PAGE PARTNERSHIP FOR ACTION ON GREEN ECONOMY

Kyrgyzstan: Actions on green economy to advance a just transition

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UN environment programme

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UNDP

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An overview of the socio-economic, labour market, entrepreneurship and environment contexts and of ILO interventions as part of the UN Partnership for Action on Green Economy (PAGE)

Summary

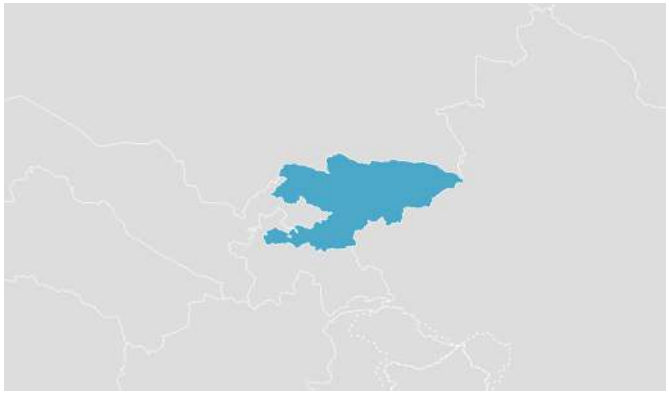
- In 2023, Kyrgyzstan graduated from the United Nations (UN) Partnership for Action on Green Economy (PAGE) initiative. Since Kyrgyzstan joined PAGE in 2016, multiple UN agencies, including the ILO, have supported a range of activities in the country under the initiative.
- Kyrgyzstan has made considerable progress in mainstreaming the green economy, green growth and sustainability into national development strategies and policies, reflecting a commitment to the green economy that will continue on beyond PAGE.
- This brief provides an overview of the economic, labour market and environmental contexts in the country, highlighting key performance indicators and vulnerability to climate change.
- The brief also summarizes the various activities supported by the ILO, including national capacity-building, data collection and analysis.
- While much progress has been made, this brief concludes that further work is needed for evidence-based policymaking, including in the development of green macroeconomic tools.

Context

Economic overview

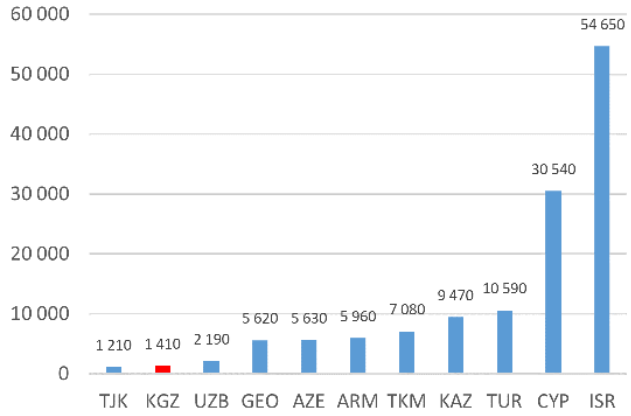
Kyrgyzstan is a landlocked country located in Central Asia (figure 1). With a gross national income (GNI) per capita of US$1,410 in 2022, it is categorized as a lower-middle income country according to the World Bank income group classification, and it is one of the poorest countries in the region (figure 2). Kyrgyzstan has made progress in reducing poverty, but relies heavily on remittances from nationals working abroad as a means of bolstering household income (Yamano et al. 2019). Estimates suggest remittances may contribute the equivalent of around 30 per cent of GDP (World Bank, n.d.).

Figure 1. Map and location of Kyrgyzstan



Disclaimer: The boundaries shown on this map do not imply endorsement or acceptance by the ILO.

Figure 2. GNI per capita, Kyrgyzstan and Central and Western Asia[ii] countries, 2022 (current US$)



Note: Data is for 2022 for all countries except Turkmenistan, which is 2019. Source: World Bank Development Indicators Database.

Structural transformation in the country has seen a reduction in agriculture's contribution to growth, as well as growth in the services sector. However, the economy is relatively reliant on natural resources extraction, including gold production, which is responsible for around 10 per cent of gross domestic product (GDP), as well as agriculture (including cotton and kidney beans), despite agriculture's declining gross value added (IMF 2023a; Yamano et al. 2019).

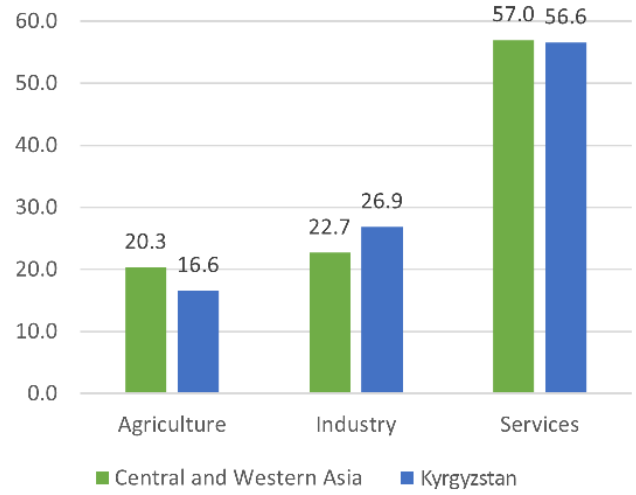
GDP growth is anticipated at around 3.4 per cent in 2023, down from 6.3 per cent in 2022, but well above the low of -7.0 per cent during the COVID-19 pandemic impact (IMF 2023b). This compares to an average of around 4.4 per cent between 2012 and 2019 (IMF 2023b). The economy has recovered relatively well from the impact of the COVID-19 pandemic, but faces economic uncertainty from a range of different sources, including its reliance on commodities, ongoing conflict in the region, inflation and limited fiscal space (IMF 2023a). However, there is potential in large new infrastructure projects, including the China–Kyrgyzstan–Uzbekistan railway and the Kambarata-1 hydropower plant (IMF 2023a).

Labour market overview

The total labour force (ages 15+) was estimated at around 2.6 million in 2022, corresponding to a labour force participation rate of 59.5 per cent.[iii] An estimated 39.6 per cent of the total labour force are women. There is a major gender gap in labour force participation, in which women have a labour force participation rate nearly 30 percentage points lower than that of men – at 45.4 per cent and 74.7 per cent, respectively. Total employment (ages 15+) was estimated at around 2.5 million in 2021, representing an employment-to-population ratio of 56.4 per cent.[iv]

By broad sector group, agriculture accounted for 16.6 per cent of total employment; industry a further 26.9 per cent; and services, 56.6 per cent, in 2022 (figure 3). This is consistent with both the GDP composition, and also the average for the Central and Western Asia region.

Figure 3. Distribution of employment, by broad sector group, Kyrgyzstan and the Central and Western Asia average, 2022 (%)

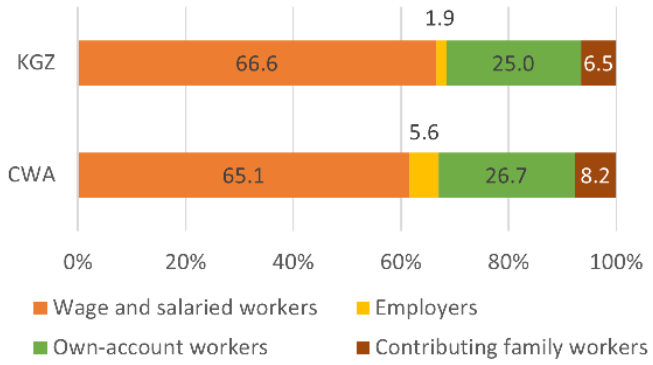


Source: ILO modelled estimates from the World Bank's World Development Indicators Database.

There were an estimated 120,000 unemployed persons in the country in 2022, corresponding to a total unemployment rate of 4.6 per cent.[v] The unemployment rate for women was estimated at 5.0 per cent, compared to 4.3 per cent for men. Youth were estimated to exhibit an unemployment rate of 8.9 per cent. Unemployment is, however, just one part of labour underutilization, and large proportions of the population are in time-related underemployment.

In addition, having a job does not guarantee quality employment. A total of 66.6 per cent of the total employed population were in wage and salaried employment in 2022 (figure 4). Wage and salaried employment is associated with higher degrees of job security, more regular incomes, greater access and eligibility to social protection, as well as coverage by employment regulation compared to those in self-employment. Accordingly, the remaining 33.4 per cent of total employment are classified as being self-employed, encompassing employers, own-account workers and contributing family workers. Again, this is relatively consistent with the average for Central and Western Asia.

Figure 4. Distribution of employment by status in employment, Kyrgyzstan and the Central and Western Asia average, 2022 (%)

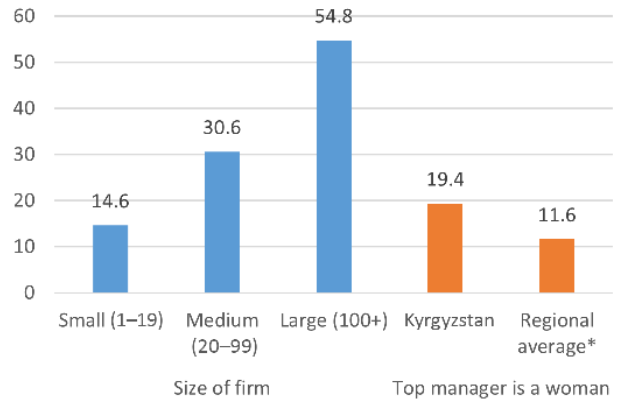


Note: CWA = Central and Western Asia, KGZ = Kyrgyzstan. Source: ILO modelled estimates from the World Bank's World Development Indicators Database.

Enterprises' characteristics

According to World Bank Enterprise Survey data, of the 358 Kyrgyz enterprises surveyed in 2019[1], 14.6 per cent were small (with 1–19 total employees[2]), 30.6 per cent were medium-sized (20–99 employees), and 54.8 per cent were large enterprises (100+ employees) (figure 5).[3] Surveyed enterprises are considered to be representative of the formal private sector employing at least five employees and with at least 1 per cent private ownership.

Figure 5. Selected characteristics of Kyrgyz firms, 2019 (%)



Note: Regional average refers to unweighted average of the latest data for all countries in the Central and Western Asia region with available data. Source: World Bank Enterprise Surveys.

It can be difficult to distinguish entrepreneurship from own-account work stemming from a lack of paid employment opportunities. For instance, women are often in own-account work through lack of options, but there are different connotations when women are running and leading businesses. As such, a metric that can shed some light on the difference between entrepreneurship and own-account work is the share of enterprises with a woman as the top manager of the enterprise, using World Bank Enterprise Survey data. In 2019, 19.4 per cent of enterprises surveyed had a woman as the top manager. This compares with 11.6 per cent for all countries in the Central and Western Asia region.

Environmental performance

Kyrgyzstan ranks 126th of 180 countries in the latest Environmental Performance Index (EPI) (2022).[vi] The EPI assesses countries on 40 different performance indicators and ranks them according to their national efforts towards environmental health, enhancing ecosystem vitality and mitigating climate change.

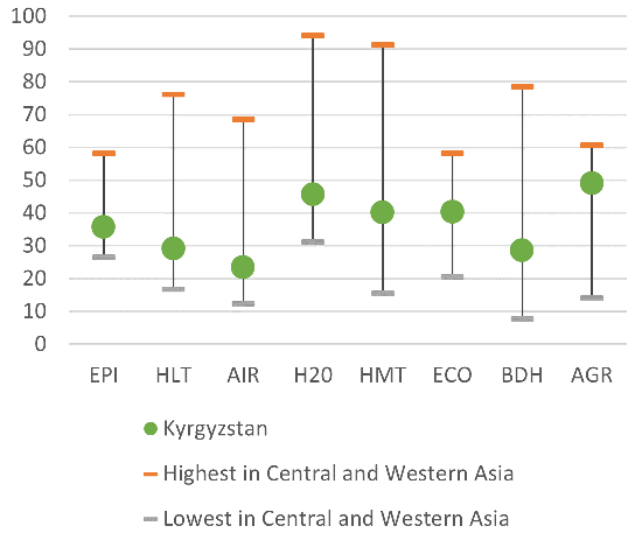
According to the assessment criteria, Kyrgyzstan scored 35.7 points on a scale of 0–100 (where 0 is worst and 100 best performing). In the subregion of Central and Western Asia, the scores range from a high of 48.3 for Armenia to a low of 26.3 for Türkiye.

Figure 6 shows a selection of indicators for Kyrgyzstan and how the country compares to the highest and lowest scores among countries in Central and Western Asia with available data, thereby allowing a gauge of where Kyrgyzstan performs better or worse in relative terms.

Actions to improve environmental health, ecosystem vitality, climate change mitigation and resilience to weather disasters all have the potential to provide job creation, green economy growth and innovation in the country.

1 The latest year with available data.
2 Aggregate, permanent, full-time employees.
3 World Bank Enterprise Survey categories for firm size.

Figure 6. Environmental performance index and selected indicators, Kyrgyzstan and Central and Western Asia, 2022

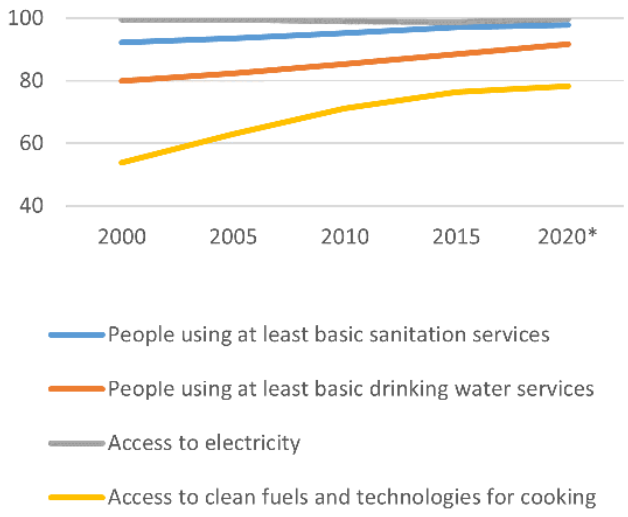


Note: EPI = Environmental Protection Index; HLT = environmental health; AIR = air quality; H20 = sanitation and drinking water; HMT = heavy metals; ECO = ecosystem vitality; BDH = biodiversity and habitat; AGR = agriculture. Score: 0 (worst) – 100 (best). Central and Western Asia refers to ILO Member States in the region with available data. Source: EPI Score 2022.

Access to basic services

As shown in figure 7, 97.9 per cent of the population had access to at least basic sanitation services in 2020.[vii] This represents a 5.6 percentage point increase since 2000. A total of 91.7 per cent of the population were using at least basic drinking water services (up from 79.9 per cent in 2000); 99.9 per cent had access to electricity (up from 99.6 per cent in 2000); and 78.1 per cent had access to clean fuels and technologies for cooking (up from 53.9 per cent in 2000). The trends show significant progress over the past two decades; although they also highlight ongoing shortfalls, particularly in regard to access to clean fuels and technologies for cooking.

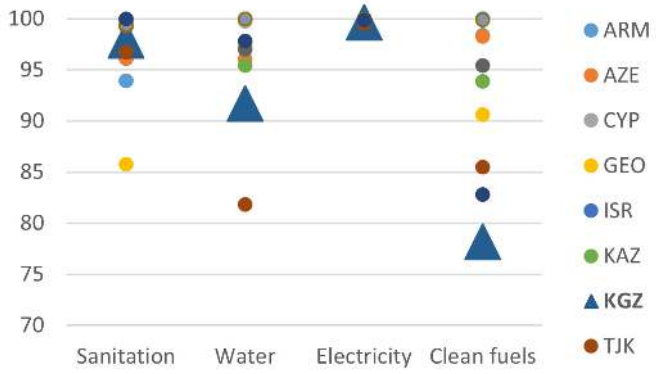
Figure 7. Access to selected basic services, 2000–2020* (% of population)



* Denotes 2020 or latest available data. Sources: Data from WHO–UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene; World Bank Global Electrification Database from IRENA, *Tracking SDG 7: The Energy Progress Report;* and WHO Global Health Observatory; all accessed via World Bank World Development Indicators.

Figure 8 shows Kyrgyzstan's access to basic services relative to the rest of the Central and Western Asia subregion, based on latest available data. It shows that regarding access to at least basic sanitation services and access to electricity, Kyrgyzstan fares relatively well compared to other countries; however, concerning access to clean water, only Tajikistan has worse coverage, and for clean fuels and technologies for cooking, Kyrgyzstan has the weakest coverage in the region.

Figure 8. Access to selected basic services, Kyrgyzstan and other Central and Western Asian countries 2020* (% of population)



* Denotes 2020 or latest available data. Sources: Data from WHO–UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene; World Bank Global Electrification Database from IRENA, *Tracking SDG 7: The Energy Progress Report*; and WHO Global Health Observatory; all accessed via World Bank World Development Indicators.

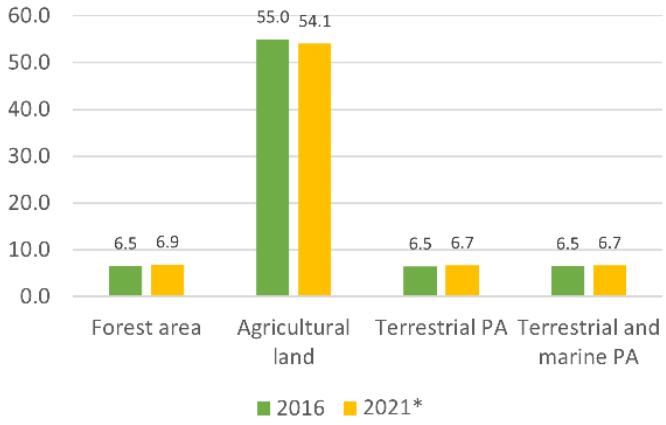
Land coverage and protected areas

A total of 6.9 per cent of Kyrgyzstan's land area is classified as "forest area" (figure 9). Forest area in this context refers to land under natural or planted stands of trees of at least 5 meters in situ, whether productive or not, and excludes tree stands in agricultural production systems (for example, in fruit plantations and agroforestry systems) and trees in urban parks and gardens. Of the total land area, 54.1 per cent is agricultural land (compared to 56.2 per cent in 2001). Agricultural land in this context refers to the share of land area that is arable, under permanent crops, and under permanent pastures.

Protected areas are a crucial means of environmental preservation and conservation. In Kyrgyzstan, 6.7 per cent of total land area were protected areas in 2021 (figure 9), compared to 6.5 per cent in 2016. Terrestrial protected areas in this context are totally or partially protected areas of at least 1,000 hectares that are designated by national authorities as scientific reserves with limited public access, national parks, natural monuments, nature reserves or wildlife sanctuaries, protected landscapes, and areas managed mainly for sustainable use.

If marine protected areas are also taken into consideration, a total of 6.7 per cent of Kyrgyzstan's territorial area has been designated as protected. Marine protected areas in this context refer to areas of intertidal or subtidal terrain – and overlying water and associated flora and fauna and historical and cultural features – that have been reserved by law or other effective means to protect part or all of the enclosed environment.

Figure 9. Forest area, agricultural land, and terrestrial and marine protected areas, 2016 and 2021 (%)



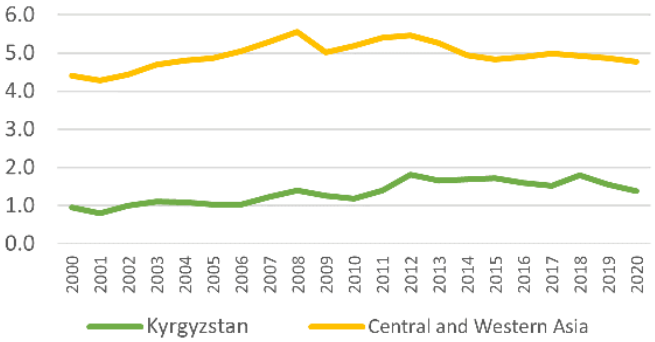
Note: PA = protected areas. Terrestrial PA (% of total land area); Terrestrial and marine PA (% of total territorial area); Forest area (% of land area); Agricultural land (% of land area). * Denotes latest available datapoint (2018–2021). Source: FAO World Database on Protected Areas (WDPA) data from World Bank World Development Indicators Database.

There will be greater prospects for employment opportunities if there is commitment to transitioning to a low-carbon and resource-efficient economy, such as jobs in resource management and environmental services.

Emissions

The carbon dioxide (CO2) emission levels for Kyrgyzstan were estimated at 9,080 kt in 2020.[viii] This marks a change from 4,643 kt in 2000, representing annual average growth in CO2 emissions of 3.4 per cent from 2000 to 2020. While total CO2 emissions are largely related to the size of the economy, a per capita metric serves as a relative measure for comparing countries (figure 10). In 2020, the unweighted average across countries in the Central and Western Asia subregion was estimated at 4.8 metric tonnes per capita. In Kyrgyzstan it was estimated at 1.4 metric tonnes per capita for the same year.

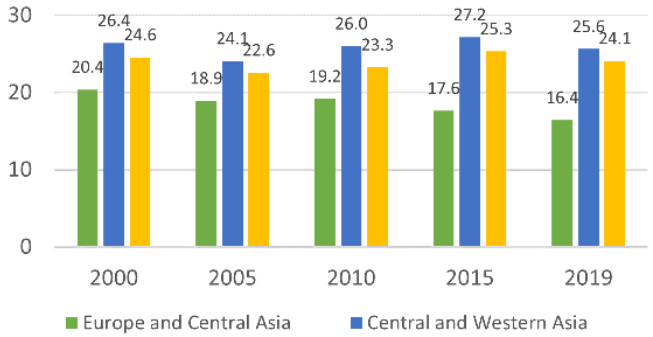
Figure 10. CO2 emissions in Kyrgyzstan and Central and Western Asia, 2000–2020, (metric tonnes per capita)



Note: Central and Western Asia data are unweighted averages. Source: Climate Watch, 2020 GHG Emissions data from the World Bank's World Development Indicators Database.

Figure 11 shows that the level of PM2.5 (atmospheric particulate matter with a diameter of less than 2.5 micrometres) emissions for Kyrgyzstan was estimated at 24.1 micrograms per cubic metre in 2019, compared to 24.6 micrograms in 2000. Figure 11 also compares Kyrgyzstan's PM2.5 emissions to an unweighted average across countries in the Europe and Central Asia region, which came to a measure of 16.4 micrograms per cubic metre in 2019. Notably, the World Health Organization's Air Quality Guideline threshold level for emissions is placed at 10 micrograms per cubic metre, which represents the concentration over which adverse health effects due to PM2.5 exposure have been observed. The percentage of the Kyrgyz population exposed to ambient concentrations of PM2.5 that exceed the WHO threshold is estimated at 97.4 per cent in 2017, compared to 99.9 per cent in 2000.

Figure 11. PM2.5 emissions for Kyrgyzstan, Europe and Central Asia, and Central and Western Asia, 2000–2019 (micrograms per cubic metre)

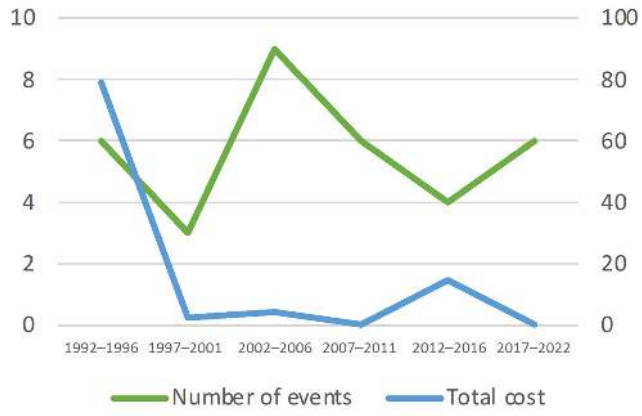


Note: Regional averages are unweighted averages. Source: Brauer et al., *Global Burden of Disease Study 2017, 2017.*

Natural disasters and resilience

Over the 2017–22 period, there were a total of six natural disasters in Kyrgyzstan (natural disasters in this context includes floods, droughts, epidemics, storms, landslides, earthquakes and wildfires).[ix] This corresponds roughly to the average number of natural disasters experienced over five-year periods stretching back to 1992 (5.67 on average). There are substantial costs to these events, as shown in figure 12, which vary depending on the type of disaster, its impact, the resources available for responding to the impact, and the infrastructural resilience. It should be noted that a disaster having a low cost associated with it does not necessarily mean the disaster had a low level of impact, as this can actually be a reflection of a lack of available resources.

Figure 12. Number of natural disasters (left) and total cost of natural disasters (million US$, right) per five-year period, 1992–2022

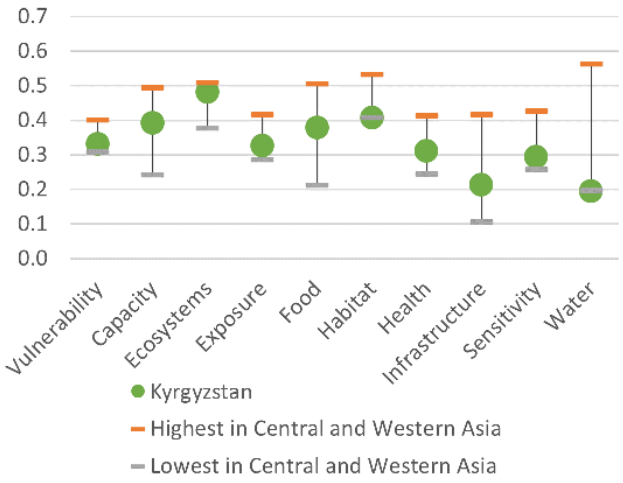


Source: ILO compilation using EM-DAT data.

The Notre Dame Global Adaptation Index (ND-GAIN) considers vulnerability to climate change and related global challenges as well as resiliency and preparedness.[x] Looking only at the vulnerability components of the Index, Kyrgyzstan scores a 0.33 (where 0 is very vulnerable and 1 is least vulnerable), which, for reference, ranks Kyrgyzstan 9th out of 11 countries in the Central and Western Asia subregion that have a score in the database.

Figure 13 provides comparisons of how Kyrgyzstan fares relative to other countries in the Central and Western Asia subregion with respect to various composite indicators of the vulnerability component of the ND-GAIN. For instance, it shows that for ecosystems – that is, that which provides the natural capital upon which human society builds its economy and social system and includes natural resources that are at the foundation of all almost all product value chains – Kyrgyzstan has a score of 0.48, placing it relatively high in a subregion with country scores ranging from a high of 0.51 to a low of 0.23. However, shifting geoclimes due to changing temperatures and precipitation can cause stress within ecosystems if they are unable to respond as quickly as these shifts require.[xi]

Figure 13. ND-GAIN vulnerability and composite indicators for Kyrgyzstan and Central and Western Asia, 2023 (index score)



Note: Central and Western Asia is an unweighted average. Source: ND-GAIN Country Index.

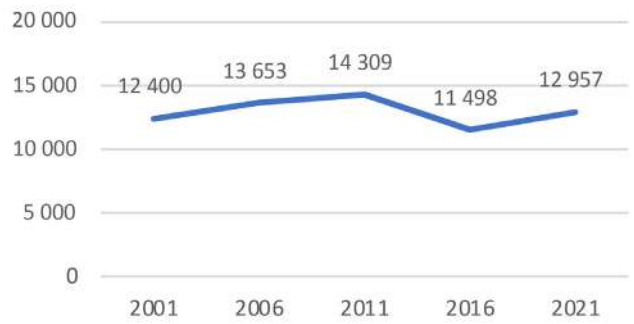
Jobs in the renewable energy sector

"Green jobs" refers to a subset of employment in the environmental sector that meets the requirements of decent work.[xii] These can be assessed in terms of their production and use of environmental goods and services. Accordingly, the definition of what constitutes a green job goes beyond a single sector or occupation. This, however, presents challenges in the identification and measurement of green jobs. For now, this section looks only at jobs in the renewable energy sector, as a subset of the green jobs potential in the country. Future work in Kyrgyzstan to develop macroeconomic models that include environmental sector information will provide greater insights into the number of green jobs in the country, as well as employment outcomes as a result of greening.

In 2020, renewable energy as a share of total energy consumption was estimated at 30.0 per cent. This compares to 35.2 per cent in 2000.[xiii] This decrease reflects how production of non-renewable energy has grown more than renewable energy. Renewable

energy sources produced 12,957 GWh in 2021 (figure 14), up from 12,430 GWh in 2001, which represents average annual growth of just 0.2 per cent between 2001–21.

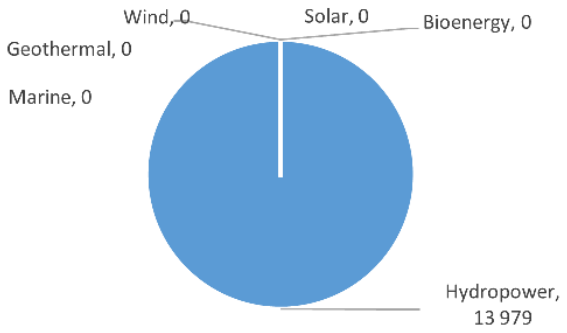
Figure 14. Total renewable energy generation, 2001–2021 (GWh)



Source: ILO compilation using IRENA Renewable Energy Statistics 2023.

Hydropower accounted for the highest share of total renewable energy generation in 2021, at 12,957 GWh, accounting for essentially 100 per cent of total renewable energy generation in the country (figure 15). This was also equivalent to around 10 per cent of all hydropower energy production within the Central and Western Asia subregion.

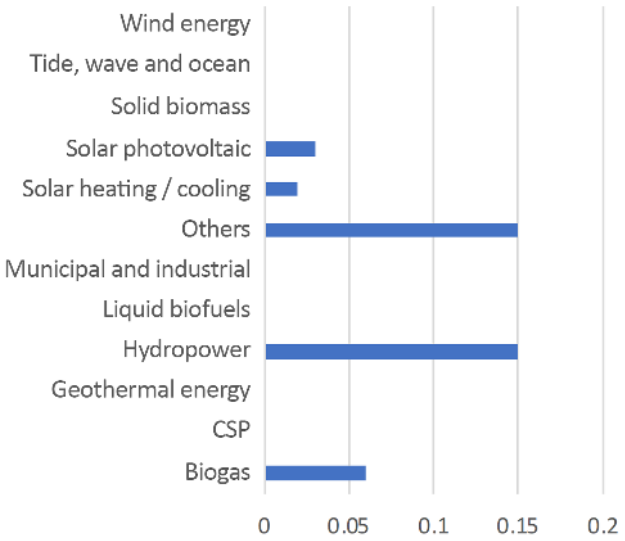
Figure 15. Renewable energy generation by technology, 2021 (GWh)



Source: ILO compilation using IRENA Renewable Energy Statistics 2023.

According to estimates by the International Renewable Energy Agency (IRENA), 410 people in Kyrgyzstan were employed in the renewable energy sector in 2021. "Others" accounted for the highest share (36.6 per cent) of total employment in renewable energy in the country (figure 16).

Figure 16. Renewable energy employment by energy source, 2021 (thousands)



Note: "Others" include jobs that are not technology-specific. Data are principally for 2021, with some dates for 2020 and a few instances in which only earlier information is available. The data for hydropower include direct employment only, and for other technologies include both direct and indirect employment wherever possible. Source: IRENA and ILO, *Renewable Energy and Jobs: Annual Review 2022*, 2022.

Partnership for Action on Green Economy (PAGE) in Kyrgyzstan

PAGE context

The UN Partnership for Action on Green Economy (PAGE) was launched in 2013 as a response to the call at Rio+20 to support countries in building economies that improve human well-being and social equity, while significantly reducing environmental risks and ecological scarcities.

PAGE brings together specialized expertise of five UN agencies[4] to accelerate a Just Transition to a low-carbon, resource-efficient, nature-friendly and socially inclusive economy.

Since 2013, PAGE has worked with partner countries to create lasting change embedded in national policies and institutions. Integrated and holistic support enables countries to reduce poverty, increase jobs and social equity, and strengthen livelihoods and environmental stewardship while sustaining economic growth.

PAGE activities in Kyrgyzstan

The Government of Kyrgyzstan is committed to advancing inclusive, sustainable growth and has adopted the long-term National Development Strategy 2040, which recognizes the importance of integrated policies that balance the social, economic and environmental dimensions of development. To realize this strategy, the Government has prepared a five-year development programme (2021–26), that provides a medium-term framework for all national, sector and subnational strategies, including those linked to the environment and climate change.

Kyrgyzstan joined PAGE in 2016, and it is within the broader national policy context that PAGE and other bilateral and multilateral partners have been collaborating on the transition to a more inclusive, greener economy in Kyrgyzstan.

Since 2016, PAGE has prioritized support to advance the integration of inclusive green economy goals and targets into the Government's national planning processes. In line with these national frameworks, PAGE has also been facilitating evidence-based sectoral reforms in green industry and green jobs and strengthening institutional capacities for inclusive green economy diagnostics, coordination, financing and procurement. This work supports Kyrgyzstan's progress towards achieving Sustainable Development Goals (SDGs) 8, 11, 12, 13 and 17, as well as the implementation of the Paris Agreement, which the country is in the process of considering for ratification. PAGE support in Kyrgyzstan was implemented in the following areas:

1. National policy and planning for a green economy

In early 2018, Parliament adopted the Concept of Kyrgyzstan as a Green Economy Country, a first step in the formal policy process assigning the Government to develop a green economy programme. This in turn laid the groundwork for the Government to develop the National Programme and Action Plan (2019–2023) for the country's inclusive green economy transition, which integrates gender concerns and is directly aligned with the SDGs. The Plan includes climate change needs, commitments and actions on green agriculture, transport, energy, education, sustainable procurement, finance and fiscal policy. These two key policy milestones have been directly supported by PAGE through the establishment of a national interagency and cross-disciplinary expert group, as well as inter-ministerial coordination led by the Ministry of Economy and Commerce. With PAGE's support, national expertise is also being drawn on to mainstream inclusive green economy principles into the Strategy 2040. In this way, green economy reforms and innovations are not developed by different departments independently, but rather, they are directly influencing the country's strategic plans and related policy processes.

2. Sectoral and thematic green economy action

With PAGE support, the Government has been advancing several sectoral and thematic initiatives designed to further strengthen and implement guiding policy frameworks. These include:

- design of national green economy and green jobs modelling systems, policy planning and a green jobs assessment;
- pilot on resource efficiency in the metal industry building on a green industry assessment;
- design of a green urban planning system; and
- a review of legislation for sustainable public procurement.

These initiatives contributed to the national objectives of pursuing inclusive economic growth while safeguarding the environment and natural resources.

3. Capacity-building and raising awareness on the green economy

To build national capacity for an inclusive green economy, PAGE has worked with the National Statistics Committee (NSC) of Kyrgyzstan to develop a Green Jobs Assessment Model (GJAM) (see further details below under ILO activities) and with the

4 UN Environment Programme (UNEP), ILO, UN Development Programme (UNDP), UN Industrial Development Organization (UNIDO), and UN Institute for Training and Research (UNITAR)

American University in Central Asia to carry out a Green Economy Learning Assessment (GELA). The GELA aimed to identify the needs, priorities and entry points for integrating green economy principles into various training and learning activities, as well as the curricula of national learning institutions in Kyrgyzstan. It provided a set of recommendations for long-, mid- and short-term action to improve the capacities of national learning institutions to develop the competences of current and future policymakers. The Alliance of Universities in Kyrgyzstan for Green Economy and Sustainable Development (AVZUR), set up by PAGE, and the American University of Central Asia signed an agreement to promote the expansion of AVSUR's membership base and to further the integration of courses related to inclusive green economy in the curricula of Kyrgyz universities.

In addition, PAGE has been partnering with Germany's GIZ to support the Ministry of Economy's Green Week and Green Forum. The annual high-level dialogue is designed to raise awareness and understanding of a common countrywide green economy approach, and to convene national and international stakeholders for in-depth strategic and technical debates and discussion. The Forum has been used as a platform to validate and adopt significant documents, like Resolutions on the National Programme and Action Plan or establish a Clean Production Center. As part of this collaboration with GIZ, journalists are also being trained to cover inclusive green economy issues. As part of broader efforts to support peer-to-peer learning across countries, PAGE has also facilitated an ongoing dialogue and direct exchange of experts between Kyrgyzstan and Mongolia. A 17-member delegation from Kyrgyzstan representing both the public and private sectors visited Ulaanbaatar in June 2022 to learn from the experiences of Mongolia in mobilizing green finance. The study tour resulted in the Kyrgyz delegation designing a pathway for launching a Kyrgyz Green Finance Corporation.

ILO support under PAGE

Within the framework of PAGE, the Ministry of Economy and Commerce and the NSC of Kyrgyzstan agreed to jointly produce a Green Jobs Assessment Model (GJAM): a data system and analytical tool to assess the green jobs effects of alternative policies.[5] The GJAM in this context consisted of three main phases:

1. **Data collection:** Collection of information to identify sector contributions to the environmental sector through a firm-level survey. It also entailed preparing a Social Accounting Matrix based on available data.

2. **Preparation of macroeconomic tools:** The GJAM uses an Input–Output Table (IOT) and a Social Accounting Matrix (SAM) derived from a Supply and Use Table (SUT).

3. **Combination of macro-model with environmental sector information:** The survey allows for environmental sector information to be identified, and this information can be merged with the IOT and SAM to allow for conventional and green economic characteristics to be integrated into the model, thereby producing the GJAM.

The GJAM-related work has been focused on the following three areas:

Data collection and production

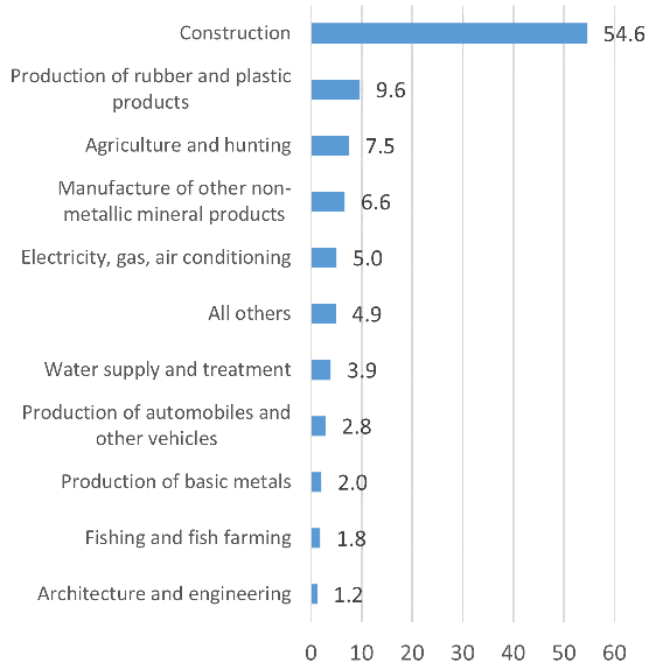
The UN System of Environmental Economic Accounting (SEEA) system was used to assess the contribution of the environment to the economy and the impact of the economy on the environment. Specifically, the ILO together with the NSC identified activities, jobs and income-generation opportunities within the environmental sector. Between February and March 2023, the NSC surveyed 4,216 enterprises, including producers and users of environmental goods and services to identify those in the environmental sector and the characteristics of these enterprises. The methodology, questionnaire and survey guidelines were developed in close collaboration with the ILO. This work with the NSC started in October 2022, and engaged nine coordinators assigned from regional statistical departments' staff and 104 interviewers. The main findings are as follows:

Production of environmental goods and services

Construction was the main economic activity producing environmental goods and services. Of the enterprises surveyed, more than half (54.6 per cent) of those producing environmental goods and services were in the construction sector (figure 17). This was far higher than the next highest activity, "Production of rubber and plastic products" – a subsector of manufacturing – at 9.6 per cent. Other manufacturing activities also featured in the top 10 economic activities. "Agriculture and hunting" accounted for 7.5 per cent of all production, with "fishing and fish farming" – another category of agriculture – responsible for another 1.8 per cent.

5 https://www.ilo.org/wcmsp5/groups/public/---ed_emp/---gjp/documents/publication/wcms_907191.pdf

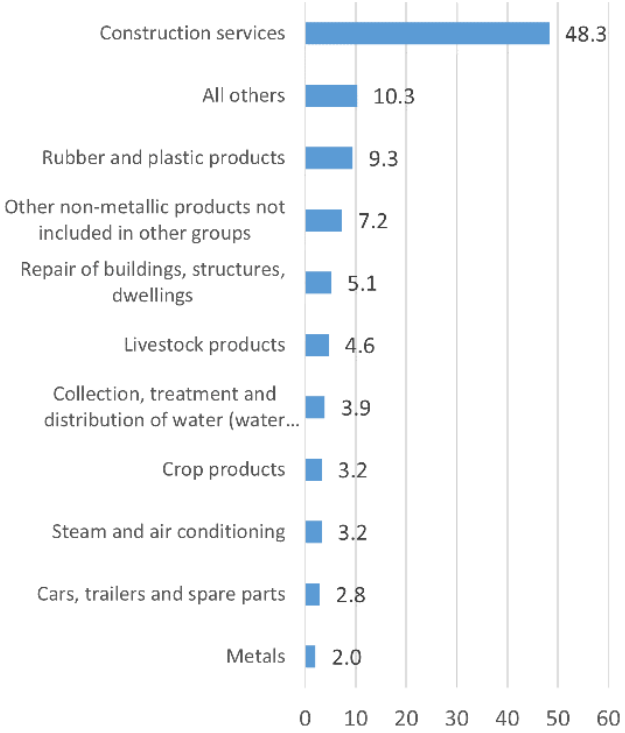
Figure 17. Share of total production of environmental goods and services by economic activity, 2022 (%)



Note: Share (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

Purchases of goods and services from the enterprises in these different activities also shed light on the types of environmental goods and services produced. Figure 18 below summarizes the top goods and services purchased from enterprises producing environmental goods and services. It shows that construction products accounted for the highest share (48.3 per cent), with rubber and plastic products accounting for the next highest share (excluding "all others"). The products reflect the economic activities producing these items.

Figure 18. Share of total production of environmental goods and services by type of goods and services, 2022 (%)

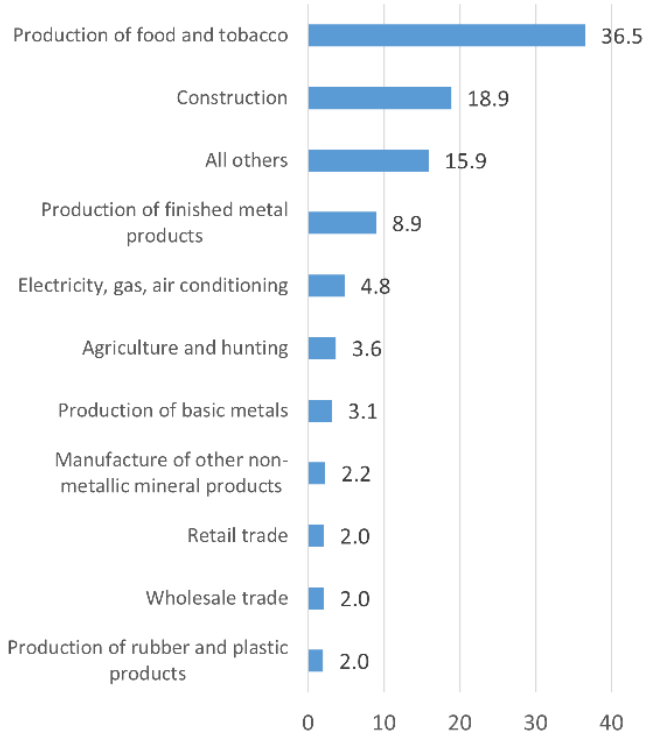


Note: Distribution (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

Consumption of environmental goods and services

Consumption of environmental goods and services, by definition, should reflect the production of such goods. However, in terms of expenditure, the highest amount of consumption was for the production of food and tobacco (36.5 per cent) (figure 19). Construction, which was the largest producer of environmental goods and services, accounted for around 18.9 per cent of the consumption of such goods in the country.

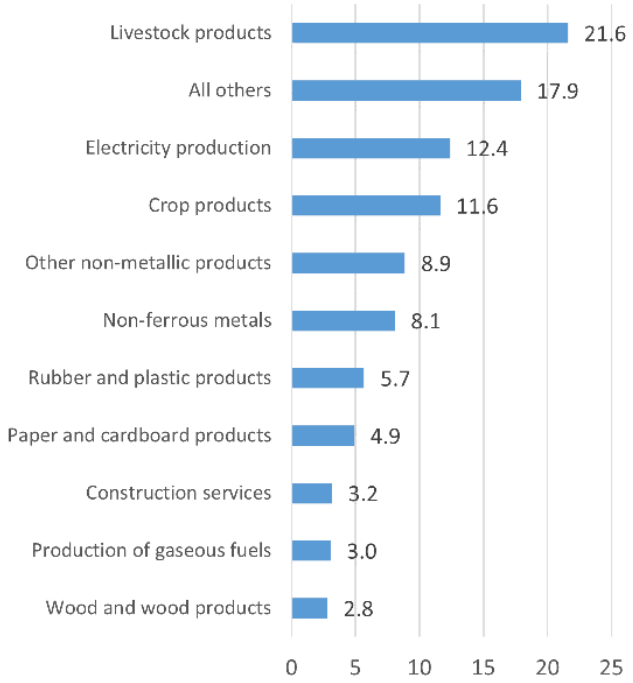
Figure 19. Share of total consumption of environmental goods and services by economic activity, 2022 (%)



Note: Distribution (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

In terms of the total expenditure on environmental goods and services consumed, livestock products accounted for the highest share (21.6 per cent) (figure 20). This was followed by expenditure on electricity production (12.4 per cent) and crop products (11.6 per cent). Construction services accounted for only 3.2 per cent of the total consumption of environmental goods and services in the survey.

Figure 20. Share of total consumption of environmental goods and services by type of goods and services, 2022 (%)



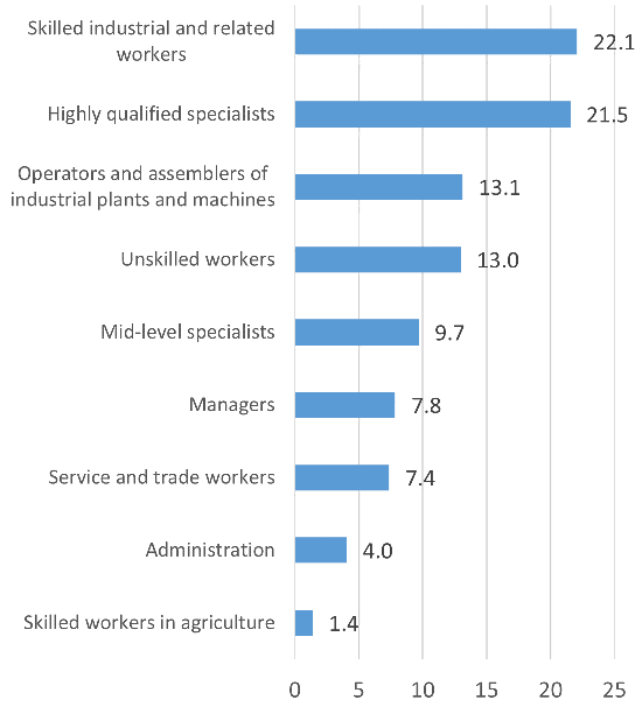
Note: Distribution (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

Employment in the environmental sector

Enterprises interviewed as part of the enterprise survey were asked questions about their enterprise characteristics, including the number of employees they typically have per annum, the occupational categories of these employees, and the share of employees that are female.

In total, 2,215 enterprises (of the 4,215 interviewed) were found to be producing environmental goods and services. Around 21,296 employees were engaged at these enterprises producing environmental goods and services. Figure 21 shows the distribution of these employees by occupational category. It shows that around 22 per cent were “skilled industry and related workers”, followed by “highly qualified specialists” (21.5 per cent) – many of whom would likely have been engaged in the construction sector, as one of the main producers of environmental goods and services. “Skilled workers in agriculture” accounted for the lowest share of employees.

Figure 21. Share of total workers employed in firms producing environmental goods and services, by occupation, 2022 (%)

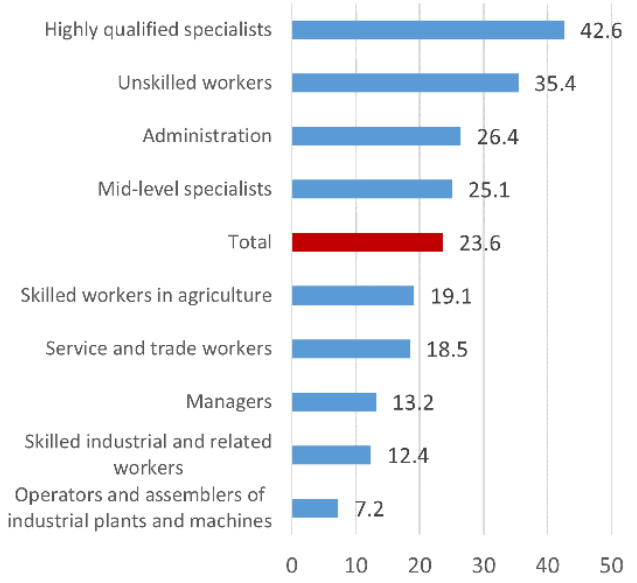


Note: Distribution (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

Overall, women accounted for around 23.6 per cent of all employees in enterprises producing environmental goods and services (figure 22). The highest share was among "highly qualified specialists" (42.6 per cent), which accounted for a relatively high share of total female employees.

Roles held by "skilled industrial and related workers", which accounted for the highest share of all employees (figure 21), were a largely male-dominated, with only 12.4 per cent of these employees being female. At the same time, "unskilled workers" had a relatively high share of women, at 35.4 per cent.

Figure 22. Share of women among workers employed in firms producing environmental goods and services, by occupation, 2022 (%)



Note: Distribution (percentage) is based on expenditure amounts. Source: NSC Enterprise Survey 2022.

Capacity-building and technical assistance on development of macroeconomic tools

The National Statistics Committee (NSC) was supported in the production of a Supply Use Table (SUT) and Input–Output Table (IOT) that included green economic activities. This was used in the production of a Social Accounting Matrix (SAM) featuring green industries and employment.

The NSC was also consulted on how the institutional sector accounts can be completed and arranged into matrix form to produce a National Accounting Matrix (NAM). To this end, a prototype NAM was discussed and data needs from labour and household statistics to define the structure of the extended SAM were discussed.

The NSC was capacitated on how IOTs can be derived from SUTs according to the most recent UN guidelines. The reference year was set as 2016, and the final version of the NAM has been constructed using detailed information from the supply and use tables, institutional sector accounts, and balance of payments statistics.

Broader capacity-building and knowledge sharing

A two-day training on PAGE's macroeconomic analysis using system dynamics modelling was attended by representatives from 15 ministries and institutions, including the Ministry of Finance, the National Bank and the Investment Authority, building Ministry of Finance capacity to support the implementation of

the Green Economy Development Programme. PAGE provided support to the NSC to improve its statistical system — for example, through working sessions with an international expert on the System of Environmental Economic Accounting (SEEA), as well as through training courses for local experts in November 2020: one on measuring informal employment and one on the methodology for the GJAM. Capacity-building was also provided on data collection on environmental goods and services sectors and job statistics (including in waste management activities), in addition to support provided to the GJAM working group to inform model development.

To further the GJAM, PAGE provided training on its methodology to university faculty as well as staff from government agencies. A three-week online training session and training package in Russian was delivered in November 2020 to 34 participants (including 27 women) from various national institutions, including banks and universities. The sessions focused on tools with policy applications in the area of economic, environmental and social impact analysis and planning.

To assist in developing national environmental statistics, an international expert on the System of Economic-Ecological Accounting (SEEA) held training sessions for NSC staff, experts from trade unions, employers, and representatives from the Ministry of Labour and Social Development and the Ministry of Economy. A training course on measuring informal employment covered concepts and practical applications on informal employment to support the NSC to improve labour market statistics, a high priority on the policy agenda and an important dimension for the future of green jobs and sustainable development. The sessions were held between 9 November and 18 December 2020 and had ten participants (including eight women) from Kyrgyzstan. In 2020, PAGE supported a three-week online training course on the GJAM for 30 staff of AVZUR, the National Bank and the NSC.

On 5 September 2023, the ILO organized a tripartite consultation workshop in Bishkek to present the work on GJAM and to collect feedback from constituents and other stakeholders regarding the assessment model and environmental statistics. The event brought together 30 participants including representatives of the Government, as well as workers' and employers' organizations. The workshop also discussed the sustainable development strategy, with contributions from all PAGE partner agencies, and explored synergy building with the ILO's new intervention on "Promoting just transitions for an environmentally sustainable economy in Kyrgyzstan" as well as partner agencies' ongoing work to enhance the sustainability of PAGE in Kyrgyzstan, which is graduating in 2023 (with a no-cost extension in 2024). The workshop built the capacity and raised the awareness of the participants on a gender responsive Just Transition toward an inclusive green economy while promoting green jobs.[6]

Factsheets on Kyrgyzstan and other countries in Europe and Central Asia

The contextual information provided in this policy brief draws from an "Employment, Enterprises, Climate Nexus Factsheet" for Kyrgyzstan produced by the ILO. This is one of a series produced for all countries in the Europe and Central Asia region.

The factsheets provide comparable data on the labour market, enterprises and environmental sustainability performance for each of the countries in the region, allowing for key figures to be easily obtained on top-level characteristics, including the macroeconomy, labour market and enterprises, as well as on vulnerability to climate change and on sectors with green jobs potential.

Other relevant activities

Promoting a Just Transition for an environmentally sustainable economy in Kyrgyzstan

The greening of enterprises is a fundamental component for a Just Transition. To facilitate this in Kyrgyzstan, the ILO is implementing the intervention "Promoting just transitions for an environmentally sustainable economy in Kyrgyzstan"[7]. The intervention seeks to strengthen the capacity of key stakeholders in the world of work, and to enhance the environmental sustainability, productivity and competitiveness of enterprises through supporting the greening of micro-, small- and medium-sized enterprises (MSMEs) as well as bolstering their integration into the circular economy and global value chains.

6 https://www.ilo.org/moscow/news/WCMS_895123/lang--en/index.htm.
7 https://www.ilo.org/moscow/projects/WCMS_891135/lang--en/index.htm

One of the key components of the intervention is to promote a Just Transition for MSMEs through training on the SCORE4Climate module.[8] SCORE4Climate is a training module under the ILO Sustaining Competitive and Responsible Enterprises (SCORE) programme. It focuses on improved productivity and working conditions in MSMEs through training that draws from international good practices in the manufacturing and service sectors and helps MSMEs to participate in global supply chains.

As a continued collaboration between Kyrgyzstan and ILO to build synergy with and enhance the sustainability of PAGE, the ILO intervention on "Promoting a Just Transition for an environmentally sustainable economy in Kyrgyzstan" provides capacity building support to MSMEs in their greening process. While the data collection and analysis supported by PAGE inform policy making by taking into consideration the socio-economic dimensions of public policies, the ILO intervention supporting MSMEs showcases how to localize the Just Transition approach through actions on the ground.

Recommendations and next steps

Under PAGE's lifespan between 2016 and 2023, Kyrgyzstan has made considerable progress in mainstreaming green economic principles into national development strategies and policies. This reflects a commitment to the green economy that will continue on beyond graduation from PAGE.

The green economy transition has already demonstrated key aspects of its durability through a change in government and the shifting of senior public green economy champions across offices. In addition, major public–private investment initiatives, including the growing influence of the Belt and Road Initiative, will also need to be fully aligned with the country's sustainable development vision.

To maintain and accelerate green economy progress, the Government, under the leadership of the Ministry of Economy, will need to ensure that the enabling policy environment it has established is matched by equally strong results reflected in inclusive green economy policy and programme implementation. This will require sustained efforts to ensure sufficient financial and political support. An inter-ministerial working group, formally established by the Ministry of Economy, will play a key role in this. More activities on a Just Transition should also be arranged at the grassroots level of enterprises that are committed to or have an interest in green economy, but do not know where to start.

A key area of work that will allow for more accountable results measurement from green economy policies as well as more effective evidence-based policymaking will be to continue to develop the macroeconomic tools to allow for a Green Jobs Assessment Model (GJAM). This includes analysing the findings from the enterprise survey on the environmental sector and merging the results with the IOT and SAM to allow for a more informed environmental dimension to be incorporated into the models. This will allow for the modelling of green jobs' effects as part of policy simulations, including employment outcomes as a result of green investments and the greening of traditional sectors.

The urgency of a Just Transition towards environmentally sustainable economies and societies for all is encapsulated in the ILO Resolution on a Just Transition (ILO 2023). To support a Just Transition, guidelines from the ILO are also available, which highlight the lack of a one-size-fits-all approach and the need to focus on key policy areas and institutional arrangements for a given context (ILO 2015). These guidelines and the resolution should be referred to and consulted when moving forward as an effective policy framework and practical tool to support countries. Within this framework, continued support needs to be provided to Kyrgyzstan for the effective implementation of its Nationally Determined Contributions (NDCs) to meet Paris Agreement objectives.

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8 https://www.ilo.org/empent/units/boosting-employment-through-small-enterprise-development/smeproductivity/WCMS_868502/lang--en/index.htm.

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Endnotes

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ii. Central and Western Asia in this context refers to the region used by ILOSTATISTICS and includes: Armenia, Azerbaijan, Cyprus, Georgia, Israel, Kazakhstan, Kyrgyzstan, Tajikistan, Türkiye, Turkmenistan and Uzbekistan
iii. Derived using ILO data from the World Bank's World Development Indicators Database. Accessed 22 September 2023
iv. ILO data as of June 2022 from the World Bank's World Development Indicators Database. Accessed 22 September 2023
v ILO data as of June 2022 from the World Bank's World Development Indicators Database. Accessed 22 September 2023.
vi The 2022 Environmental Performance Index (EPI) provides a data-driven summary of the state of sustainability around the world. Using 40 performance indicators across 11 issue categories, the EPI ranks 180 countries on climate change performance, environmental health, and ecosystem vitality. These indicators provide a gauge at a national scale of how close countries are to established environmental policy targets. The EPI offers a scorecard that highlights leaders and laggards in environmental performance, and provides practical guidance for countries that aspire to move toward a sustainable future. Source: EPI Raw Data, available at: https://epi.yale.edu. Accessed 22 September 2023.
vii WHO–UNICEF Joint Monitoring Programme (JMP) for Water Supply, Sanitation and Hygiene data from the World Bank's World Development Indicators Database. Accessed 22 September 2023.
viii Climate Watch 2020 GHG emissions data from the World Bank's World Development Indicators Database. Accessed 22 September 2023.
ix EM-DAT contains essential core data on the occurrence and effects of over 22,000 mass disasters around the world from 1900 to the present day. The database is compiled from various sources, including UN agencies, non-governmental organizations, insurance companies, research institutes and press agencies. Available at: https://www.emdat.be.
x The Notre Dame Global Adaptation Initiative (ND-GAIN) Country Index is a measurement tool that helps governments, businesses and communities examine risks exacerbated by climate change, such as over-crowding, food insecurity, inadequate infrastructure and civil conflicts. The Country Index uses 20 years of data across 45 indicators to rank over 180 countries annually based on their level of vulnerability, and their readiness to successfully implement adaptation solutions. Available at: https://gain.nd.edu.
xi ND-GAIN, "Sectors".
xii See ILO, Guidelines Concerning a Statistical Definition of Employment in the Environmental Sector, 2013.
xiii Data from the World Bank's Sustainable Energy for All (SE4ALL) database. Accessed via the World Bank World Development Indicators Database (22 September 2023).

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