

UNITED NATIONS CONFERENCE ON TRADE AND DEVELOPMENT

# Mapping Trade-related Measures in the Nationally Determined Contributions:

Technical note



UNITED NATIONS  
UNCTAD

**UNCTAD/DITC/MISC/2023/15**

# Contents

Acronyms.....	iv
<b>1. Introduction .....</b>	<b>1</b>
<b>2. Methodology.....</b>	<b>2</b>
<b>3. Preliminary findings .....</b>	<b>4</b>
a) Renewable energy source and energy efficiency .....	4
b) Green value chain development .....	5
c) Green industrial development and economic diversification .....	6
d) Technical regulations.....	7
e) Market-based measures .....	8
f) Public procurement.....	10
g) Tariffs .....	10
h) Subsidies and tax exemptions .....	11
<b>4. Conclusion and the way forward.....</b>	<b>12</b>
References .....	13
<b>Annex List of NDCs considered in the analysis .....</b>	<b>14</b>

## Figures

Figure 1: Linkages between measures related to trade.....	3
Figure 2: Number of measures identified in the NDC mapping exercise.....	4

## Tables

Table 1: Examples of NDC measures linked to renewable energy and energy efficiency .....	5
Table 2: Examples of selected NDC trade related measures associated with green value chain development .....	6
Table 3: Examples of NDC trade-related measures to promote circular economy practices .....	6
Table 4: Examples of NDC measures aimed at promoting green industrial development and diversification .....	7
Table 5: Selected technical regulations identified in the NDC mapping exercise .....	8
Table 6: Selected examples of REDD+ measures identified in the NDCs studied.....	9
Table 7: Selected examples of carbon price mechanisms as part of market-based measures.....	9
Table 8: Selected measures concerned with payment for ecosystem services as part of market-based measures .....	10
Table 9: Examples of public procurement trade-related measures in NDCs.....	10
Table 10: Import tariffs on energy products.....	11

## Acronyms

AFOLU	Agriculture, Forestry and Other Land Use
CIACA	Collaborative Instruments for Ambitious Climate Action program
CO <sub>2</sub>	Carbon dioxide
COP	Conference of the Parties
CPI	Carbon Pricing Instrument
EV	Electric vehicles
GWP	Global Warming Potential
HFCs	Hydrofluorocarbons
HS code	Harmonized System code
IPCC	Intergovernmental Panel on Climate Change
LDCs	Least developed countries
LED	Light-emitting diode
LLDCs	Landlocked developing countries
MEPS	Minimum energy performance standards
MW	Megawatts
NDC	Nationally determined contribution
PV	Photovoltaic
RAC	Refrigeration and Air-Conditioning
REDD	Reducing emissions from deforestation and forest degradation in developing countries
SIDS	Small island developing states
SOC	Soil organic carbon
UNCTAD	United Nations Conference on Trade and Development
UNFCCC	United Nations Framework Convention on Climate Change
VAT	Value Added Tax
WTO	World Trade Organization

# 1. Introduction

Under the Paris Agreement, “each Party shall prepare, communicate and maintain successive nationally determined contributions that it intends to achieve” (UNFCCC, 2023a). These nationally determined contributions, or NDCs, reflect each country’s highest possible ambition to tackle climate change, taking into account their common but differentiated responsibilities, respective capabilities, and national circumstances. NDCs include emission reduction objectives (UNFCCC, 2023b) and most contain detailed lists of adaptation and mitigation measures to be implemented over a given period. Such measures can also pursue economic diversification outcomes.

Each Party to the Paris Agreement<sup>1</sup> is required to establish an NDC and update it every five years. The updates should consider increased progression (UNFCCC, 2023a). The Paris Agreement states that a global stocktaking to assess progress towards achieving its long-term goals is to take place every five years (UNFCCC, 2023a). The Synthesis report on the technical dialogue of the first global stocktake<sup>2</sup> finds that despite significant progress in global mitigation and adaptation action and support, the world is not on track to meet the long-term goals of the Paris Agreement (UNFCCC, 2023f). The first global stocktake is set to conclude at the United Nations Climate Conference (COP28) in Dubai in December 2023.

Trade policy actions can be effective tools on the ground to achieve the targets, for instance, facilitating local industries’ access to environmentally preferable goods and services. UNCTAD is conducting an exercise to assess the interface between advancing climate commitments of member States, as stipulated in their NDCs, and trade policy. The exercise first identifies references to trade-related actions in selected developing countries’ most recently updated NDCs, then “maps” them according to the immediate climate change mitigation objectives.

This paper provides interim findings from the ongoing exercise and is structured as follows. Section 2 describes the methodology of the assessment. Section 3 maps the trade-related measures identified in the exercise with key climate action objectives. Section 4 presents conclusions.

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1 The Paris Agreement is a legally binding international treaty on climate change. It was adopted by 196 Parties at the UN Climate Change Conference (COP21) in Paris, France, on 12 December 2015. It entered into force on 4 November 2016. Its overarching goal is to hold “the increase in the global average temperature to well below 2°C above pre-industrial levels” and pursue efforts “to limit the temperature increase to 1.5°C above pre-industrial levels.”

2 Available at <https://unfccc.int/documents/631600>.

## 2. Methodology

The report undertakes a mapping of the measures<sup>3</sup> that interact with trade included in 60 NDCs of developing countries.<sup>4</sup> The NDCs were selected to ensure the inclusion of a broad range of developing countries considering:

- Regional representation (Africa, Asia and the Pacific, Latin America and the Caribbean, and Middle East countries),
- Income level (high-, middle-, and low-income countries),
- Least Developed Countries (LDCs),
- Commodity dependent countries,
- Small Islands Developing States (SIDS),
- Landlocked countries.

The NDCs included in the sample were either new or updated submissions as of 30 September 2023,<sup>5</sup> comprising detailed information about mitigation and/or adaptation measures.<sup>6</sup>

Mapping trade-related provisions in NDCs present various challenges linked to the nature of the Paris Agreement, the flexible nature of the style and content of the contributions, the absence of uniform types of content (very detailed vs very succinct), and different versions of NDCs (first submissions, updates, second submissions, or third submissions). Also, not all countries show the same stage of advancement and scope in their submissions, and there is limited information on the implementation strategies at the level of targets and measures.

As NDCs widely vary among them in terms of format, availability, information and scope, the analysis is qualitative and focuses on identifying trade-related measures. Measures were categorised based a review of the available literature on analysis of measures related to trade in NDCs,<sup>7</sup> trade and climate policy, and a preliminary analysis of the data.

Identified measures can be categorized in two main groups: i) measures indirectly linked to trade and primarily pursuing broader objectives such as increasing renewable energy production, promoting economic diversification, or greening industrial policies, and ii) measures directly linked to the regulation of trade activities or the creation of market incentives or disincentives impacting trade such as tariffs, taxes or technical regulations.

The first group of measures, those that have a larger mitigation and economic diversification purpose, may not primarily focus on trade. However, if successfully implemented, they are likely to trigger an increase in the trade of environmentally preferable goods and sustainable services. For instance, measures aimed at increasing clean energy production, would result in increased imports of renewable energy generation equipment, such as solar panels or wind turbines, when these goods are not domestically produced or available. Measures from this group include the following:

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3 In the context of this report “measures” refers to specific policies and actions included in the NDCs that contribute to mitigation, including adaptation actions and economic diversification plans with mitigation co-benefits.

4 Out of a total of 195 NDCs from countries available on the NDC Registry managed by the UNFCCC. See <https://unfccc.int/NDCREG>.

5 NDCs are submitted every five years to the UNFCCC secretariat, with the next round of NDCs (new or updated) being submitted by 2025 (UNFCCC, 2023c).

6 However, it is relevant to note that countries may use different UNFCCC mechanisms to report on adaptation measures, such as National Adaptation Plans (Fransen et al., 2022).

7 See for instance Brandi (2017), Brenton and Chemutai (2021), Cosbey (Cosbey, 2018), Elkalwagy (2017), Laurens et al. (2022), UNCTAD (2022), UNCTAD (2023) and WTO (WTO, 2021).

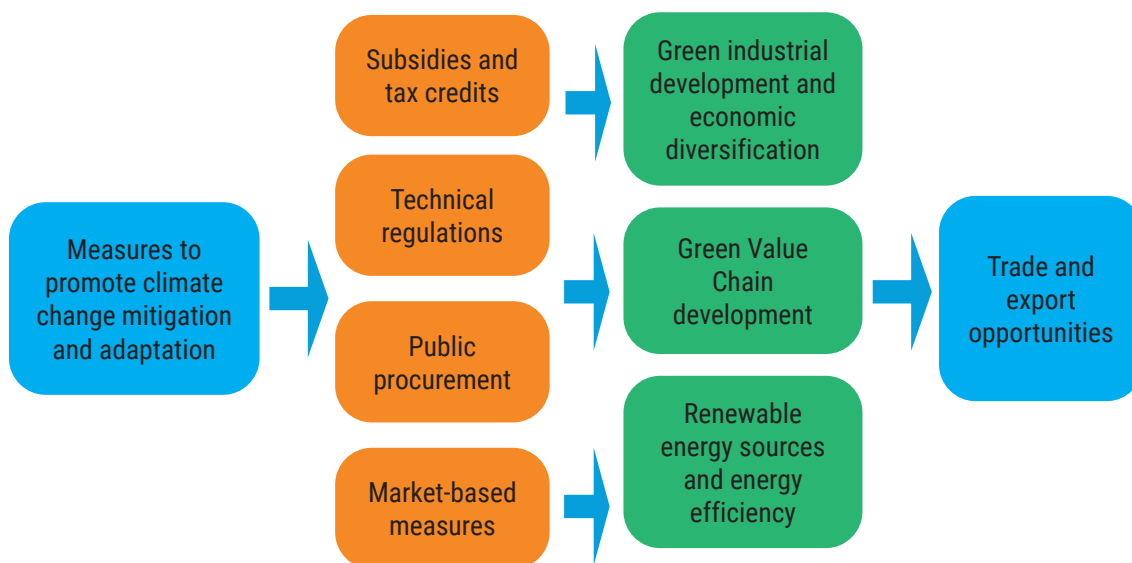
- a. Renewable energy sources and energy efficiency promotion: Measures in this category include those aimed at supporting the increased deployment of renewable energy sources. Also, this category includes measures aimed at increasing energy efficiency,
- b. Green value chain development: This category considers measures aimed at reducing the greenhouse gas emissions of value chains and to increase their sustainability,
- c. Green industrial development and economic diversification: This category includes measures in the NDCs which are part of diversification plans that can contribute to mitigation efforts and measures, including the decarbonisation of industrial processes.

The second group of measures, those with a direct link to trade in goods or services include the following:

- a. Technical regulations (including labels and product standards),
- b. Market-based measures (including carbon pricing affecting imports and carbon credits linked to land use, land-use change, and forestry),
- c. Public procurement,
- d. Tariffs,
- e. Subsidies and tax credits.

It is important to note that the trade-related measures could be allocated to several categories depending on their characteristics and the availability of information. The following Figure shows the linkages between the measures related to trade identified in the analysis.

Figure 1: Linkages between measures related to trade

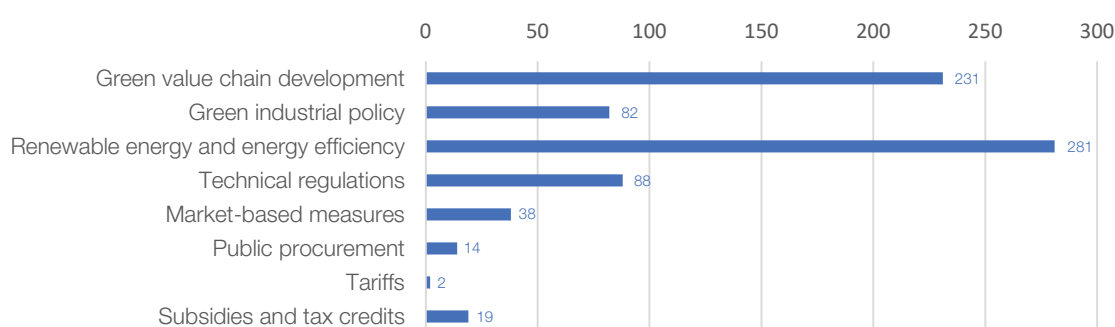


Source: UNCTAD

### 3. Preliminary findings

The current analysis has identified 680 trade-related measures — although NDCs seldom mention trade — divided into direct and indirect measures, based on their relation to trade. Most of these measures deal with renewable energy and efficiency, green value chain development, technical regulations, and green industrial and economic policies. Technical regulations are the most used measures directly related to trade. Other trade-related measures, such as subsidies and tax credits, market-based mechanisms and public procurement were less prevalent. Figure 2 shows the number of measures identified per category.

Figure 2: Number of measures identified in the NDC mapping exercise



Source: UNCTAD

Note: Measures could appear in more than one category.

The following subsections present examples of the measures included in the NDCs, as they are presented in the contributions (unedited). An unofficial translation is presented in this report when the original text was unavailable in English.

#### a. Renewable energy source and energy efficiency

The transition towards a more efficient and cleaner energy system is crucial for implementing the mitigation strategy to fulfil countries' carbon reduction commitments outlined in their NDCs. From the mapping exercise, more than 50 countries included measures related to increasing the availability of renewable energy sources and energy efficiency. The mapping identified 281 measures associated with this objective, making it the most mentioned category.

Most mitigation strategies under this objective are related to renewable energy for electricity generation. The development of infrastructure for solar energy sites, wind farms, and hydroelectric dams are the top priority for many countries to help meet their carbon reduction targets and accelerate the transition from fossil fuel to renewable energy in electricity generation. On energy efficiency (see Table 1), the focus is on increasing efficiency in buildings, transportation, current grid, and infrastructure. In increasing energy efficiency in buildings and residential areas, some countries listed the use of more energy-efficient lighting, such as LED lamps, while others promoted the adoption of green buildings that improve energy efficiency and reduce emissions, including but not limited to improvement in heating, ventilation, and air conditioning systems.<sup>8</sup>

<sup>8</sup> In the transport sector, several countries specifically mention measures to pursue the transition of public bus fleets from traditional combustion engines to electric ones, which could increase the imports of these type of vehicles. Several of the NDCs analysed include a more general approach by focusing on increasing the number of electric vehicles, and committing to increasing the availability of charging stations, while imposing restrictions on the use



Table 1 shows several examples of renewable energy and energy efficiency measures mentioned in the sample of NDCs. In each example throughout the paper, we present potential trade impact, referring to possible trade impact, such as exports or imports resulting from the recorded measures.

**Table 1: Examples of NDC measures linked to renewable energy and energy efficiency**

Country	Measures	Potential trade impact
Burkina Faso	Construction of solar PV sites in Essakane, Matourkou, Dori, Diapaga, and Gaoua to increase electricity production to 85 MW.	Import solar PV equipment
Morocco	Installation of several wind power plants on several sites for a total capacity equivalent to 2180 MW by 2030.	Import of relevant inputs for windmills installations
Bangladesh	Use energy-efficient appliances in household and commercial buildings (achieve 5 per cent and 12 per cent reduction in emission respectively).	Implementation of technical regulations
Cuba	The installation of 15,250,000 LED lamps in the residential and public sectors.	Increased LED imports
Bahamas	Develop incentives to encourage the purchase of electric vehicles. Installation of charging stations for electric vehicles.	Increased import of electric vehicles and charging stations for electric vehicles
Namibia	10,000 Electric vehicles - replacing gasoline.	Import of electric vehicles

## b. Green value chain development

Measures linked to green value chain development are the second most used type of trade-related measures identified in the analysis (231 measures). Over 65 measures were identified in each of the following regions: Africa, Asia Pacific, and Latin America and the Caribbean. Green value chain development-related measures account for 31 per cent of all measures identified in Africa, 38 per cent in Latin America and the Caribbean, and 35 per cent in Asia. Nine out of 46 total measures (20 per cent) of the measures identified in the Middle East countries studied were found to support green value chain development.

In view of the sectors covered and the associated impacts both in terms of climate change adaptation and mitigation, measures aiming at supporting green value chain development have the potential to shape national production and trade. Our mapping analysis shows that less than 10 per cent of green value chain development measures have a direct link with export or import activities, thus highlighting the potential for greater inclusion of trade into NDCs. Examples of direct linkages between trade and green value chain development measures can be found in Table 2.

Two broad categories of measures related to green value chain development can be found in NDCs. The first category includes measures aimed at supporting the development of specific green value chains, focusing on the product or sector of the targeted value chains. Specific sectors associated with these types of trade-related measures include forestry (possibly linked to biodiversity conservation), agriculture (including agro-forestry and agro-processing, irrigation, land management and food security), fisheries & livestock, cement, and sustainable tourism. Major export products identified as the focus of green value chain development measures include coffee, cocoa, palm oil, rice, forest products, and cement.

The second category considers transversal measures aiming at lowering the carbon footprint of a given sector or activity. Such transversal measures mainly relate to renewable energy and energy efficiency, logistics, and waste management. In addition to these transversal areas, green value chain development measures can also include references to the promotion of circular economy practices (Cabo Verde, Costa Rica, and Mexico) (see Table 3).

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of fossil fuel-powered vehicles.

**Table 2: Examples of selected NDC trade related measures associated with green value chain development**

Country	Measures	Potential trade impact
Malawi	Establish grain export processing zones and develop resilient value chains.	Increased export of processed low-carbon grain products
Mauritius	Tourism: i) promotion of a “green tourism industry” meaning more energy efficiency, renewable energy, water efficiency, waste management, wastewater treatment, local – short value chains for both the touristic / leisure infrastructures and the activities.	Lower carbon footprint of the tourism sector (tourism is considered as an export of services)
Bolivia (Plurinational State of)	Double the areas under integrated and sustainable forest management by 2030. In particular, the need to access international markets for products derived from integrated and sustainable forest management is considered important.	Increased export of sustainable non-timber forest products

**Table 3: Examples of NDC trade-related measures to promote circular economy practices**

Country	Measures	Potential trade impact
Cabo Verde	Encourage manufacturers and businesses, through fiscal incentives and capacity development, to design circular products and services based on resources recovery, biodegradability, and the true production costs, including environmental costs. Products which are simple, low-energy, easy to repair, and passive should be favoured. This measure will be stimulated by adopting tariff and tax solutions that favour local producers and companies as opposed to international providers and accompanied by the setting of indicators to monitor achievement. A flagship local product which can substitute imports is salt.	Increase in exports of sustainably produced manufactured goods and decrease in import of non-circular and less carbon efficient imports.
Costa Rica	In the year 2025, the country will promote a comprehensive circular economy system for agricultural farms, taking into consideration the processes of biodigestion and soil decarbonization through the use of technologies to increase organic carbon levels in the soil (SOC), among other measures.	Increase in low carbon agricultural exports.
Mexico	National Circular Economy Strategy, as well as programs and incentives for energy efficiency, considering both regulatory programs and the promotion of efficient cogeneration in industry, services, and commerce sectors, including sugar mills.	Lower carbon footprint of industrial and service exports.
Uganda	Clinker <sup>9</sup> substitution in cement production. This measure aims to substitute clinker in cement production with less carbon-intensive constituents like pozzolana, fly-ash or slag. This measure has the potential to reduce emissions by approximately 0.10 Mt CO <sub>2</sub> e (CO <sub>2</sub> equivalent) by 2030.	Lower carbon footprint of cement.

### c. Green industrial development and economic diversification

Eighty-two trade-related measures are linked to green industrial development and economic diversification (11 per cent). Only 14 measures appear to have a direct effect on trade. But measures may have an

<sup>9</sup> Producing one tonne of portland cement releases roughly one tonne of CO<sub>2</sub> to the atmosphere, and sometimes much more, and the cement industry accounts for 7-8 per cent of the planet's human-produced CO<sub>2</sub> emissions. Half of it comes from producing clinker (the incombustible remains of coal combustion. (UNEP, 2010).

indirect impact on trade. The measures are overall balanced in terms of regional distribution. In each of the studied regions, between 50 and 60 per cent of the countries consider measures in their NDCs that are related to green industrial development and economic diversification. 72 per cent of the measures in this category are identified as mitigation measures, while 28 per cent could be considered as measures with adaptation objectives.

Measures in green industrial development and economic diversification categories often include aspects related to green value chain development (about 20 per cent) but are mostly specifically aimed at increasing productivity, the development of the hydrogen sector, and how this sector can contribute to selected value chains. Table 4 describes examples of trade and trade-related measures associated with green industrial development and diversification.

**Table 4: Examples of NDC measures aimed at promoting green industrial development and diversification**

Country	Measures	Potential trade impact
Costa Rica	Development of a strategy for the development and promotion of green hydrogen.	Exports of green hydrogen.
Morocco	Energy efficiency program for industry. Reduction in energy consumption in the industrial sector by 17 per cent by 2030.	A lower carbon footprint of industrial products may increase carbon competitiveness and exports.
Bolivia (Plurinational State of)	Increase investment in productive infrastructure in the agricultural sector in order to consolidate food sovereignty and security through the implementation of resilient infrastructure in consensus with the stakeholders.	Increase in exports of agricultural products.
Chile	Hydrogen (cargo transportation, motor uses in industry and mining, thermal use via gas distribution pipe).	Exports of green hydrogen.

#### d. Technical regulations

The International classification of non-tariff measures (NTMs) defines technical regulations as documents “that sets out product characteristics or related processes and production methods, including the applicable administrative provisions, with which compliance is mandatory. It may also include or deal exclusively with terminology, symbols, packaging, marking or labelling requirements as they apply to a product, process, or production method” (UNCTAD, 2019).<sup>10</sup>

In the context of this mapping exercise, technical regulations were found to be the most frequently used type of trade-related measures adopted by countries to tackle climate change. They are used to ensure that imported products meet desired carbon emission and efficiency levels by establishing minimum performance standards, as well as testing and certification requirements. Technical regulations are also used to guide consumer behaviour through mandatory labelling schemes, resulting in the display of information on carbon performance. For these reasons, almost 40 per cent of technical regulations mapped in the present study were commonly adopted in conjunction with measures aiming to promote energy efficiency and/or renewable energy (another one of the most frequently used trade-related measures in NDCs).

<sup>10</sup> Recent UNCTAD studies (UNCTAD, 2022, 2023) found that technical regulations were the main type of non-tariff measures used by countries to regulate their trade in relation with climate action. Non-tariff measures are defined as “policy measures other than ordinary customs tariffs that can potentially have an economic effect on international trade in goods, changing quantities traded, or prices or both” (UNCTAD, 2010). Technical regulations have a direct impact on international trade flows and patterns as they determine mandatory product characteristics and performance requirements that must be met to import the goods they target. To ensure compliance with WTO law, technical regulations apply equally to imported and domestically produced goods.

The main products subject to technical regulations included in NDCs include appliances (strong energy efficient component), vehicles (emissions, performance of the parts), construction material (through building codes), refrigeration & air conditioning (RAC) and heating devices, fishery products, and cement and concrete.

**Table 5: Selected technical regulations identified in the NDC mapping exercise**

Country	Measures	Potential trade impact
Namibia	Namibia aims to introduce climate-friendly and energy-efficient appliances through (...) a ban on high GWP <sup>11</sup> equipment and the introduction of minimum energy performance standards (MEPS) that generate emission reductions, both from the use of refrigerants (direct emissions) and from low energy consumption (indirect emissions).  (To prevent lock-in of highly climate-damaging HFC <sup>12</sup> refrigerants in the time between now and the first Kigali Amendment phase-down step in 2029)	Imports of non-climate friendly and energy inefficient appliances in Namibia will be restricted.
Colombia	Implementation of Euro 4 and 6 emission standards for new diesel vehicles.	Only vehicles meeting required emission standards will be imported to Colombia.
United Arab Emirates	Energy efficiency standardization and labelling program (...) covering a range of household goods and appliances (including washing machines, dryers, refrigerators, water heaters, lighting fixtures, and air conditioners), to drive energy efficiency and enable households to make informed decisions.	Access to United Arab Emirates market restricted for household goods and appliances not meeting required energy efficiency requirement. Mandatory energy efficiency-related labelling requirements applied to imported appliance to inform consumer choices likely resulting in more favourable market condition for energy efficient goods.
Gabon	A forthcoming regulation must have the capacity to restrict the importation of incandescent lamps in favour of LED and compact fluorescent lamps. This entails providing 9 million low-energy lamps to households, along with 35 000 compact air conditioning units.	Restriction of incandescent lamp and increase in LED and compact fluorescent lamps import.

### e. Market-based measures

In relation to climate action, market-based measures can be defined as policy instruments that use markets (e.g., carbon credit schemes), prices (e.g., feed-in tariffs or subsidies) or other economic incentives or disincentives (e.g., taxes) to promote CO<sub>2</sub> emission reductions.<sup>13</sup>

The mapping of trade-related measures in NDCs showed that REDD+ accounts for more than 50 per cent of all identified market-based measures (30 measures). Measures linked to REDD+ were identified in 53 per cent of mapped NDCs from Latin America and the Caribbean, and 35 per cent of mapped NDCs from Africa.

‘REDD’ stands for ‘Reducing emissions from deforestation and forest degradation in developing countries. The ‘+’ stands for additional forest-related activities that protect the climate, namely sustainable management of forests and the conservation and enhancement of forest carbon stocks (UNFCCC, 2023d). REDD+ is considered by the Intergovernmental Panel on Climate Change (IPCC) as the activity with the

<sup>11</sup> Global Warming Potential (GWP).

<sup>12</sup> Hydrofluorocarbon (HFC).

<sup>13</sup> Adapted from IISD (2023).

largest potential for reducing agriculture, forestry and other land use (AFOLU) emissions (UNFCCC, 2023e). REDD+ also links the conservation and enhancement of forest carbon stocks in developing countries to the generation of credits sold on carbon markets.

The primary trade related impact of REDD+ stems from the sale/trading on international markets of carbon credits linked to carbon sequestration imputable to REDD+ projects. Besides being a source of carbon credit trading, REDD+ has been linked in some NDCs to the development of sustainable production and trade in non-timber forest products. Table 6 presents selected examples of REDD+ measures identified in the analysis.

**Table 6: Selected examples of REDD+ measures identified in the NDCs studied**

Country	Measures	Potential trade impact
Uganda	Sustainable Land Use Management and Agro-forestry (land use management practices, the 40 million-tree campaign and REDD+ strategic interventions).	Sale of carbon credits on international markets and possibility of an increase in exports of sustainably produced agricultural commodities from Uganda.
Burkina Faso	Cashew development support project in the Comoé basin for REDD+ (PADA/REDD+).	Increased exports of cashews and sale of carbon credits on international markets.
Colombia	Implementation of the REDD+ program Visión Amazonía	International trade in carbon credits

The association of REDD+-related measures with activities related to sustainable production and trade has been studied by UNCTAD, which developed a methodology for combining REDD+ and BioTrade projects to foster positive climate, biodiversity and trade impacts associated with REDD+ (UNCTAD, 2015).

The non-REDD+ market-based measures include efforts related to the introduction of domestic carbon price mechanisms, such as carbon registry and trade systems (Colombia), general carbon pricing instruments (Pakistan, Indonesia), and carbon pricing instruments to promote low emissions transport modes (Cambodia). Table 7 highlights some of the market-based measures related to carbon price mechanisms, while Table 8 shows selected examples of measures concerning the payment for ecosystem services as market-based measures.

**Table 7: Selected examples of carbon price mechanisms as part of market-based measures**

Country	Measures
Colombia	National Programme of Tradable Emissions Allowances.
United Arab Emirates	Carbon registry and trade system covering all sectors.
Cambodia	Mitigating the transport sector emissions would require policy instruments and carbon pricing instruments to promote low-emission transport modes.
Indonesia	The Government of Indonesia has promulgated the Presidential Regulation No. 98 year 2021 concerning the Implementation of Carbon Pricing to Achieve the Nationally Determined Contribution Target and Control Over Greenhouse Gas Emissions in the National Development.
Pakistan	Under the Collaborative Instruments for Ambitious Climate Action (CIACA) program, Pakistan has received support to establish a Carbon Pricing Instrument (CPI). A range of activities have commenced including capacity building on carbon pricing, national consultation on carbon pricing, and scoping of pricing instruments in the Pakistani context. The aim is to explore options for the introduction of domestic CPIs to manage the cohort of large-scale emitting installations, representing around 27 per cent of domestic emissions, as well as an opportunity for similar or related economic instruments for the transport sector.

**Table 8: Selected measures concerned with payment for ecosystem services as part of market-based measures**

Country	Measures
Bahamas	Establishment of payments for ecosystem services and other sustainable financing options to enhance protection of habitats for climate resilient communities (water purification, flood mitigation, carbon sequestration, etc.).
Costa Rica	By 2030, Costa Rica would have maintained and improved the Payment for Ecosystems Services Programme, including other services and ecosystems not covered so far. Priorities are soils, peat bogs and other ecosystems with high carbon sequestration potential, identifying and increasing funding sources.
Seychelles	Seychelles will put in place protections including but not limited to the ongoing Seychelles' Marine Spatial Plan (SMSPP) and marine protected area (MPA) network, for at least 50 per cent of Seychelles seagrass and mangrove ecosystems by 2025, and 100 per cent of seagrass and mangrove ecosystems by 2030, subject to external support and identification of financing mechanisms to support the implementation and protection, e.g., multilateral and bilateral funds, insurance products, debt-for-nature swaps, private investment, blue carbon credits and bonds, and other innovative conservation financing mechanisms.

#### f. Public procurement

Only 14 measures identified in the selected NDCs refer to public procurement. Almost half of the measures were identified in Burkina Faso. The rest were evenly distributed in eight countries, most from Latin America. The measures are largely described as tools for mitigating emissions. Only one measure was associated with adaptation, and involved the introduction of adaptation criteria to rules and guidelines for public investment (Costa Rica). Most of the measures were categorized as directly related to trade, given that they involve the sourcing of goods and services. All procurement mitigation measures are linked to investment in renewable energy and energy efficiency. Table 9 describes selected examples of public procurement trade-related measures.

**Table 9: Examples of public procurement trade-related measures in NDCs**

Country	Measure	Potential trade implications
Burkina Faso	Acquisition and installation of 1,500 LED lamps in public lights in Bobo Dioulasso.	Import of LED lights if not produced domestically
Cabo Verde	By 2025, establish the procurement rules for the acquisition of 100 per cent electrical vehicles by institutional entities and have at least 50 per cent of EV in the new acquisition of urban collective transport. By 2030, the public administration's vehicle fleet is fully electrified.	Import of electrical vehicles
Costa Rica	Introduction of adaptation criteria to rules and guidelines for public investment to ensure their resilience to climate impacts	Increased import of relevant products if not domestically available
Kiribati	Mitigation through energy efficiency broadly consists of actions in power and appliances and energy efficiency in buildings, industry, and government procurement.	Import of energy efficient appliances if not domestically available.
Dominica	Policy mandating that all government vehicles, at their time of replacement, be replaced with hybrid vehicles.	Import of electric vehicles

#### g. Tariffs

The mapping exercise only identified two measures associated with tariffs related to the introduction and use of international tariffs on goods. One of the measures (Cabo Verde) considers adopting tariff

and tax solutions that favour local producers and companies as opposed to international providers and encourages local manufactures and businesses to design circular products and services. Therefore, the measure is also related to green value chain and green economic transformation. The purpose of the second measure (Seychelles) is to incentivize transition to low-global warming potential (GWP) refrigerants through a staggered levy system and VAT exemptions and thus support the reduction of HFC-related (direct) emissions.

The absence of measures that facilitate access to goods and services that can contribute to the energy transition may be explained by lack of awareness of the potential of tariffs to contribute to the achievement of the NDCs and national climate goals and lack of consultation with trade experts that can raise this potential, among other reasons. UNCTAD (2022) finds that there are significant market access barriers in international trade regarding the trading of renewable energy systems and components. UNCTAD's analysis shows that the average tariffs on goods related to renewable energy productions are roughly twice as high as those on fossil fuels, in both developed and developing importing countries (see Table 10).

**Table 10: Import tariffs on energy products (percentage)**

	<b>Developed economies</b>	<b>Developing economies</b>	<b>Least developed countries</b>
Renewable energy products (32 HS 6-digit products)	7.05	4.55	6.04
Fossil fuels (HS2701, HS2709, HS2710 and HS2711)	0.63	2.08	3.18

Source: A/77/207 based on UNCTAD Trade Analysis and Information System database.

Note: Renewable energy systems and components as listed in the first and second submissions of WTO member States, Committee on Trade and Development, see WTO, document TN/TE/19 (32 products at HS 6-digit level mainly from chapters 84 and 85 for machinery and mechanical appliances, and electrical equipment).

#### **h. Subsidies and tax exemptions**

The mapping exercise identified 19 measures associated with subsidies and tax exemptions. A little more than one-third of these measures could be categorized as direct trade measures and are part of the country's mitigation measures. Most aim to create incentives for electrical mobility (e.g., tax exemptions and duty concessions) to increase the use of hybrid and electric vehicles in Seychelles, Sri Lanka, Pakistan, and United Arab Emirates. Oman indicated in their measures the phasing out of subsidies to promote the culture of energy-saving by liberalizing the prices of petroleum products and gradually phasing out subsidies on water and electricity. On the other hand, Sierra Leone highlighted the use of taxes, among other measures as incentives to reduce the demand of vehicles (indirect measure).

Around two-thirds of the measures in this category are indirectly related to trade, i.e., through increased imports of goods needed to implement the mitigation measures. Several measures are related to creating incentives for decarbonising passenger and freight transport (Morocco, Nepal, Sri Lanka, and United Arab Emirates). Other measures in this category are aimed at increasing the energy efficiency in buildings - including public buildings - through the dissemination of energy-saving lamps (Rwanda) and the establishment of subsidies for energy-efficient appliances and housing retrofits (Tuvalu). Notably, Cabo Verde identified in this category sectoral measures for the fishing sector, particularly the conditioning of fishing subsidies, quotas, and authorization to the sustainable use of marine resources with clear safeguards in place against overfishing.

## 4. Conclusion and the way forward

The exercise has identified measures NDCs that can be related with trade. The mapping showed that direct trade related measures such as technical regulations and market-based measures can contribute to advance climate goals, through for instance, implementing domestic regulations and standards for goods in terms of energy efficiency that can affect trade flows and patterns.

Trade-related measures aimed at increasing renewable energy sources and energy efficiency, green value chain development, green industrial development and economic diversification show strong potential links to trade. National efforts towards these general objectives of the NDCs can result in increased trade in low carbon product and services, boost developing countries' carbon competitiveness, and – contribute to creating new industries, such as green hydrogen.

Furthermore, the mapping showed that trade policy is not explicitly referenced in NDCs. This underlines the need for increased coordination and inclusion of trade stakeholders and ministries throughout the elaboration and validation process of NDCs, with the objective of integrating trade into climate national plans. This integration could contribute to:

- Accelerating climate change goals,
- Increasing carbon competitiveness and market access (mitigating the impact of measures, market trends and consumer preference),
- Enhancing adaptation strategies to ensure the resilience of export sectors,
- Accelerating the transition to a low-carbon economy through the identification of relevant opportunities in global markets,
- Improving policy coherence by providing an entry point to link climate change and trade strategies.

The mapping exercise highlights the importance of international cooperation, international, regional, shared standards (such as Euro 4 and 6 vehicle and fuel standards) and other international instruments (such as the Kigali amendment to the Montreal Protocol<sup>14</sup>) for adopting climate change-related technical regulations. International cooperation and coordination play a key role in ensuring that technical regulations and other trade regulations do not unnecessarily restrict developing countries' market access and development prospects.

The mapping exercise is a first effort to identify how trade is present in national climate plans systematically and its mostly untapped potential to contribute to advancing national climate goals.

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<sup>14</sup> See UNEP (2018).



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## Annex

List of NDCs considered in the analysis.

No	Country	Title	Region
1	Burkina Faso	<a href="#">Burkina Faso First NDC (Updated submission)</a>	Africa
2	Burundi	<a href="#">Burundi First NDC (Updated submission)</a>	Africa
3	Cabo Verde	<a href="#">Cabo Verde First NDC(Updated submission)</a>	Africa
4	Democratic Republic of the Congo	<a href="#">Democratic Republic of the Congo First NDC (Updated submission)</a>	Africa
5	Egypt	<a href="#">Egypt's Updated First Nationally Determined Contribution 2030 (Second Update)</a>	Africa
6	Eswatini	<a href="#">Eswatini First NDC (Updated submission)</a>	Africa
7	Gabon	<a href="#">Seconde Contribution Déterminée au Niveau National (République Gabonaise)</a>	Africa
8	Ghana	<a href="#">Ghana First NDC (Updated submission)</a>	Africa
9	Kenya	<a href="#">Kenya First NDC (Updated submission)</a>	Africa
10	Malawi	<a href="#">Kenya First NDC (Updated submission)</a>	Africa
11	Mauritius	<a href="#">Mauritius First NDC (Updated submission)</a>	Africa
12	Morocco	<a href="#">Morocco First NDC (Updated submission)</a>	Africa
13	Namibia	<a href="#">Namibia First NDC (Updated submission)</a>	Africa
14	Niger	<a href="#">Niger First NDC (Updated submission)</a>	Africa
15	Rwanda	<a href="#">Rwanda First NDC (Updated submission)</a>	Africa
16	Sao Tome and Principe	<a href="#">Sao Tome and Principe First NDC (Updated submission)</a>	Africa
17	Seychelles	<a href="#">Seychelles First NDC (Updated submission)</a>	Africa
18	Sierra Leone	<a href="#">Sierra Leone First NDC (Updated submission)</a>	Africa
19	Tunisia	<a href="#">Tunisia First NDC (Updated submission)</a>	Africa
20	Uganda	<a href="#">Uganda's Updated NDC</a>	Africa
21	Armenia	<a href="#">Armenia First NDC (Updated submission)</a>	Asia and the Pacific
22	Bangladesh	<a href="#">Bangladesh First NDC (Updated submission)</a>	Asia and the Pacific
23	Bhutan	<a href="#">Bhutan Second NDC</a>	Asia and the Pacific
24	Cambodia	<a href="#">Cambodia First NDC (Updated submission)</a>	Asia and the Pacific
25	Fiji	<a href="#">Fiji First NDC (Updated submission)</a>	Asia and the Pacific
26	India	<a href="#">India Updated First Nationally Determined Contribution</a>	Asia and the Pacific
27	Indonesia	<a href="#">Enhanced NDC - Republic of Indonesia</a>	Asia and the Pacific
28	Kazakhstan	<a href="#">Kazakhstan First NDC (Updated submission)</a>	Asia and the Pacific
29	Kiribati	<a href="#">Kiribati Enhanced NDC</a>	Asia and the Pacific
30	Lao People's Democratic Republic (the)	<a href="#">Lao People's Democratic Republic First NDC (Updated submission)</a>	Asia and the Pacific
31	Malaysia	<a href="#">Malaysia First NDC (Updated submission)</a>	Asia and the Pacific
32	Maldives	<a href="#">Maldives First NDC (Updated submission)</a>	Asia and the Pacific
33	Mongolia	<a href="#">Mongolia First NDC (Updated submission)</a>	Asia and the Pacific
34	Nepal	<a href="#">Nepal Second NDC</a>	Asia and the Pacific
35	Pakistan	<a href="#">Pakistan First NDC (Updated submission)</a>	Asia and the Pacific

## Mapping Trade-related measures in Nationally Determined Contributions: Technical note

36	Philippines	<a href="#">Philippines First NDC</a>	Asia and the Pacific
37	Samoa	<a href="#">Samoa Second NDC</a>	Asia and the Pacific
38	Sri Lanka	<a href="#">Sri Lanka First NDC (Updated submission)</a>	Asia and the Pacific
39	Thailand	<a href="#">Thailand 2nd Updated NDC</a>	Asia and the Pacific
40	Tuvalu	<a href="#">Government of Tuvalu Updated Nationally Determined Contribution</a>	Asia and the Pacific
41	Argentina	<a href="#">Argentina Second NDC (Updated submission)</a>	Latin America and the Caribbean
42	Bahamas	<a href="#">Bahamas Updated Nationally Determined Contributions, 2022</a>	Latin America and the Caribbean
43	Belize	<a href="#">Belize First NDC (Updated submission)</a>	Latin America and the Caribbean
44	Bolivia (Plurinational State of)	<a href="#">Contribución Nacionalmente Determinada del Estado Plurinacional de Bolivia 2021-2030</a>	Latin America and the Caribbean
45	Chile	<a href="#">Chile First NDC (Updated submission)</a>	Latin America and the Caribbean
46	Colombia	<a href="#">Colombia First NDC (Updated submission)</a>	Latin America and the Caribbean
47	Costa Rica	<a href="#">Costa Rica First NDC (Updated submission)</a>	Latin America and the Caribbean
48	Cuba	<a href="#">Cuba First NDC (Updated submission)</a>	Latin America and the Caribbean
49	Dominica	<a href="#">The Commonwealth of Dominica Updated National Determined Contribution</a>	Latin America and the Caribbean
50	Dominican Republic	<a href="#">Dominican Republic First NDC (Updated submission)</a>	Latin America and the Caribbean
51	El Salvador	<a href="#">El Salvador First NDC (Updated submission)</a>	Latin America and the Caribbean
52	Guatemala	<a href="#">Contribución Nacionalmente Determinada de Guatemala(Updated submission)</a>	Latin America and the Caribbean
53	Mexico	<a href="#">Mexico: Updated NDC 2022</a>	Latin America and the Caribbean
54	Panama	<a href="#">Panama First NDC (Updated submission)</a>	Latin America and the Caribbean
55	Paraguay	<a href="#">Paraguay First NDC (Updated submission)</a>	Latin America and the Caribbean
56	Jordan	<a href="#">Jordan First NDC (Updated submission)</a>	Middle East
57	Lebanon	<a href="#">Lebanon First NDC (Updated submission)</a>	Middle East
58	Oman	<a href="#">Oman Second NDC</a>	Middle East
59	Saudi Arabia	<a href="#">Saudi Arabia First NDC (Updated submission)</a>	Middle East
60	United Arab Emirates	<a href="#">Third Update of Second Nationally Determined Contribution for the UAE</a>	Middle East

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This document has not been formally edited.