is Report provides an overview of the key linkages between trade and climate change based on a review of available literature and a survey of relevant national policies.

e Report begins with a summary of the current state of scienti c knowledge on existing and projected climate change; on the impacts associated with climate change; and on the available options for responding, through mitigation and adaptation, to the challenges posed by climate change. e Report highlights that the scienti c evidence regarding climate change is compelling. Based on a review of thousands of scienti c publications, the Intergovernmental Panel on Climate Change has concluded that the warming of the Earth's climate system is "unequivocal", and that human activities are "very likely" the cause of this warming.

Most worrying, however, is that global greenhouse gas emission levels are still growing, and are projected to continue growing over the coming decades unless there are signi cant changes to current laws, policies and actions. Current estimates indicate that greenhouse gas emissions will increase by between 25 and 90 per cent in the period from 2000 to 2030, with the proportion of greenhouse gases emitted by developing countries becoming signi cantly larger in the coming decades.

Most sectors of the global economy are expected to be a ected by climate change and these impacts will often have implications for trade. Many of the sectors impacted, such as agriculture, forestry, sheries and tourism, are critical for developing countries. Climate change is likely to alter the comparative advantage of these countries in such sectors, and thereby alter the pattern of international trade. Moreover, climate change is expected to have an impact on trade infrastructure and transportation routes. By the same token, trade may provide a means to bridge di erences in demand and supply, so that countries where climate change creates

scarcity are able to meet their needs by importing from countries where these goods and services continue to be available.

e scienti c review of climate change is followed by an analysis of the economic aspects of the link between trade and climate change

A number of policy measures have been used or are available at the national level to mitigate climate change.

ey are typically distinguished as either regulatory measures (i.e. regulations and standards) or economic incentives (e.g. taxes, tradable permits, and subsidies).

e range of climate policy measures that are in place or that are currently being considered are described according to their key objectives: internalization of the environmental costs of greenhouse gas emissions; regulation of the use of climate-friendly goods and technologies; or the development and deployment of such goods. ese distinctions also provide a useful framework for considering the potential relevance of trade rules.

Two types of pricing mechanisms have been used to reduce greenhouse gas emissions: taxes and cap-and-trade systems. Such pricing tools aim at internalising the environmental externality (i.e. climate change) by setting a price on the carbon content of energy consumed or on the CO_2 emissions generated in the production and/or consumption of goods. e approach taken by several countries over the last two decades has been to put a price on the introduction of CO_2 into the atmosphere by imposing taxes on the consumption of fossil fuels according to their level of carbon content. A number of countries have also introduced general taxes on the consumption of energy, which has a de facto e ect on CO_2 emissions or a combination of tax on CO_2 emissions and tax on energy use.

Another approach to setting a carbon price is to x a cap on total emissions, translate this into allowances to cover those emissions, and create a market to trade these allowances at a price determined by the market.

e development of the emission trading scheme in Europe, and proposals for the introduction of mandatory emission trading schemes in other developed economies has given rise to a considerable amount of debate. Of particular concern has been the extent to which the international competitiveness of energy-intensive industrial sectors will be a ected by carbon-

and exported products. Although border adjustments in connection with emission trading schemes are a new form of regulation, and as such are not explicitly foreseen in the text of the WTO agreements, core trade disciplines such as the non-discrimination principle may come into play as their scope of application is fairly broad.

e general approach under WTO rules has been to acknowledge that some degree of trade restriction may be necessary to achieve certain policy objectives as long as a number of carefully crafted conditions are respected. WTO case law has con rmed that WTO rules do not trump environmental requirements. If, for instance, a border measure related to climate change was found to be inconsistent with one of the core provisions of the GATT, its justi cation might nonetheless be sought under the general exceptions to the GATT (i.e. Article XX), provided that several conditions are met.

is part of the Report also reviews another type of economic incentive which is commonly used in climate change mitigation policies: governmental funding aimed at fostering research and development of climate-friendly goods and technologies and increasing their deployment (including their commercialization and di usion). ree types of nancial incentives for deployment are discussed: scal instruments; price support measures, such as feed-in tari s; and investment support policies, which aim to reduce the capital cost of installing and deploying renewable energy technologies.

Governmental nancing for the development and deployment of renewable energy and low-carbon goods may have an impact on the price and production of such goods. From an international trade perspective, such policies lower the costs of producers, leading to lower product prices. In turn, lower prices may reduce exporting countries' access to the market of the subsidizing country, or may result in increased exports from the subsidizing country. Moreover, some countries may provide domestic energy-intensive industries with subsidies to o set the costs of installing emission-reducing technologies and thus to maintain their international competitiveness. Since the sector of renewable energy and low-carbon technologies is signi cantly open to international trade, the WTO rules on subsidies (as contained in the SCM Agreement) may become relevant for certain nancing policies.

Finally, the Report considers more traditional regulatory tools and reviews the range of technical requirements for products and production methods aimed at reducing greenhouse gas emissions and energy consumption. Technical requirements to promote energy e ciency have been adopted at the national level by most developed countries, and by a growing number of developing countries. It is estimated that energy-e ciency improvements have resulted in reductions in energy consumption of more than 50 per cent over the last 30 years.

Such climate change related technical requirements may take various forms (e.g. maximum levels of emissions, standards for energy e ciency for both products and production methods, etc.). Moreover, such requirements are accompanied by implementation and enforcement measures, such as labelling requirements and conformity assessment procedures to ensure transparency and conformity with the relevant energy e ciency and CO_2 emissions reduction requirements.

e Technical Barriers to Trade Agreement is the key WTO mechanism for governing technical regulations,