



CHAPTER

3

Ensuring inclusiveness

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This chapter examines the relationship between export diversification and income inequality. While some studies suggest that diversification can lead to higher income inequality by favouring high-skilled workers, others argue that it can create employment opportunities and narrow inequalities in the long run. However, the results remain inconclusive, highlighting the need for further empirical research. The chapter presents the results of an econometric analysis exploring the relationship between inequality and export diversification. This approach provides policymakers with possible entry points to pursue inclusive diversification. The chapter also examines the impact of the energy transition on income disparities within and between countries and the role of international cooperation in supporting CDDCs. Inclusive policies and capacity-building are critical for CDDCs to achieve a just energy transition and promote sustainable growth.

Rapid economic development has often resulted in increasing inequality, as the benefits are unequally shared between capital and labour and within the workforce. Economic inequality can be broadly considered in terms of both outcomes and opportunities.¹ Inequality of outcomes concerns differences in income, material wealth or living standards. Inequality of opportunities focuses on disparities in access to energy, education, employment, or health services. Nevertheless, these two dimensions are interrelated and may be difficult to disentangle.

A further cross-cutting aspect of inequality is gender. Women and men do not always have the same access to education, health, credit or economic opportunities.² Moreover, women typically have lower wages and economic participation rates, resulting in lower incomes.³

Measuring inequality

The most common indicator of inequality is the Gini coefficient which measures the extent to which the income distribution among individuals or households within an economy deviates from a perfectly equal distribution. The Gini coefficient takes a value between 0 and 100, where 0 represents perfect equality, and 100 represents perfect inequality, that is, a situation where a single entity controls all resources.⁴ The Gini coefficient is independent of the size of the economy and the population, making it appropriate for cross-country comparisons.⁵ Nonetheless, it also has limitations. It is, for example, more responsive to changes in the middle of the distribution than at the opposite tails, which include the most extreme disparities.⁶ It also depends on what is measured, for example, income inequality pre- or post-tax, or consumption inequality pre- or post-housing costs.⁷ For cross-country comparisons, therefore, it is vital to use the same source or unit of measurement. Other indices include Theil's L index and the Palma ratio, though these are more complex.⁸

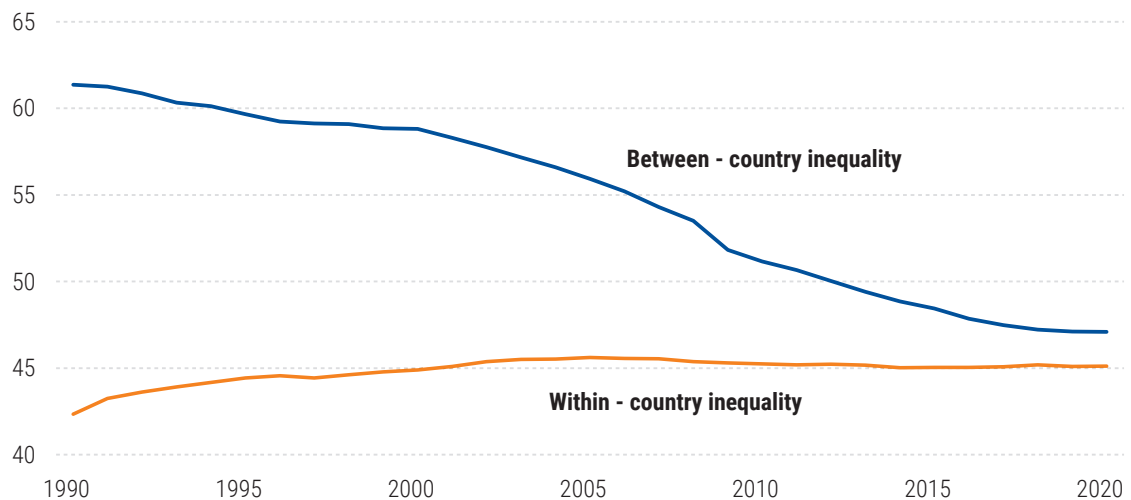
Despite shortcomings, the Gini coefficient is easy to interpret and provides a general overview of income inequality, both within and among countries. Within-country inequality describes the distribution of income between households in a single economy. Between-country inequality describes the income distribution across countries, that is, the average income differences between countries.^{9, 10} SDG 10 aims to reduce both components of income inequality, which are important to differentiate as they can follow different trends (Figure 3.1).

Figure 3.1 shows the Gini coefficients within and between countries from 1990 to 2020. It indicates two different trajectories. Inequality between countries has been declining. Between 1990 and 2020, the Gini-coefficient fell from 61 to 47. This means that the gap between the average incomes of the wealthiest and poorest countries has declined, as a result of decelerating growth in wealthier countries, particularly after the 2008 financial crisis, while emerging economies had stronger growth.¹¹

On the other hand, inequality within countries showed a small increase, from 42 to 45 – reflecting widening inequality between the rich and the poor within countries. While this represents a small increment in absolute terms, within-country inequality threatens socioeconomic development and hampers the achievement of SDGs. In addition, within-country inequality is more notorious at the national level due to the significant differences in wealth within the same population.

Recent shocks have reversed some of the progress in reducing among-country inequality and further widened within-country disparities. The COVID-19 pandemic, along with uneven vaccine access, has hit low-income households the hardest.¹² Indeed, the United Nations 2022 Sustainable Development Goals Report estimates that over the period 2017 to 2021, between-country inequality, measured by the Theil's L index, has increased by 1.2 percentage point, a stark difference from the pre-COVID-19 estimate of -2.6 percentage points.¹³ Currently, inequalities could widen further as a result of rising inflation and the cost of debt servicing, which can hinder countries' ability to protect their most vulnerable people.

Figure 3.1 Inequality within and between countries, Gini coefficients, 1990-2020



Source: UNCTAD based on data from the UNU-WIDER WIID Companion database.

Diversification and income inequality

In the process of economic development, how income is distributed determines the extent to which wealth creation benefits most or a portion of the population. This is a crucial issue debated among academics and policymakers. While there is abundant research on the inequality-growth nexus, studies remain inconclusive as to whether inequality affects growth or if the relationship runs in the opposite direction. Existing literature highlights that studies have reported positive, negative, or inconclusive associations.¹⁴

One school of thought suggests positive distributional effects, which is in line with the Kuznets curve hypothesis, which posits that economic growth and income inequality have an inverted U-shaped relationship.¹⁵ According to this hypothesis, as economies shift from rural to urban areas and industrialize, income inequality tends to increase initially due to higher per capita income and productivity in urban settings. However, over the long term, inequality is expected to decline as more workers migrate and a smaller portion of the population remains in agriculture. Critics argue that external shocks and data limitations may confound the Kuznets curve's findings.¹⁶ While Kuznets acknowledges that more data is required to prove this hypothesis, later studies¹⁷ support the existence of the curve, indicating positive distributional effects in the long run.

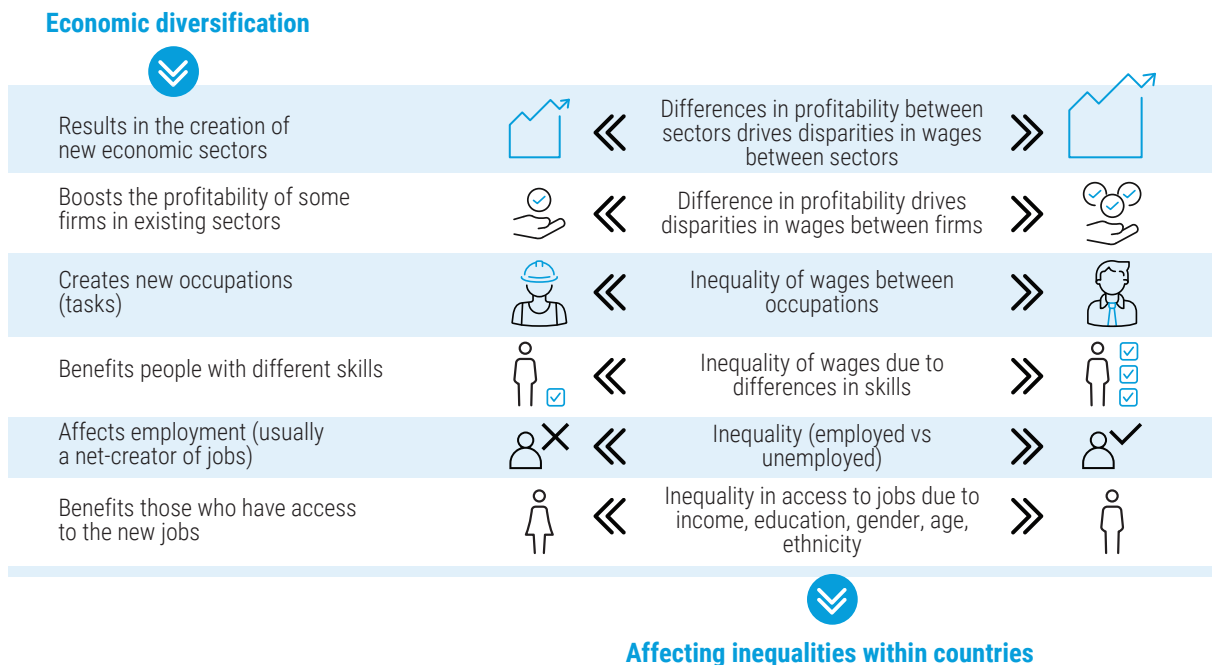
A few studies have similarly concluded that as countries diversify or 'deconcentrate' their exports, their per capita incomes increase.¹⁸ Initially, low-income countries can have frequent episodes of product 'discoveries' and diversify.¹⁹ But beyond a certain level of income, such events become less frequent – and exports start to concentrate again, as companies can take advantage of economies of scale, and they start to specialize in different export products.²⁰ ²¹ This new phase of concentration in trading activities tends to reduce employment, labour force participation, and wages.²²

Closely interlinked is the accumulation of human capital, which increases workers' mobility and ability to absorb new technology. Human capital has the potential to reduce the skill and income gap by facilitating knowledge diffusion and employment.²³ However, this may depend on the extent to which opportunities to build capital are equally distributed in the population, for example, through the location of training institutions in a country. If such opportunities are unequally distributed, the income gap between highly-skilled and low-skilled workers may widen.

In theory, economic diversification changes the economy's structure and can impact inequality through various channels, including disparities between sectors, firms, occupation levels, and skills. These different factors influence the resulting income inequality between individuals (Figure 3.2).

Economic diversification creates new sectors (goods and services) in the economy. The varying productivity levels of these sectors may contribute to inequality between sectors within a country;²⁴ those that are more productive can claim higher average profits and pay higher average wages. Diversification can also boost firms' profitability within existing sectors, affecting inequalities across firms.²⁵ Firms that embrace innovation and diversify their production can achieve higher profits and offer higher average wages.

Figure 3.2 Transmission channels from economic diversification to the potential impact on inequalities



Source: UNCTAD.

Inequalities can also arise from wage differences resulting from diversification. Some emerging occupations could be more productive and be rewarded with higher wages. Similarly, increased demand for specific or scarcer skills can also command higher wages. These disparities result from differences in occupations within a firm²⁶ and skills at the same occupation level.²⁷

Economic diversification usually creates jobs, thereby impacting inequalities between the employed (receiving a labour income) and the unemployed. Moreover, diversification in some sectors can influence individuals' access to skills and their choice of occupation, firm and sector to work in. Consequently, this affects individuals' work opportunities and income levels. For instance, gender disparities in education can limit girls' access to skills and opportunities in certain family and social contexts and are likely to constrain skills development. Similarly, social perceptions may discourage women from working in some sectors, such as construction and mining, limiting their options for employment.

Diversification (or lack thereof) can determine people's choices regarding which skillset to develop or which industry to work in. For instance, in CDDCs, the absence of industries such as light manufacturing, automotive, electronics, and digital products such as online gaming restricts employment opportunities in these sectors for their population.

While there has been extensive literature on the association between export diversification and income, there has been less attention to the links between diversification and inequality. And similar to the research on income and inequality, the results have been mixed, probably because of differing samples, methodologies and underlying assumptions. Few studies indicate a monotonic relationship, where rising specialization leads to a greater distinction

between low and high-skilled workers, translating to higher wages for the more skilled workers and increasing income inequality.^{28, 29, 30}

On the other hand, export diversification may also expand employment opportunities and learning to a larger share of the population, which would result in narrowing inequalities. There is a third proposition in the literature, that of an inverted-U-shaped relationship: initially, export diversification increases the demand for high-skilled labour as firms pursue productivity and efficiency.³¹ In the long run, however, as the benefits spread throughout the economy, more diverse production creates more jobs for high and low-skilled workers, and inequality falls.³² Nonetheless, changes in the demand for high-skill labour are likely to depend on the diversification avenue an economy pursues; if the country, for example, increases domestic backward linkages, lower-skilled labour may be preferred.

It should also be noted that inequality may be high in developing countries that depend on a narrow export basket. Countries with large natural resource endowments, such as minerals, may have very concentrated ownership and capital-intensive production, which results in high-income inequality.³³ While these studies provide valuable insight into the potential channels through which diversification may affect inequality, results remain inconclusive.

Commodity dependence and inequality

For this report, UNCTAD has examined the relationship between diversification and inequality for 182 countries,³⁴ using three-year averages and covering the period 1998 to 2018, based on data from UNU-WIDER and UNCTAD.³⁵ The sample comprises 1,109 observations across different income levels, as classified by the World Bank (Table 3.1).³⁶ About 56 per cent of the sampled countries are considered CDDCs.

The main measure of income inequality used is the Gini coefficient, supplemented with three other indicators: the Palma ratio, Theil's L index and the inter-decile ratio, which tend to be more responsive to changes in the distribution tails.^{37, 38} The measure of export diversification is the share of commodities in total merchandise export values; a low share implies greater diversification. This is supplemented with an export concentration index³⁹ and a second diversification measure, defined as the number of country exports classified using the Harmonized System (HS) at the 6-digit level and further disaggregated by unit value. Other factors taken into account in this analysis are per capita GDP, population, the extent of trade openness, and endowments of human capital (Appendix A).

Table 3.1 Country classifications and number of observations

Group	Income level	Number of observations
Low-income	< \$1,045	224
Lower-middle income	\$1,046-4,095	354
Upper-middle income	\$4,096-12,695	272
High-income	> \$12,695	259

Source: UNCTAD based on World Bank, 2021.

Note: The use of the World Bank income classification was used due to the relevance of income differentiation across groups. The thresholds are based on 2021 prices in United States dollars.

The results are summarized in Figure 3.3. The matrix presents the coefficients of the fixed effects regressions between export diversification measures and various income inequality indicators. The colour of the circles represents how factors affect inequalities (green – positively, red – negatively), and their sizes represent the strength of the relationship. Note that the covariate results correspond to models using the primary measure of export diversification, i.e., the share of commodities in total merchandise export values. Non-statistically significant coefficients are excluded.

Figure 3.3 Factors interacting with income inequality



Source: UNCTAD.

Note: This figure presents the coefficients of the fixed effects regressions between export diversification measures and various income inequality indicators. All coefficients presented are statistically significant at a maximum of 10 per cent.

The results indicate that export diversification is associated with greater inequality – a relationship that remains statistically significant across most different measures of income inequality.⁴⁰ This suggests that diversification has adverse distributional effects on the population, which may be attributed to a more differentiated occupational structure and wage differentials that arise with a more diversified economy.

Inequality is negatively associated with income per capita, which can proxy for economic development and implies that change in income by itself has a beneficial impact on inequality even after controlling for export diversification. Trade openness is also negatively associated with income inequality, which implies that as trade increases, more people may be able to take advantage of different opportunities that arise.

A less-intuitive outcome from this analysis is that as human capital increases, so does income inequality. As a composite variable that captures a population's education, skills and health conditions, this may be the result of imbalances in education or healthcare access which limit the potential and prospects of lower-income earners.

Another significant factor is population size. When accounting for other factors, it seems that income disparities tend to be smaller in countries with larger populations, perhaps because larger economies can afford the transfers needed to even out imbalances in income.

From a wider perspective, the analysis considers the experience of country income groups. While there are no statistically significant differences when considering the Gini coefficient, differences emerge when using two other measures – the Palma ratio and the inter-decile ratio, which are more sensitive to changes at the opposite ends of the income distribution. They indicate that export diversification negatively affects inequality in low- and lower-middle-income countries, which also suggests there is more of a skilled-wage premium in the economies belonging to these income groups. On the other hand, these countries are also more likely to see inequality fall as they become more open to trade.⁴¹ For high-income countries, the only variable that appears to be statistically significant is population size.

Similar results are observed for CDDCs, where only a small segment of the population benefits from diversification. However, this could be because diversification is relatively limited in these economies and perhaps not extensive enough to create possible opportunities in all segments of the population. The results suggest that it may be necessary for governments in low- and lower-middle-income economies and CDDCs to consider interventions to ensure inclusive change. This is an important aspect to consider when designing a diversification strategy, which should ideally provide opportunities to all groups from an early stage. Resource rents may also be captured by a small elite, so governments may need to intervene to provide public goods and increase investment in education, healthcare and skill building.

UNU-WIDER data provides the most comprehensive set of inequality statistics up to date, though some data within UNU-WIDER has been synthetically constructed using complex methods due to missing figures. Appropriate and consistent primary data collection at the country level is imperative to examine the factors influencing inequality more precisely. This is particularly important for countries. In addition, further research may be needed using a dynamic panel setting to better understand inequality dynamics. Finally, other studies, including microeconomic analyses, are encouraged to better understand the mechanisms through which diversification affects inequality in a given context.

An inclusive diversification and energy transition

Similar to diversification, the energy transition entails an economic transformation and is likely to lead to the creation of various jobs in greener markets. For CDDCs, this process is closely intertwined with economic and export diversification as they shift towards new sectors.

The empirical results discussed above suggest that export diversification may lead to higher income inequality, particularly in CDDCs. This implies that governments should design complementary inclusive labour policies to mitigate the impacts that diversification and the energy transition may have on income inequality.

Local capacity building is essential for the population to be able to participate and benefit from new employment opportunities. In this regard, governments can identify vulnerable sectors, firms and workers that require technical capacity-building or financial assistance to retrain or upgrade skills necessary for the evolving labour market.

As an example, the Philippines Green Jobs Act of 2016 focuses on job creation and skills development in emerging green sectors. It involves identifying skill needs and implementing training programmes and certification schemes for workers in related industries to support the transition.⁴² The Act also includes financial incentives such as tax deductions for skills training, research and development, and tax-free imports of capital equipment for green job promotion.⁴³

A similar initiative was launched in Spain to support the automotive industry's transition to modern, lower-emission vehicles. Titled "Plan to boost the value chain of the automotive industry towards sustainable and connected mobility," this includes retraining and updating workers' qualifications to adapt to new labour demands.⁴⁴ In addition to professional accreditations, the initiative also offers training plans for managerial and technical roles for a modernized automotive industry.⁴⁵

Such schemes can be geared toward providing opportunities for under-represented groups, including women, youth, and minority groups. In Canada, the Youth Employment and Skills Strategy was implemented to promote youth training across natural resource sectors.⁴⁶ This strategy included targeting immigrant youth, youth with disabilities and youth from among Indigenous populations underrepresented in such sectors, to narrow existing gaps.

Coordinated industrial and education policies are also needed to support an evolving economic and labour landscape. Such measures would avoid skills mismatches and, assuming they include all social groups, can help ensure that the benefits from export diversification extend beyond those who were previously in higher-skill positions.

The decarbonization efforts of Chile, for example, have been complemented with measures to spread the gains more evenly among the population. The country, which is heavily dependent on copper mining, has vast potential for renewable energy and has been exploring avenues to gradually discontinue the use of fossil fuels in favour of solar and wind energy. Chile also has ambitions to become an exporter of green hydrogen. To support these goals, the country's National Energy Plan envisages inclusive capacity building and training schemes for existing and new workers and, in coordination with research institutions, is working on the training and certification of 27,000 people by 2030.⁴⁷

Given the positive correlation between human capital and income inequality in the analysis above, governments should additionally revise their public education and health schemes to ensure equal access to education and other services. This would entail improving infrastructure and expanding educational and health facilities, particularly in rural and remote areas.

Governments may also provide technical and financial support to firms to explore avenues for diversification in low-carbon sectors. These may include financial incentives or direct investments in cleaner technologies and energy efficiency. Another policy option is to open opportunities for SMEs and encourage links with multinational enterprises (MNEs) to allow for knowledge spillovers that would enrich the human capital and productive capacity of the host country. Added knowledge and absorptive capacity may facilitate the uptake of new technologies and mobility needed for the energy transition.

In Costa Rica, for example, knowledge spillovers played an important role in the country's diversification strategy due to labour mobility.⁴⁸ These knowledge and technology transfers resulted from lateral flows between subsidiaries and the parent MNEs and from backward linkages with domestic suppliers.^{49, 50} An important enabling factor was the country's strong human capital and its educated population, which attracted foreign investment and allowed for the absorption of new technologies and knowledge brought by MNEs.⁵¹ In addition, such spillovers can increase gender equality: in Costa Rica, labour mobility and imitating new competitors allowed workers to apply new gender practices and skills to local firms and increase female participation.⁵²

While this example does not directly relate to the energy transition, this approach would notably benefit CDDCs seeking vertical diversification, for example, in the manufacturing process of batteries, which requires technology, high skills, and forward linkages in production chains.

Social dialogue and inclusive decision-making can foster trust and better inform policymaking.⁵³ Engagement with stakeholders can aid target-setting and anticipate policies for minimizing the impact of the transition on exposed sectors and firms. This may also alleviate tensions between governments and industries affected by the transition.

For example, in Germany, social dialogue played a crucial role in the transition of the Ruhr Valley from a coal and steel-dependent region to a knowledge and service-based economy.⁵⁴ The government, coal sector, trade unions, environmental groups, industry, and academia actively engaged in discussions to develop policies that facilitated a smooth coal phase-out while minimizing labour market disruptions.⁵⁵ These measures included monthly stipends and early retirement for miners with over 25 years of employment, as well as guaranteed alternative employment opportunities for younger workers.⁵⁶

Governments may also benefit from the ILO's Climate Action for Jobs Initiative. Established in 2019, this multi-stakeholder partnership aims to help countries generate decent jobs while delivering climate goals through policy and planning instruments. These include skill matching, enterprise development and investment measures, and inclusive social protection for vulnerable workers.⁵⁷ Such mechanisms can enable CDDCs and other developing countries to sustain social cohesion and inclusion at times of structural change. In a similar vein, countries implementing new green industrial policies can exchange best practices for target-setting and policymaking.

Energy disparities and the just transition

The Paris Agreement calls for a ‘just transition’ to a lower-carbon world that provides decent and quality jobs for the whole workforce (Box 3.1). A rapid shift towards low-carbon technologies and decarbonization should also be inclusive and minimize any welfare losses, addressing existing disparities and leaving no one behind. A just transition requires addressing current gaps and prevalent issues in energy access, which constitutes a dimension of economic inequality and can impact income disparities. Low household income limits the affordability of energy. At the same time, a lack of access to energy constrains households’ human capital accumulation and may widen the income gap.

Disparities in energy access mirror existing income inequalities. While access to electricity and clean fuels, and technologies for cooking have been on the rise between 2000 and 2020 (Figure 3.4), there are substantial regional differences in access. For instance, in North America, the average energy consumption per capita in 2021 was more than 15 times higher than in Africa.⁵⁸ Moreover, within countries, access to energy tends to be higher in urban areas than in rural areas: in 2020, around 80 per cent of the world’s population without electricity lived in rural areas.⁵⁹

Map 3.1 and Map 3.2 illustrate the percentage of the population with access to electricity and access to clean fuels and technologies for cooking, respectively. In both maps, the darker the colour, the greater the access. Dark blue indicates that a greater percentage of the population enjoys energy access. The lighter the colour, the more limited the access among

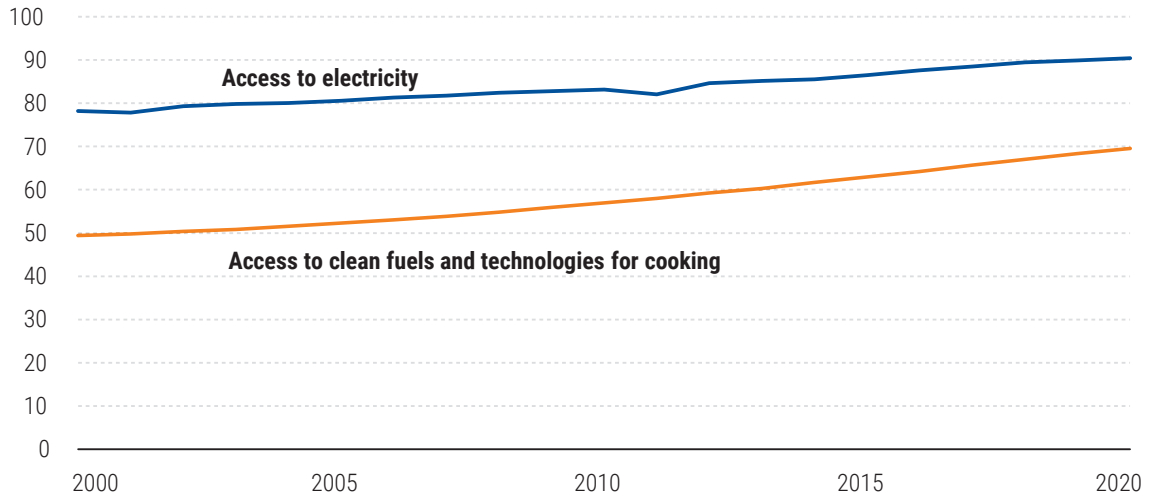
Box 3.1 The elements of a just transition

The precise definition of a just transition varies by source, but the latest IPCC Global Assessment Report identifies common elements:

- Investments in low-emission and labour-intensive technologies and sectors.
- Research and early assessment of the social and employment impacts of climate policies.
- Social dialogue and democratic consultation of social partners and stakeholders.
- Creation of decent jobs, active labour market policies, and rights at work.
- Fairness in energy access and use.
- Economic diversification is based on low-carbon investments.
- Realistic training/retraining programmes that lead to decent work.
- Gender-specific politics that promote equitable outcomes.
- Fostering international cooperation and coordinated multilateral actions.
- Redressing past harms and perceived injustices.
- Consideration of inter-generational justice concerns, such as the impacts of policy decisions on future generations.

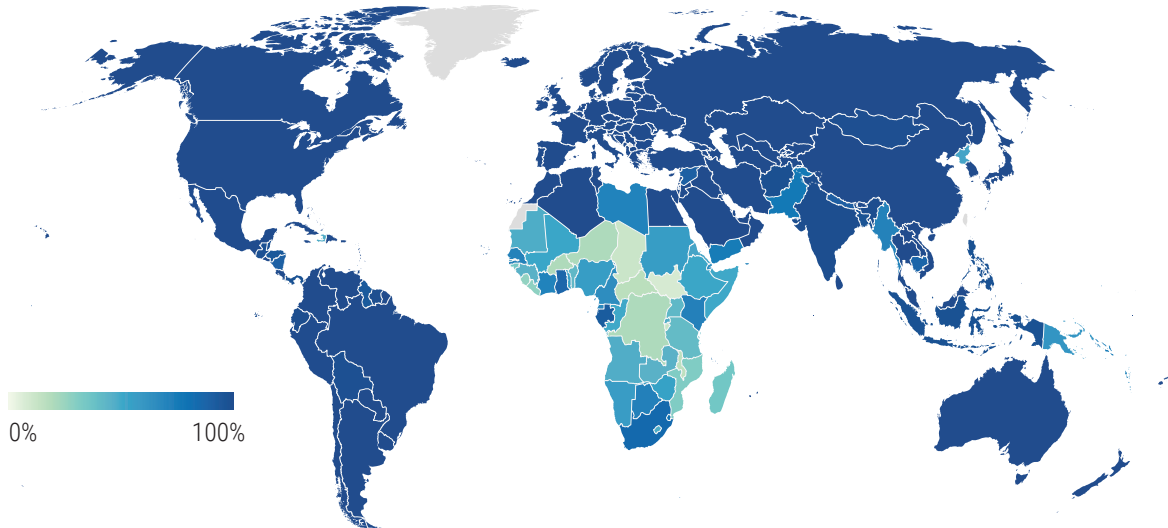
Source: UNCTAD based on IPCC, 2022. Sixth Assessment Report, Climate Change 2022: Mitigation of Climate Change (Working Group III).

Figure 3.4 Access to energy has been on the rise between 2000 and 2020
(Percentage of people with access)



Source: UNCTAD based on data from the World Bank.

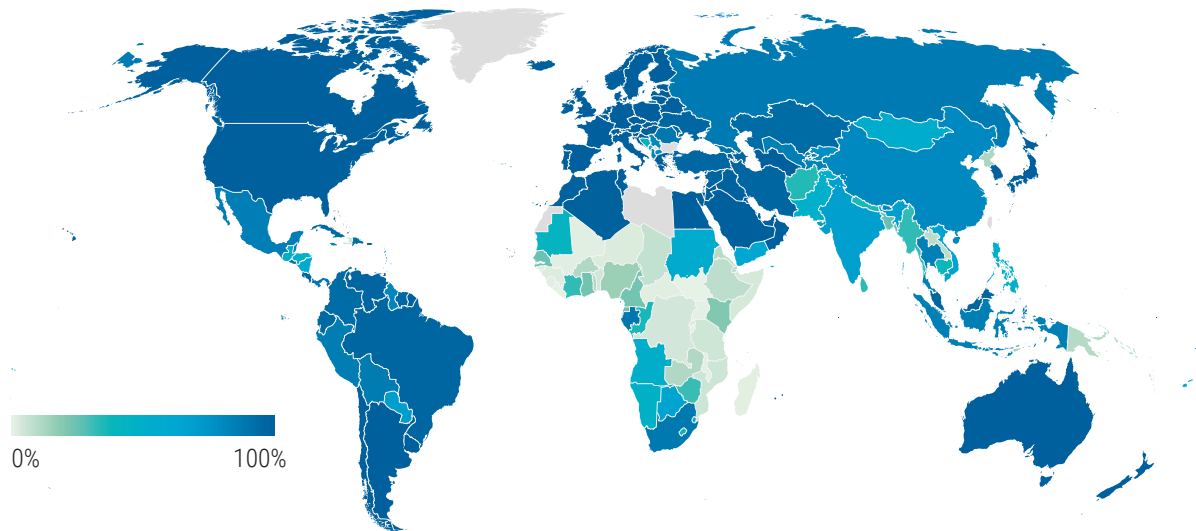
Map 3.1 Access to electricity in 2020
(percentage of population with access)



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source: UNCTAD based on data from the World Bank (2020).

Map 3.2 Access to clean fuels and technologies for cooking in 2020
(Percentage of population with access)



The boundaries and names shown and the designations used on this map do not imply official endorsement or acceptance by the United Nations.

Source: UNCTAD based on data from the World Bank (2020).

the population. From these figures, it can be observed that access to electricity and clean cooking fuels is highly unequal and remains a developmental challenge among developing countries, particularly in Africa and Asia and the Pacific.

CDDCs and their development partners should therefore accelerate progress towards SDG 7 by ensuring universal access to affordable, reliable, sustainable, and modern energy. Nonetheless, this will only contribute to the green energy transition if they do so using renewable energy rather than fossil fuels.

For this purpose, however, CDDCs with low fiscal capacity start at a disadvantage.⁶⁰ Faced with many competing priorities, their governments may struggle to invest in just decarbonization, particularly given the impacts of COVID-19 and the war in Ukraine.

A just transition will require significant investment. The total financing requirement globally to meet SDG 7 is estimated at \$1.3 trillion to \$1.4 trillion annually until 2030.⁶¹ For the poorest countries, much of this needs to come from development partners. However, aid flows to developing countries for clean energy have been declining.⁶² Between 2017 and 2020, international public financial flows to developing countries in support of clean energy fell from \$24.7 billion to \$10.9 billion – making it more difficult for low-income countries to ensure a just transition that meets decarbonization targets.⁶³

Reducing fossil fuel subsidies can help level the playing field for clean energy, allowing more resources to be invested in expanding sustainable energy access and improving energy services. Fossil fuel subsidies have been shown to be costly, inequitable and harmful.^{64, 65}

In developing countries, 43 per cent of the benefits from such subsidies have gone to the wealthiest 20 per cent of households, while the poorest 20 per cent of the population get only 7 per cent.⁶⁶ Nonetheless, in practice, removing or even reducing fuel subsidies is politically sensitive and requires careful planning, with targeted social programmes to mitigate potential negative impacts for poor households.

Endnotes

- ¹ UN DESA, 2015a
- ² IMF, 2015
- ³ Ibid
- ⁴ UN DESA, 2015b
- ⁵ Trapeznikova, 2019
- ⁶ UN DESA, 2015b; Trapeznikova, 2019
- ⁷ Trapeznikova, 2019
- ⁸ General entropy measures are a series of indicators based on ratios of incomes to the mean. A parameter alpha is used to compute these measures, which assigns a weight to distances between incomes in different parts of the distribution. The most popular is the Theil's L index, also known as the mean log deviation, for which alpha is equal to 0, meaning that it is more sensitive to changes in the lower tail of the distribution. The Theil's L index equates to 0 in the case of perfect equality and increases as incomes become more unequally distributed. The Palma and the inter-decile ratio are part of a wider group of percentile and share ratios that focus on specific differences in the distribution. The Palma ratio measures the income gap between the richest 10 per cent and the poorest 40 per cent of the distribution. The higher the Palma ratio, the higher the income inequality. Lastly, the inter-decile ratio measures the income gap between the ninth decile, i.e., the 10 per cent of people with the highest income, and the first decile, representing the bottom 10 per cent of the distribution. The higher the inter-decile ratio, the higher the income inequality. These ratios are typically more sensitive to changes at the opposite ends of the distribution.
- ⁹ Chancel et al., 2022
- ¹⁰ This chapter's analysis of inequality is based on the United Nations University World Institute for Development Economics Research dataset – which uses household survey data, complemented by synthetic data. For more on the methodology used by WIID to compute the presented inequality statistics, refer to UNU-WIDER, 2022.
- ¹¹ World Bank, 2016; Chancel et al., 2022
- ¹² UN DESA, 2022
- ¹³ Ibid
- ¹⁴ Mdingi and Ho, 2021
- ¹⁵ Kuznets, 1955
- ¹⁶ Lyubimov, 2017
- ¹⁷ Barro, 2000; Thornton, 2010
- ¹⁸ Imbs and Wacziarg, 2003; Giri et al., 2019
- ¹⁹ Al-Marhubi, 2000; Hausmann et al., 2007; Cavalcanti et al., 2014
- ²⁰ Imbs and Wacziarg, 2003; Giri et al., 2019
- ²¹ Klinger and Lederman, 2006
- ²² Autor et al., 2013
- ²³ Asteriou et al., 2014
- ²⁴ Hartmann et al., 2017
- ²⁵ Mueller et al., 2017
- ²⁶ Barth et al., 2016
- ²⁷ Juhn et al., 1993
- ²⁸ Linear models such as Blancheton and Chhorn (2019) and Gupta et al. (2002) would only provide a partial understanding of the overall effect if the relationship between export diversification and inequality is found to be non-linear. Differences in samples may also play a role. For example, Blancheton and Chhorn (2019) find that diversification positively affects income inequality in the overall sample. However, when examining the effect across subsamples, results hold only for higher-income countries, and the authors find no significant impacts in low-income countries. Gupta et al. (2002) find a negative correlation when examining the overall sample. Nonetheless, data availability at the time means that, at most, 38 countries were included in the study.
- ²⁹ Autor et al., 2013
- ³⁰ Blancheton and Chhorn, 2019; Lee et al., 2022
- ³¹ Le et al., 2020
- ³² This is based on the results of Le et al. (2020), which find an inverse U-shaped relationship between income inequality and export diversification in a global sample of 90 countries.
- ³³ Gupta et al., 2002
- ³⁴ This is based on research conducted by UNCTAD for this report. A list of the countries included in the analysis can be found in Appendix A.
- ³⁵ Note that due to the sparseness of inequality statistics, especially the Gini data, 3-year period average values are used.
- ³⁶ World Bank, 2021
- ³⁷ The Palma and the inter-decile ratios focus on the difference between the two opposite ends of the distribution, whereas the Theil's L index is particularly sensitive to changes in the lower tail of the distribution.
- ³⁸ Inequality data was drawn from the UNU-WIDER WIID Companion (UNU-WIDER : World Income Inequality Database - WIID, 2022), which covers 201 economies from 1960 to 2021. Data covering 1998 to 2018 was considered based on the availability of export diversification and covariates data from UNCTAD.
- ³⁹ This is a modified version of the Finger-Kreinin measure of similarity in trade. For more information on this measure, see Finger and Kreinin (1979).
- ⁴⁰ Palma ratio, Theil's L index and the inter-decile ratio
- ⁴¹ This is consistent with the Stolper-Samuelson (1941) theorem, where an increase in trade in countries with relatively abundant low-skill factors leads to lower inequality (Furceri and Ostry, 2019).
- ⁴² International Energy Agency, 2022
- ⁴³ ILO, 2019

⁴⁴ International Energy Agency, 2022

⁴⁵ Ibid

⁴⁶ Youth Employment Strategy, 2017

⁴⁷ Government of Chile, Ministry of Energy, 2022;
Bartlett, 2022

⁴⁸ Monge-González et al., 2021

⁴⁹ Giuliani, 2008

⁵⁰ Monge-González et al., 2021

⁵¹ Giuliani, 2008

⁵² Monge-González et al., 2021

⁵³ Mercier, 2020

⁵⁴ Ibid

⁵⁵ Arora and Schroeder, 2022

⁵⁶ Ibid

⁵⁷ ILO, 2019

⁵⁸ British Petroleum, 2022

⁵⁹ IEA et al., 2022

⁶⁰ UNCTAD, 2019a

⁶¹ IEA et al., 2019

⁶² As defined by IEA et al. (2022), international public financial flows include official development assistance and other official flows that are transferred internationally to developing countries for renewable energy. For more information on the methodology used to measure this variable, see IEA et al. (2022).

⁶³ IEA et al., 2022

⁶⁴ OECD and IEA, 2021

⁶⁵ UNDP, 2021

⁶⁶ IMF, 2010