic of The Philippines. nd. National Climate Change Action Plan 2011 – 2028. Climate Change Commission.

Sachs, Jeffrey D., Christian Kroll, Guillaume Lafortune, Grayson Fuller, and Finn Woelm. 2021. The Decade of Action for the Sustainable Development Goals. University Printing House, Cambridge CB2 8BS, United Kingdom.

SR Viet Nam. 2018. Viet Nam's Voluntary National Review on the Implementation of the Sustainable Development Goals.

SR Viet Nam. 2020a. Updated Nationally Determined Contribution (NDC). [submitted to the UNFCCC on 11/09/2020] Socialist Republic of Viet Nam. [https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Viet%20Nam%20First/Viet%20Nam\\_NDC\\_2020\\_Eng.pdf](https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Viet%20Nam%20First/Viet%20Nam_NDC_2020_Eng.pdf)

SR Viet Nam. 2020b. Technical report Nationally Determined Contribution (updated in 2020)

SR Viet Nam. 2020c. Prime Minister Decision No. 1055/QĐ-TTg (20.07.2020) on issuing the National Plan for Adaptation to Climate Change 2021-2030, with outlook to 2050.

Susskind, Lawrence, Jungwoo Chun, Selmah Goldberg, Jessica A. Gordon, Griffin Smith and Yasmin Zaerpoor. 2020. Breaking Out of Carbon Lock-In: Malaysia's Path to Decarbonization. *Frontiers in Built Environment*. 27 March 2020 doi: 10.3389/fbuil.2020.00021

UNEP. 2018. Assessment of Post-2010 National Biodiversity Strategies and Action Plans.

[https://wedocs.unep.org/bitstream/handle/20.500.11822/25656/post2010\\_NBSAP\\_Assessment.pdf?sequence=1&isAllowed=y](https://wedocs.unep.org/bitstream/handle/20.500.11822/25656/post2010_NBSAP_Assessment.pdf?sequence=1&isAllowed=y)

UNFCCC. 2021e. Nationally determined contributions under the Paris Agreement. Synthesis report by the secretariat. FCCC/PA/CMA/2021/8. 17 September 2021.

<https://unfccc.int/news/full-ndc-synthesis-report-some-progress-but-still-a-big-concern>

WMO. 2021. 2020 was one of three warmest years on record. World Meteorological Organization (WMO). <https://public.wmo.int/en/media/press-release/2020-was-one-of-three-warmest-years-record>

