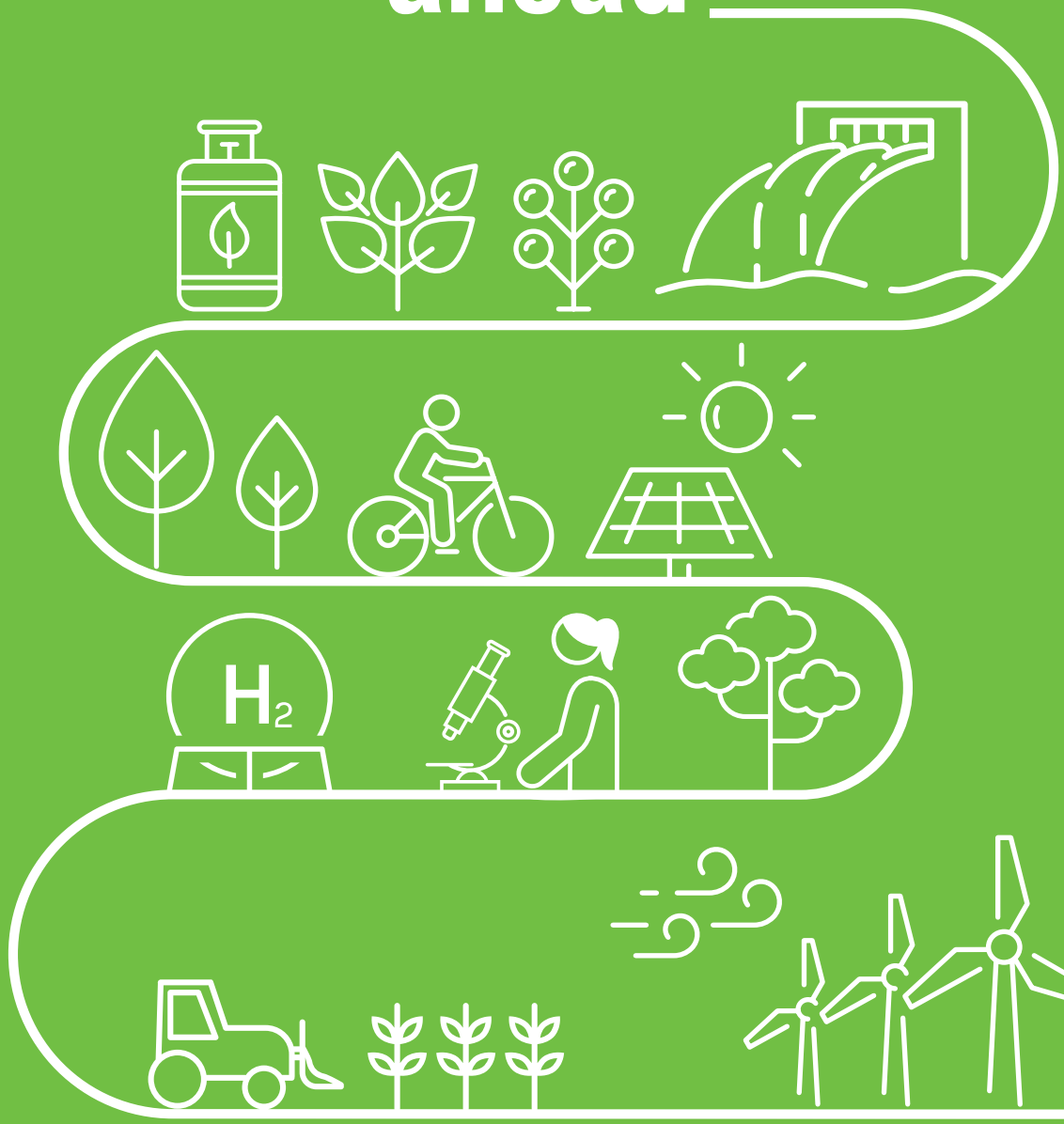
CHAPTER

5

Greener economy ahead



5 Greener economy ahead

To achieve sustainable economic growth and accelerate human development, CDDCs need to transform their economic structures to make them more diverse and resilient, while anticipating a low-carbon future. This chapter outlines potential directions and actions and argues for 'green industrial policies.'

CDDCs face the challenge of diversifying their economies while aligning with global efforts to reduce GHG emissions and address the climate crisis. This requires transforming their productive capabilities amidst changes in energy and transportation systems. To tackle this challenge, CDDCs should utilize all available resources. The efficient use of traditional energy sources and the expansion of renewables are both essential in their pursuit of economic diversification. They need to develop productive capacities that promote increased productivity and prosperity while transitioning to a low-carbon economy. These policies should also prioritize inclusivity by creating employment opportunities and minimizing potential negative income distribution effects within countries.[1] Green industrial policies (GIPs) play a vital role in this transformation.

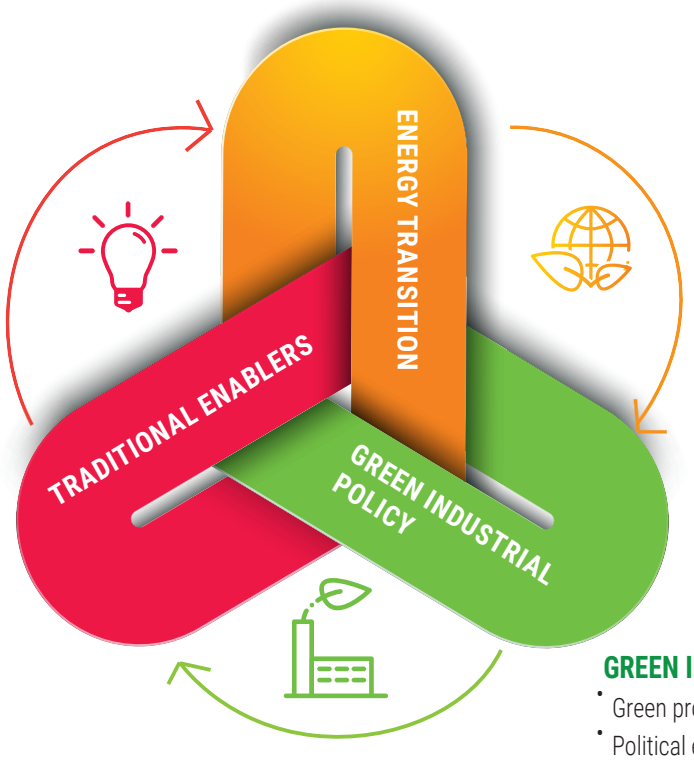
Figure 5.1 represents the types of policies required to support CDDCs in diversifying their economies while contributing to climate change mitigation efforts. This chapter begins by highlighting the conventional factors that have historically driven economic transformation, which remain relevant in green structural transformation. It then explores specific drivers for diversification within the low-carbon economy. Finally, it emphasizes the importance of implementing a green industrial policy in CDDCs for leveraging diversification opportunities arising from the global energy transition.

Traditional enablers of economic diversification

Most countries that have successfully diversified their economies have relied on a policy mix that addresses country- and sector-specific challenges and market failures, which have also generally improved the business and investment climate in the country (see chapter 2).

Human capital – A well-designed GIP framework should align the skills of the labour force with the needs of the labour market and enable workers to adapt to new and emerging industries. Governments should work with the private sector on vocational education and on-the-job training – and extend this to workers in the informal sector to make them more productive, and offer paths to formal employment. When they have learned new skills, workers in traditional energy production can be redeployed in clean energy sectors. In India, for example, the Skill Council for Green Jobs identifies and builds skills for green industries. Support can also come through international development cooperation and South-South cooperation – as with the establishment in 2014 of the Brazil-Sao Tome and Principe Professional Training Centre.[2]

Figure 5.1 Links between policies for export diversification



TRADITIONAL ENABLERS
- Human capital
- Market access (export and import)
- Infrastructure: Export Processing Zones (EPZs)
- Economic and political stability

ENERGY TRANSITION
- Boost access to energy
- Consider right energy mix
- Harness green growth opportunities
- Account for initial conditions
- Decent jobs and just transitions
- Benefit from international cooperation and agreements

GREEN INDUSTRIAL POLICY
- Green productive capabilities
- Political economy and inclusiveness: job creation, gender, SMEs
- Country specificity
- Adjust rules governing trade, finance, investment, technology
- Make the switch in CDDCs to low-carbon economy compatible with incentives

Source: UNCTAD.

Skills development should also be gender inclusive. In Ghana, for instance, the Women in the Driving Seat tractor operation aims to break down barriers for women in agricultural mechanization by providing exclusive tractor training and certification for women, to enhance the skills and expertise of women operators, mechanics, and technicians, leading to long-term growth in their involvement and leadership in agricultural machinery operation.[3]

Market access – In countries where the domestic capital market is underdeveloped, governments need to prioritize financial sector development and can consider designing targeted financing instruments through specialized funds or development banks that improve access to finance. In this regard, SMEs need particular attention as they represent most businesses and employment worldwide but face significant unmet financing needs.[4] For instance, blended concessional finance can help expand access for underfinanced enterprises by offsetting some risks. Also, instruments tailored to women-owned and women-led businesses can help to address the gender finance gap.[5] International financial institutions

can also strengthen their support for private sector access to finance in CDDCs in line with government priorities and thus promote diversification and value upgrading. Moreover, an appropriate trade policy framework can contribute to diversification and value upgrading by facilitating access of domestic firms to key inputs. In this regard, there is evidence that tariffs on imported capital and intermediate goods can limit productivity and growth in developing countries.[6]

Infrastructure – Infrastructure plays a crucial role in enabling economic diversification by providing not only the necessary physical and logistical support for the development of diverse industries and sectors, but also facilitating the development of other enablers of diversification. Access to affordable and reliable energy, for example, is not just a precondition for diversified industrial development; it is also essential for improving education and health standards. Modern transport and telecommunication services only thrive with reliable energy services and functioning digital infrastructure.[7] Special industrial zones can only fulfil their potential if they have strong links with their domestic economies. While such linkages pose a challenge in terms of policy coordination, they also provide opportunities for creating a mutually reinforcing policy approach.

Economic and political stability – All these components should coalesce into a whole-of-government strategy based on strong leadership with coordination at the highest levels of government – to build a national consensus that extends beyond immediate political cycles.[8] Costa Rica, for instance, initiated measures in the early 1980s that did not bear fruit until the 1990s and 2000s; these included exchange-rate reforms, export tax reduction, government subsidies, and regulatory frameworks to help "non–traditional" exporters concerning export contracts, the establishment of maquiladora firms in the apparel sector, and the promotion of new exports via free trade zones.[9]

Economic diversification in a low-carbon economy

The energy transition offers countries the potential for economic diversification through low-carbon activities, opening doors to positive socioeconomic outcomes such as improved energy access and green growth opportunities. At the same time, countries must be mindful of the potential impact of diversification and the transition on income inequality. Each country's prospects will depend on its unique characteristics, including natural resources, productive capacities and existing disparities. This means that progress towards a low-carbon world may be uneven and slower in developing countries compared to advanced economies. This section outlines key aspects of an inclusive energy transition.

Boost access to energy – The energy transition and expansion of renewable energy markets may offer a much-needed impetus for countries to address energy disparities. Decentralized renewable energy systems can boost rural electrification in areas with large distances to the grid. Electrification of schools, for example, allows them to use IT equipment and adopt more advanced curricula and teaching materials that enable low-income households to build higher levels of skill. Households would also benefit from energy access and cleaner cooking technologies, freeing more women to participate in the labour force.[10] This is particularly important for rural areas and could reduce the urban-rural divide. There has been some progress in this regard. For example, between 2014 and 2019, the number of people with access to solar home systems in Africa increased from 1.6 million to 12.6 million.[11]

Consider the right energy mix – As discussed in chapter 2, natural endowments and renewable energy potentials vary from country to country. These differences mean that

governments must consider their natural endowments to strategically develop renewable markets that align with their resource abundance. Morocco, for example, has focused on solar energy due to the high rates of solar irradiation it possesses.[12] By contrast, Albania has concentrated efforts on hydropower due to its river systems.[13]

Harness green growth opportunities – New opportunities may arise in various low-carbon sectors – ranging from the production of renewable energy and the operation and maintenance of equipment to nature-based solutions, expanding the circular economy, and climate change adaptation. In addition to solar energy, many CDDCs also have considerable potential for wind energy and for producing and exporting green hydrogen.[14] Indeed, in the new global markets for green energy and related products, developing countries, particularly in Africa, can have a comparative advantage and exploit new employment opportunities. Other CDDCs may also have opportunities in biodiversity-based products (Box 5.1).

Account for initial conditions – Much of the effort towards a low-carbon energy transition will depend on a country's starting point, including its ability to invest and existing disparities. Higher-income countries will be better able to introduce renewable technologies.[15] Many lower-income economies, on the other hand, may prioritize rural energy access or the use of clean cooking technologies and have fewer resources for developing wind or solar. Meanwhile, fuel-exporting CDDCs may initially shift from petroleum and coal to natural gas before advancing to greener energy sources at a later stage.

Fuel-exporting countries should be particularly cognizant of the challenges the transition implies, as it represents an immense reconfiguration of economic activity and may have important distributional implications. It is important for governments to find a balance so that they do not lag behind decarbonization efforts while also minimising the disruptions net-zero would bring to the economy. That said, the transition is likely to be achieved through gradual interventions rather than bringing an abrupt halt to carbon-intensive activities.[16]

Decent jobs and just transition – About 1.2 billion jobs around the world rely directly on a healthy, sustainability-based environment, particularly jobs in agriculture, forestry, and related sectors that depend on functioning ecosystems. A green transition could lead to a net gain of

Box 5.1 Biodiversity-based products

Agricultural CDDCs that are rich in biodiversity can benefit from products derived from biological resources, such as coffee, cotton or natural oils and fats. An example is marula oil in Namibia. Marula is an indigenous plant that is used in various cosmetics for personal and skincare. A cooperative that is processing and commercializing marula oil has generated employment opportunities for 2,500 women in rural communities in the country.

The cooperative's factory produces up to 12 tons of processed oil each year, which is either traded locally or sold in international markets. This is a small-scale initiative, but it has improved the access of women in rural communities to the labour market and constitutes a value upgrade along the marula commodity chain. Similar initiatives in other agricultural CDDCs can take advantage of opportunities that may arise from the energy transition and increased green consumption based on pre-existing productive capacities and resources. Large-scale efforts may also contribute to a country's export diversification.

Source: UNCTAD. 2021a. Women in rural Namibia profit from biodiversity-friendly trade. UNCTAD. Available at: https://unctad.org/news/women-rural-namibia-profit-biodiversity-friendly-trade

18 million jobs by 2030.[17] This is an opportunity for countries to diversify into greener activities and to increase participation from previously excluded groups.

To this end, governments will need national plans to ensure that the benefits of the transition are not concentrated in a single group. This would entail pursuing inclusive labour policies, including social protection, retraining and upskilling schemes and social dialogue, as detailed in chapter 3. In addition, governments should ensure equal access to energy, education and healthcare.

Benefit from international cooperation and agreements – Governments would benefit from regional and international cooperation and existing climate-related mechanisms such as ILO's Climate Action for Jobs Initiative to ensure inclusive policies that support a just transition by creating decent jobs and measures to safeguard vulnerable workers.

An encouraging outcome following the 2022 Climate Change Conference (Conference of the Parties of the UNFCCC – COP 27) in Sharm el-Sheikh, Egypt, was the decision to establish new funding arrangements and a dedicated 'loss and damage' fund to assist developing countries disproportionally impacted by climate change,[18] which may help contribute to the funding of a green transition in vulnerable countries.

As CDDCs may be affected by external policies, advanced economies need to be cognizant of the potential distributional effects of their own policies, such as the Carbon Border Adjustment Mechanism (CBAM) in the European Union, which aims to put a fair price on the carbon emitted during the production of carbon-intensive goods that are entering the European Union. A recent carbon pricing analysis by UNCTAD[19] estimates that the CBAM would decrease global real income by $3.4 billion, with developed countries' incomes rising by $2.5 billion and developing countries' incomes declining by $5.9 billion.[20] Although the CBAM is likely to exempt SIDS and LDCs, it is expected to further widen the gap between developing and developed countries.[21]

Green industrial policies in CDDCs

Industrial policy plays a crucial role in economic development by stimulating dynamic market forces and driving structural change and growth,[22] and the state plays a pivotal role in promoting development-oriented industrial policies.[23] Industrial policies have been instrumental in supporting the catch-up process in East Asia by addressing information and coordination challenges in capital formation and enabling private firms to unleash their creative potential and translate production experience into productivity gains.[24]

A well-designed industrial policy is essential for nurturing the learning process of companies, especially in new products and markets. It encompasses mechanisms that encourage innovation, promote research and development activities, simplify patent access, and provide fiscal and financial incentives for new production.[25] Effective industrial policies also include strategies such as information dissemination, favourable FDI policies, and government procurement, which enhance integration into global production chains.[26] Aligning industrial policy with trade policy objectives allows countries to strive for international competitiveness in increasingly sophisticated products,[27] while a strategic trade policy that complements the industrial policy further enhances its impact.[28]

Recognizing the urgency of addressing climate change, industrial policies can serve as a starting point for sustainable development strategies. Some developing countries can

leverage their natural comparative advantages in the production of low-carbon energy (e.g., solar and wind energy) by using industrial policy to develop dynamic comparative advantages in this area.[29] Also, by providing the right incentives, domestic producers can participate in producing climate-friendly goods and tailor products to local needs.[30]

Such inclusive diversification and a green transition require an appropriate policy framework – a green industrial policy.[31] A GIP incorporates "any government measure aimed to accelerate the structural transformation towards a low-carbon, resource-efficient economy in ways that also enable productivity enhancements."[32] There are some similarities with traditional notions of industrial policy but also some important differences such as: identifying environmental externalities as important market failures; promoting technologies and patterns of consumer behaviour that are desirable because of their environmental impacts; achieving structural change in a short timeframe; and stimulating positive spillovers that extend beyond the boundaries of the domestic economy.[33]

History has shown that left on their own, markets have their limits, not just for achieving greener development but also for generating employment and promoting human development in the face of globalization, disruptive technological change, and financial crises.[34]

A well-designed GIP will respond to the shortcomings of traditional industrial policy. It will:

- **Be multisectoral** – Industrial policy should be more inclusive, extending beyond manufacturing to all sectors of the economy, including agriculture, mining and services, with a particular focus on reducing CDDCs' dependence on traditional commodities.[35]
- **Have social goals** – Industrial policy should be driven by societal goals, including those for climate, health, reducing poverty and inequality and creating decent jobs outside the commodity sector.[36]
- **Collaborate with the private sector** – Instead of the traditional top-down policymaking, industrial policy should be a sustained collaboration between the public and private sectors to create the appropriate institutional environment for diversification outside of the commodity sector.[37]
- **Guide technological change** – Industrial policy should steer technological change to non-commodity sectors that promote pro-poor, pro-environment and pro-labour activities.[38]

These policies can help to create new markets for green products and services, stimulate economic growth, and create jobs in the green economy. By supporting green innovation, countries can also enhance their resilience to climate change impacts and reduce their vulnerability to environmental risks. Overall, green innovation policies are a key component of efforts to transition towards a more sustainable and low-carbon future.[39]

A GIP is, therefore, highly suited to the needs of CDDCs. Diversifying away from commodities without further increasing emissions can only be achieved with large, coordinated investments in energy systems, infrastructure, and technological innovation.[40] In the short term, these investments can reduce emissions associated with expansions in the use of fossil fuel-based energy. For example, the Optimization of Power Generation and Energy Efficiency Programme in Ecuador succeeded in reducing the flaring of gas and the use of diesel for electricity generation, making it possible to lower emissions by 848,500 tCO_2e between 2009 and 2015.[41]

Furthermore, a GIP can also mitigate the risk of stranded assets. Decarbonization in China, the United States and the European Union involves revaluing carbon assets downwards and, by implication, depreciating the underlying natural resources.[42] CDDCs can avoid creating

more stranded assets by depending less on commodities and transitioning to low-carbon economies. The Government of Namibia, for example, is aiming to be a global leader in alternative energy markets through the production of green hydrogen.

CDDCs transitioning to a low-emissions development path should start this transition now, at the start of the new green technological revolution.[43] At the beginning of a new technological wave, every country is more or less in the same position, but early adopters move ahead quicker and create advantages that make others struggle to catch up. Access to technologies and know-how is not enough – timing is especially crucial. If they postpone the changes to a later stage, when they are more firmly locked into older infrastructure and technologies, the costs of greening their economies may be very high.[44]

It is also worth emphasizing that instead of merely being consumers of green energy, relying on technology imports, CDDCs implementing GIPs can actively participate in the development of new technologies and productive capabilities and establish dynamic comparative advantages in green products and technologies.[45]

Designing GIPs for CDDCs

Instead of copying models from elsewhere, CDDCs should identify pragmatic policies suited to their levels of development and productive capabilities. These will differ from one economy to another, but in general, they should be guided by common principles, identify priority sectors, take advantage of commodity-related entry points, build on regional integration opportunities and be strongly supported by the international community.

Principles

Develop foundational capabilities – Most CDDCs will need to 'jump' from a limited set of productive capabilities into more technologically advanced production.[46] To succeed in acquiring the productive capabilities specific to a particular technology, developing countries need 'foundational capabilities' that allow them to learn these new technical solutions and apply them in innovative ways.[47] Hence, States should support research and development while attracting long-term capital to build and accumulate production capabilities. Promoting learning in production is essential, i.e., developing and accumulating productive capabilities in an environment where firms can stay in business and expand and improve their production processes.[48]

Ensure political and public support – A successful GIP needs to identify the distributional effects of structural reforms and manage potential conflicts, given that reforms might have short-term costs on segments of the population.[49] Managing potential conflicts between different groups is essential to the success of a GIP. This involves carefully fine-tuning the reform measures while implementing compensatory measures or social safety nets. It is important to foster long-term support for these reforms, as their true benefits may only be realized after several years or even decades. Consistent backing from the population and a sustained commitment across successive governments are key factors for success.[50] An example is Costa Rica and their journey towards diversification, which relied on steady support from politicians, who understood that the political benefits of the reforms would materialize several years down the line, even if they personally wouldn't directly benefit from them.[51]

Create jobs – CDDCs typically have relatively limited high-quality employment opportunities, so the creation of such jobs should be a priority for GIP, particularly for workers in the informal sector. Creating jobs for this critical segment of the labour force would help address the

income inequalities often associated with diversification. This could include initiatives such as providing training and support for entrepreneurship and small businesses, creating public works programmes that can develop skills, and investing in labour-intensive green technologies and related infrastructure projects.

Promote social cohesion and a just transition – Ensure GIP accounts for all segments of society and includes marginalized and underrepresented groups in their design. This is important to address existing disparities and prevent widening income and opportunity gaps in the population. As outlined in the previous chapters, this should include measures targeting actors who are vulnerable to the energy transition.

Ensure gender equality – A GIP should increase women's access to employment opportunities. Gender equality should not be a by-product of industrial policy or be sacrificed for environmental sustainability or green growth.[52] Gender equality should be an integral component of GIP design. It should include measures that specifically address the structural barriers faced by women in accessing the labour market, such as improving childcare, increasing access to education and training, promoting equal pay for equal work, and ensuring equal opportunities for career advancement. The GIP should also monitor gender disparities in the workforce and introduce corrective measures as necessary.

Priority sectors

Diversification towards complex,[53] greener, and more socially inclusive sectors is crucial to achieving more inclusive and sustainable economic growth. Therefore, GIPs should identify potential new sectors that meet these criteria in view of the opportunities and risks in individual economies.

Identifying potential new sectors for economic diversification – This requires an understanding of a country's current productive capabilities. Certain sectors offer significant export opportunities for CDDCs due to their potential for upgrading, high unit values, and favourable market conditions. For example, UNCTAD analysis suggests that for CDDCs, these sectors include articles of machinery and mechanical appliances, plastics and plastic articles, electrical and electronic equipment, iron and steel, organic chemicals, and optical, photo, technical, and medical apparatus.[54] However, the type of commodity dependence (agriculture, fuel, minerals) and income level of CDDCs play a role in the feasibility and potential impact of diversifying towards these sectors. Also, the export potential of these sectors varies by region, with some sectors showing greater potential in certain areas than others. Policymakers should carefully consider these factors when identifying potential new sectors for economic diversification.

Capturing more value in existing value chains – GIPs should also promote the capture of more value along the commodity value chains. In response to the COVID-19 pandemic and the war in Ukraine, businesses are likely to revisit the just-in-time business model of global value chains (GVCs) to reduce supply uncertainties. This might mean less reliance on imports from long distances, potentially changing the nature of CDDCs involvement in GVCs. This may encourage the development of short-distance regional value chains in developing countries, helping CDDCs to design a different diversification path that could capture more value in commodity value chains.

Entry points

Green industrial policies in CDDCs should also be tailored to the opportunities and risks present

in individual economies. In many cases, these are strongly linked to the type of commodity dependence:

Fossil fuels – In countries that depend on the export of fossil fuels, one entry point for GIP could be the transformation of hydrocarbon assets and resources, which risk being stranded, into other, more sustainable forms of capital such as human capital, infrastructure and productive capacity.

- **Create sovereign wealth funds** – Considering the large flows of capital associated with fossil fuels transactions, especially during periods of high prices, windfall gains and large capital inflows during boom periods could be used for creating commodity-based sovereign wealth funds (SWFs), which stabilize fiscal policy by transferring income into a diverse portfolio of assets (see chapter 2). However, SWFs are only effective and sustainable if they remain transparent, with strong governance and have robust inflow/outflow rules.

Minerals – In CDDCs with large mining sectors and reserves of critical energy transition minerals, harnessing the potential economic benefits of a large-scale expansion of markets for clean technology could be a key area for GIPs.

- **Harness clean technology markets** – From 2025 to 2030, the energy transition will globally bring cumulative global mining investments of $1.7 trillion.[55] This represents a huge opportunity for countries such as the Democratic Republic of the Congo, which in 2022 accounted for 68 per cent of global cobalt mine production and 48 per cent of global cobalt resources.[56] Rather than contributing to 'resource curses', the mining of these resources should be linked with domestic or regional value chains in mineral-based products. The recent agreement between the Democratic Republic of the Congo and Zambia to jointly manufacture precursors to electric car batteries is an example of what CDDCs could do. [57]
- **Respect environmental, social and governance (ESG) guidelines** – The mining industry is under external pressure to address environmental and social concerns, with national governments and legislation enforcing compliance with environmental and social laws and companies participating in sustainability initiatives and industry associations to demonstrate their commitment to sustainable practices and adopt best practices.[58] Ensuring responsible mining operations will mitigate the negative impact of mining operations on communities, while maximizing the benefits in terms of job creation, tax revenue, and infrastructure development. Also, building strong institutions and preventing corruption is vital to promote inclusive mineral development and equitable distribution of its benefits.

Agriculture – For CDDCs that depend on the agriculture sector, potential entry points for GIPs are sustainable value upgrading into agri-processing industries and climate-smart agriculture.

- **Process crops locally** – Currently, African CDDCs grow most of the global cashew nut crop but export this for processing in Asia.[59] Instead, producer countries could also process the crops and add value locally while shortening supply chains. This may not be easy. MNEs have often used their market power to create entry barriers, limiting the scope for learning in developing countries – as with cocoa and coffee.[60] In Ghana, MNEs have financialized the cocoa and chocolate sectors, constraining the ability of local producers to move along the global value chains. Large corporations have created food-based assets for financial investors. As a result, financial institutions are now part of the agri-food system, while agri-food companies are behaving like financial institutions. Newcomers, therefore, need access to deep and cheap capital markets to compete, which is difficult for most companies in developing and emerging markets.[61]
- **Move to smarter agriculture** – Through climate-smart agricultural practices, agricultural

productivity growth – an important element for structural transformation – could be safeguarded from the impacts of climate change and/or decoupled from rising GHG emissions.[62] The timed release of nitrogen fertilizers, for example, increases crop productivity while reducing GHG emissions.

Regional integration

Given the small sizes of individual CDDC markets and differences in the potential for export diversification across CDDCs, regionally coordinated diversification policies could be beneficial.

Coordinate diversification strategies regionally – Infant industries in CDDCs can avoid competing for space in global markets by prioritizing diversification efforts in different sectors based on a region's type of commodity dependence and income level. Such a regional strategy could ensure that such policies do not lead to regional imbalances or exacerbate existing inequalities. It would create a coordinated and supportive environment that enables all CDDCs to pursue sustainable and inclusive economic diversification. Such coordination requires effective policies and institutional support, as well as strong regional cooperation and integration to ensure that all countries benefit from the process of economic diversification.

Leverage regional trade – Regional markets can be a valuable avenue for CDDCs to promote their diversification, particularly in Africa, where intraregional trade is lower than in other regions.[63] Indeed, there are significant opportunities for African CDDCs to diversify their exports in sectors such as plastics, iron and steel, machinery, and electrical equipment.[64] By focusing on these sectors and leveraging regional trade agreements and partnerships, African countries can tap into a growing demand for these goods and services within the continent. This can reduce their dependence on traditional commodity exports while also promoting regional integration and economic development.

Foster regional value chains – Promoting partnerships within regions can be an effective strategy for CDDCs to participate in sectors that offer common opportunities for diversification. By joining forces, countries at different levels of development can collaborate in different stages of value chains, allowing them to take advantage of each other's strengths and resources. This can include sharing knowledge and expertise, pooling resources and investments, and establishing joint ventures and partnerships with firms in more developed countries. By working together, CDDCs can improve their bargaining power and access to markets, while also building more robust and resilient economies that rely less on a single commodity or market. However, such partnerships require careful planning and management, as well as strong institutional frameworks and governance mechanisms to ensure that all partners benefit from the collaboration.

International support

Green industrial policies take place in a changing global context that will determine their success or failure, and CDDCs cannot succeed without important contributions from the international community. Indeed, GIPs and diversification in CDDCs should be considered a global objective as part of the mitigation response to climate change. Therefore, international actors will have an important role to play:

Stabilize commodity markets – International action will be needed to tackle the increasingly financialized commodity markets – with rules to limit speculation, and new, counter-cyclical financing facilities that can mitigate price shocks.[65] South-South cooperation among CDDCs would increase their bargaining power with international commodity buyers and their ability to negotiate for more favourable rules governing global trade and investment. To help create

space for industrial policy, the international community could also reinstate stabilization funds.

Combat tax evasion and illicit financial flows – Measures could include greater regulation of transnational capital flows and international collaboration to reduce tax avoidance and tax evasion while directing the global financial system towards more productive investment.[66] In this connection, the implementation of the Base Erosion and Profit Shifting (BEPS) framework, which aims to prevent multinational enterprises from shifting profits to low-tax jurisdictions, is expected to reduce some types of tax avoidance.[67] The international community should increase technical assistance to developing countries to support BEPS implementation and investment in policy adjustment. Another important measure is improving transparency and information exchange between tax authorities, as well as strengthening the capacity of developing countries to participate in international tax cooperation.[68] Multiple donors have made commitments to double their aid for tax capacity-building from 2015 to 2020 as part of the Addis Ababa Tax Initiative, which aims to enhance domestic resource mobilization in partner countries by increasing the quantity and quality of technical assistance provided.[69] Additionally, the Organisation for Economic Co-operation and Development (OECD), in collaboration with Germany, Italy and Kenya, launched a pilot program known as the Africa Academy for Tax and Financial Crime Investigation during the Group of 20 Africa Conference in Berlin in June 2017. [70] These collective efforts hold great potential to support African countries in mobilizing resources and attaining their sustainable development goals by combating illicit financial flows.

Promote technology transfer – Support for the development of green technologies is likely to be the most effective policy for achieving the goals of green development in the long run. Currently, green technologies are developed in the North, and most low-income and middle-income CDDCs have limited means to acquire these independently. For CDDCs to successfully transition to low-carbon development paths, they will need better access to new technologies and should be able to adapt them to local contexts. They should thus take maximum advantage of policy instruments such as the possibility to impose on foreign investors requirements for technology transfer and hiring local labour, as provided for in the Trade Related Investment Measures (TRIMs) agreement. There is a need for an international framework along the lines of the Technology Mechanism created under the UNFCCC to ensure the transfer of green technology to CDDCs.[71]

Use stronger trade and investment measures – CDDCs can stimulate transitions with targeted investments in infrastructure, research and development,[72] and those eligible can take advantage of the special and differentiated treatment provided in most WTO rules for increasing protective tariffs and regulating some aspects of foreign direct investment.[73] For example, many developing countries that have not met the upper limits on tariffs still have room to increase them; these countries are also able to regulate some aspects of foreign direct investment and make use of provisions for emergency tariff increases, over which they have considerable discretion. CDDCs should also be strategic about attracting FDI into targeted industries.[74]

Support energy transition and mitigate the consequences of stranded resources – It is unrealistic to expect CDDCs to voluntarily strand fossil-fuel resources that provide the bulk of their export revenues without a transparent and credible compensatory mechanism. International financial institutions, large MNEs, donor governments, and aid agencies could rally behind CDDCs to offer them incentives for transitioning.

Be supported by international funding – To implement nationally determined contributions, estimates show that countries in Africa alone needs to invest $3 trillion in mitigation and adaptation by 2030.[75, 76] In Latin America and the Caribbean, several countries' GHG mitigation

commitments are contingent on international assistance. In the Caribbean, between 50 and 100 per cent of NDC pledges are conditional on international funding.[77] Investment is needed to fund research and development of new technologies, as well as to provide incentives for businesses and individuals to adopt these technologies. Coordinated investment is particularly important because green innovation often involves complex supply chains and global markets, which require collaboration between different actors across sectors and countries. By working together, countries can pool their resources and expertise to accelerate the development and adoption of cleaner technologies, while ensuring that these innovations are supported by a supportive policy environment.[78]

Towards a greener world

Just diversification and green transitions in CDDCs will require strong political commitment and leadership in CDDCs and at the global level. While many issues relating to diversification and the green transition in CDDCs are similar around the world, each country has to chart its own path – making a detailed assessment of opportunities and obstacles and designing a green industrial policy.

Until recently, the benefits of industrial policy and economic diversification were thought to accrue primarily to individual CDDCs, offering little incentive for other countries to support this transition. Climate change has shifted that calculus: the global community as a whole stands to benefit if CDDCs succeed in transitioning along low-carbon development paths. Simply calling for these countries to 'leave the resources in the ground' is a political and economic dead end. The only way to a greener world is through mutual support and cooperation.

Endnotes

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32 Altenburg and Rodrik, 2017: 11
33 Altenburg and Rodrik, 2017: 11–16
34 Aiginger and Rodrik, 2020; Ferrannini et al., 2021
35 Altenburg and Rodrik, 2017; Ferrannini et al., 2021
36 Aiginger and Rodrik, 2020; Ferrannini et al., 2021; Mazzucato, 2018
37 Aiginger and Rodrik, 2020
38 Ibid
39 UNCTAD, 2021b
40 Okereke et al., 2019; Anzolin and Lebdioui, 2021; Chang and Andreoni, 2021; UNCTAD, 2021b
41 Anzolin and Lebdioui, 2021
42 Altenburg and Rodrik, 2017
43 UNCTAD, 2023a
44 Padilla, 2017
45 Anzolin and Lebdioui, 2021; Padilla, 2017
46 UNCTAD, 2021d
47 Chang and Andreoni, 2021
48 Ibid
49 See, for example, Gemmell and Morrissey (2005), Mourougane and Vogel (2008), and Causa et al. (2016) for discussion on distributional effects of structural reforms such as tax, labour market, and social protection reforms and Stiglitz (2017) for discussion on tackling inequality as an objective of industrial policies.
50 Ngaruko and Nkurunziza, 2006
51 See background documentation to the Commodities and Development Report 2021 at https://unctad.org/system/files/non-official-document/DITC_COM_2021_D_BN01_en.pdf
52 Berik et al., 2009; Seguino, 2000a, 2000b
53 The term complexity refer to the level of non-tradable capabilities in the economy as defined in the strand of literature on economic complexity See, for example, Hidalgo and Hausmann (2009) and Tacchella et al. (2012).
54 Based on UNCTAD's research on economic complexity and product space estimates indices for economic complexity, carbon footprint, and inequality associated with the production of over 43,000 internationally traded products. The methodology is similar to that used in UNCTAD (2022d, 2022e, 2023a).
55 Reuters, 2021
56 USGS, 2023
57 Information on this initiative may be found at: https://uneca.org/stories/zambia-and-drc-sign-cooperation-agreement-to-manufacture-electric-batteries
58 See, for example, Ivic et al. (2021).
59 UNCTAD, 2021c
60 Chang and Andreoni, 2021; UNCTAD, 2016; UNCTAD, 2018a
61 van Huellen and Abubakar, 2021
62 UNCTAD, 2018b
63 Intra-regional trade in Africa has remained around 15 per cent in the past years (UNCTAD, 2019d, 2019c).
64 UNCTAD, 2022d
65 Tröster, 2020
66 Chang and Andreoni, 2020
67 UNCTAD, 2022f
68 Ibid

[69] UNCTAD, 2020

[70] Ibid

[71] UNCTAD, 2021d

[72] Chang, 2011; Chang and Andreoni, 2020

[73] Chang, 2011; Chang and Andreoni, 2021

[74] Chang, 2011

[75] UNECA, 2022a

[76] It is estimated that investment needs are about US$ 125 trillion to put the world towards the path to net zero, of which US$ 32 trillion is required over 2021-2030 (GFANZ, 2022; UNFCCC, 2022).

[77] Institute of the Americas, 2021

[78] UNCTAD, 2021b