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the People of Japan



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DP



*Vision to reality:*

# Empowering countries worldwide to deliver the Paris Agreement

Global project under UNDP's Climate Promise  
financed by the Japan Supplementary Budget

AUGUST 2023



*This is a report on results of the global project being implemented in 22 countries and territories<sup>1</sup> under the UNDP's flagship Climate Promise initiative that was funded under the Japan Supplementary Budget, Fiscal Year 2021.*

## UN Disclaimer

The views expressed in this publication are those of the authors and do not necessarily represent those of the United Nations, including the UN Development Programme, or UN Member States.

## About UNDP's Climate Promise

UNDP's Climate Promise is the largest global offer of support to developing countries on Nationally Determined Contribution (NDC). Delivered in collaboration with a wide variety of partners, the Climate Promise supports over 120 countries and territories, representing 80 percent of all developing countries globally – including 40 least developed countries, 28 small island developing states, and 14 high emitters – to enhance and implement their NDCs under the global Paris Agreement. Learn more at [climatepromise.undp.org](https://climatepromise.undp.org) and follow at [@UNDPClimate](https://twitter.com/UNDPClimate).

**Japan** recognizes the climate crisis is a threat to the human security, and, in cooperation with UNDP, leads countries to accelerate their climate action. At COP26, UNDP launched a new phase of Climate Promise – “From Pledge to Impact” – aimed at translating NDC targets into concrete action. Japan is the largest supporter of this phase and joins longstanding partners such as Germany, Sweden, the European Union, Spain, and Italy and new partners such as the United Kingdom, Belgium, Iceland, and Portugal to accelerate NDC implementation.

**UNDP** is the leading United Nations organization fighting to end the injustice of poverty, inequality, and climate change. Working with our broad network of experts and partners in 170 countries, we help nations to build integrated, lasting solutions for people and planet.

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<sup>1</sup> The project includes 23 countries and territories, however, activities in Ukraine were suspended.



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## Acronyms

<b>AWS</b>	Automatic weather stations
<b>BAU</b>	Business as usual
<b>BiH</b>	Bosnia and Herzegovina
<b>BIPV</b>	Building integrated photovoltaics
<b>CSO</b>	Civil society organization
<b>COP27</b>	27 <sup>th</sup> United Nations Climate Change conference of the parties
<b>CO<sub>2</sub>e</b>	Carbon dioxide equivalent
<b>DRR</b>	Disaster risk reduction
<b>EPR</b>	Extended procedure responsibility
<b>ETS</b>	Emissions trading system
<b>EV</b>	Electric vehicle
<b>EWS</b>	Early warning system
<b>GEF</b>	Global Environment Facility
<b>GHG</b>	Greenhouse gases
<b>GIS</b>	Geographic information system
<b>IRR</b>	Implementing rules and regulations
<b>ITMOs</b>	International transfer of mitigation outcomes
<b>IPCC</b>	Intergovernmental Panel on Climate Change
<b>JASO</b>	Japanese Automotive Standards Organization
<b>JICA</b>	Japan International Cooperation Agency
<b>JSB</b>	Japan Supplementary Budget
<b>MRV</b>	Measurement, reporting and verification
<b>MSME</b>	Micro, small and medium enterprises
<b>Mton</b>	Metric tonne
<b>NDC</b>	Nationally Determined Contribution
<b>NGO</b>	Non-government organization
<b>NPS</b>	Non-Party Stakeholders
<b>PV</b>	Photovoltaics
<b>RES</b>	Renewable energy source
<b>SDGs</b>	Sustainable Development Goals
<b>SME</b>	Small and medium enterprises
<b>UNDP</b>	United Nations Development Programme
<b>UNFCCC</b>	United Nations Framework Convention on Climate Change

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\*References to Kosovo shall be understood to be in the context of UN Security Council resolution 1244 (1999)



# Foreword

*In early July 2023, the U.S. National Center for Environmental Prediction issued an announcement – the world had just experienced its hottest day on record. It was a grim milestone for all of humanity.*

*There is no doubt that climate change, fueled by human activities and exacerbated by decades of unsustainable practices, presents us with a cascade of environmental, social, and economic repercussions. Every facet of our existence is affected, not to mention every plant, animal, and ecosystem.*

*The challenges are formidable. But they also present us with an opportunity – to redefine our relationship with the planet and craft a more prosperous and inclusive, zero-carbon, climate-resilient future.*

*We must, however, act decisively and collaboratively.*

*Among the countries to emerge as a leader, embracing the solutions while also supporting and investing in other countries to do the same is Japan.*

*This report looks at how, with funding from the Japan Supplementary Budget, 22 countries and territories across Europe, Asia, Africa and the Arab States, have made significant in-roads in their own pursuit of a brighter future. The results are impressive.*

*It is notable that in addition to finance, Japan has generously shared expertise and experience. Partnerships with Japanese embassies, companies, and NGOs have added significant value to the project's activities, offering the exchange of knowledge and technology.*

*UNDP is grateful to the Government of Japan for making possible this extraordinary set of initiatives worldwide.*

*I hope that this report serves as a source of inspiration for what can be achieved when we set our sights high and we work together.*

**Cassie Flynn**  
Global Director of Climate Change, UNDP



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# Global results

Under the Fiscal Year 2021 Japan Supplementary Budget, the Government of Japan supported UNDP's work to assist 22 countries and territories in their endeavours to implement their Nationally Determined Contributions (NDCs). The activities focused on achieving emissions reductions, primarily in the energy sector, and strengthening adaptation and resilience of vulnerable communities, while paving the way for further investment in innovative solutions.

Support was provided under two pillars:

- 1 **Clean energy and net-zero pathways:**
  - Driving investment in clean energy
  - Providing support to Ministries of Energy, Finance, Environment and Planning to address key energy-related decisions on COVID-19 recovery
  - Aligning energy targets in NDCs with net-zero pathways
- 2 **Helping vulnerable and fragile settings to be more resilient to climate impacts:**
  - Scaling-up adaptation, resilience, and disaster risk reduction tools and ensuring they are available to marginalized groups
  - Aligning targets in NDCs with national adaptation strategies and plans, including COVID-19 recovery

**In just one year of the project (March 2022 to March 2023), participating countries have made concrete gains towards achieving their NDC pledges, bringing the Paris Agreement goals closer into view.**

In Bhutan, the Maldives, and Viet Nam, investment from Japan has helped accelerate the transition to **low-carbon transport**, specifically electric vehicles (EV), by putting EVs on the road, advancing enabling policies, increasing consumer awareness, and building the capacity of local technicians.

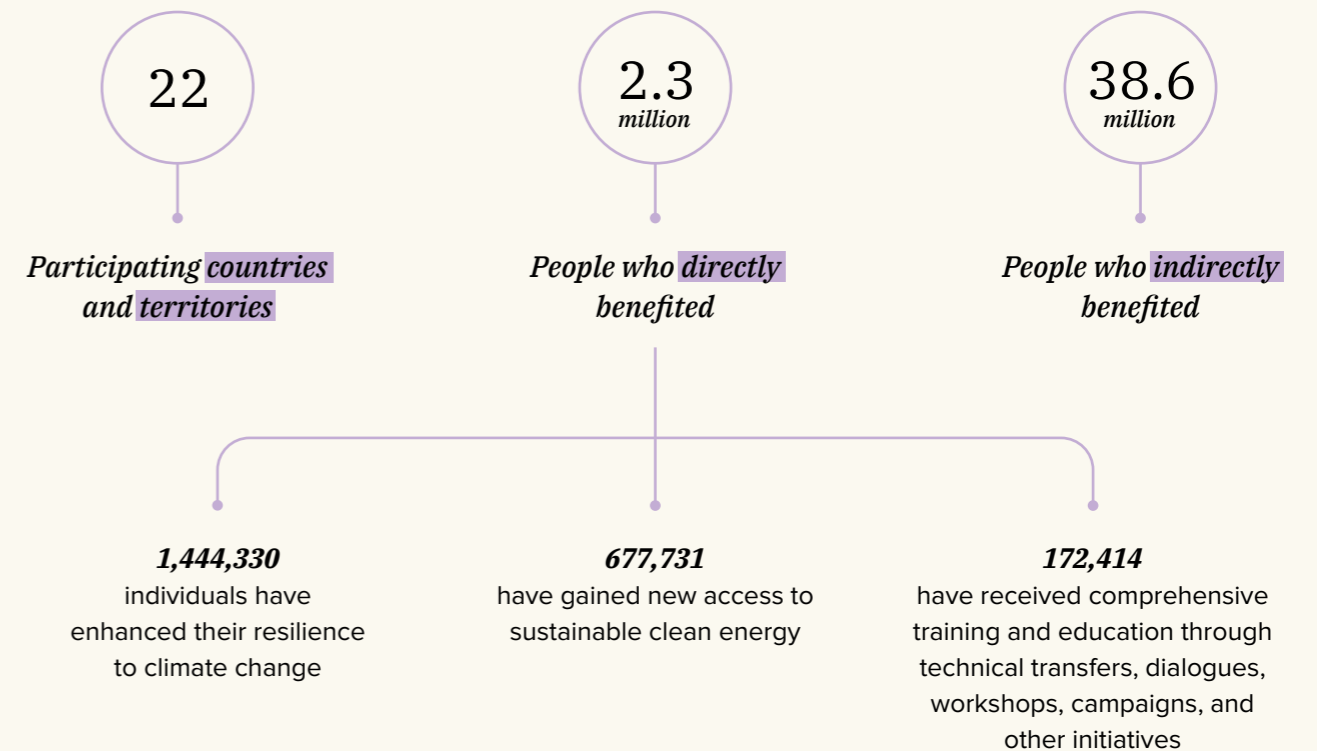
In Indonesia, support from Japan has helped accelerate the implementation of a robust **carbon pricing** mechanism. In its first year of implementation, an Emission Trading System for coal-fired power plants (launched in February 2023), will lead to the reduction of an estimated 31 million tonnes of CO<sub>2</sub>e.

In Albania, Azerbaijan, India and Egypt, installation of **solar PV** at public and residential buildings, from schools to Sharm El Sheikh airport, are demonstrating the viability of the technology while also reducing emissions and providing benefits at the household-level.

In Serbia, and Bosnia and Herzegovina, support from Japan has helped lay the foundations for an inclusive, **just transition**, including creating a national blueprint and specific strategies for carbon-intensive industries (power, steel, and cement).

In Kenya and Georgia, Japanese funding is helping **protect forests** (important carbon sinks and sources of livelihoods) by restoring ecosystems and introducing more sustainable management practices.

Since March 2022, the project has directly improved the lives of almost 2.3 million people and, indirectly, more than 38.6 million people across 22 countries in Africa, Asia Pacific, Europe and Central Asia.



Meanwhile, more than 38.6 million people have gained access to climate-related information – through automatic weather stations, public websites, and educational programmes – and benefited from enhanced public infrastructure, including EV charging stations and solar-powered facilities in hospitals.

**The project has also contributed to the creation of 3,746 green jobs both in the private and public sectors worldwide.**

Through the deployment of renewable energy, green transportation, carbon trading mechanisms, and sustainable forest management, the project has directly avoided approximately 71,151 tonnes of carbon emissions annually, which will help reduce almost **500,000 t CO<sub>2</sub>e by 2030**. Already during the first year of the implementation 31,000,000 t CO<sub>2</sub>e have been indirectly avoided. Moreover, the project has contributed to successful installation of **574.5 MW of renewable or low-emission energy capacity** across seven countries.

On the governance front, the project has supported development of **72 policies** in various ministries to integrate NDC targets or net-zero goals. These efforts encompass 27 sectoral policies, 11 legislation documents, nine national or sectoral budgets, and eight financial instruments or models.

Finally, the global project has forged **48 partnerships** with Japanese organizations, including 24 in the private sector, 18 with JICA, Japanese universities, and technical experts, and six with other institutions such as Chambers of Trade and Industry.

# Sharing knowledge

*The project has invested significantly in facilitating the south-south exchange of knowledge and experience within and between countries, including international study tours and workshops.*

In March 2023, in **Santiago, Chile**, UNDP hosted an international exchange with participation from 20 countries across Latin America and the Caribbean, as well as countries from Asia Pacific, where several low-emissions transport initiatives are being supported by UNDP and financed by the Japan Supplementary Budget. Representatives from the private sector and government officials from key sectors such as finance, energy and transport also took part.

In May 2023, UNDP's Regional Bureau for Europe and Central Asia (RBEC) hosted a 2-day regional knowledge sharing event in **Belgrade, Serbia**. The 'Balkan+ Energy Efficiency Knowledge Symposium' brought together policymakers, experts, financing institutions, and relevant international and national partners from Albania, Bosnia and Herzegovina, North Macedonia, Montenegro, Serbia, Kosovo, and Moldova to share best practices and discuss how accelerate energy efficiency in buildings and ultimately, how to realize a more energy-efficient future. RBEC are also developing respective reports on energy efficiency in urban settings and on Net Zero Pathways in Europe and the Commonwealth of Independent States (CIS).

In March 2023, in **Nairobi, Kenya**, a global workshop brought together 20 UNDP Country Office staff and 20 Government representatives to exchange experience in the implementation of the country-led activities funder under the Japan Supplementary Budget 2021, review the successes and challenges of the delivered work while identifying lessons for forthcoming JSB-funded projects.





With the installation of solar panels, kindergartens in Ngjyrat and Ben Tusha can look forward to cozy warmth during winter and refreshing coolness during summer. © UNDP Albania

“  
We are overjoyed  
that solar panels  
will be installed!”

In Albania’s Northern Region, seasonal weather patterns have become increasingly extreme, with intense cold spells during the winter and heat waves in the summer. The area’s electrical infrastructure has struggled to keep up, especially when heating and cooling demand are at a peak. With this, the educators and caregivers at Ngjyrat kindergarten and creche in the town of Shkodër eagerly anticipate the installation of solar panels supported by funding from Japan. As well as delivering uninterrupted power supply and cost savings for the municipality that financially supports them, the kindergarten’s new panels will help save on GHG emissions each year. “We are overjoyed that solar panels will be installed,” said teacher, Manjola Lika. “This will provide substantial relief for both the staff and children, while also presenting an excellent opportunity to educate children about renewable energy.”

# Market transformation for solar energy acceleration



**Budget**  
US\$859,898



**People who benefited**  
Directly: 1,500  
Indirectly: 325,092



**People trained/  
informed**  
250



**Green jobs created**  
1,600 (by 2030)



**Locations**  
Shkodër, Klos,  
Diber, and Permet  
municipalities

## CONTRIBUTION TO NDC

According to the International Renewable Energy Agency (IRENA), the Republic of Albania has one of the **highest shares** of renewable energy in Southeast Europe, with hydropower making up approximately 95 percent of the country’s installed power capacity. In addition to abundant water resources, the country’s ample sunlight, strong wind, and biomass resources also offer great potential in the generation of clean, sustainable energy, with benefits extending beyond reduced GHG emissions to improved energy security and the creation of green jobs and investment. The government has set a 2030 renewable energy target of 42.5 percent under the country’s updated NDC (2021).

Leveraging Japan’s experience and resources, this activity has focused on the pilot installation of solar photovoltaic (PV) systems in municipal buildings, support for addressing market barriers and creating an enabling policy framework, advancement of new financing mechanisms, and targeted capacity-building and awareness-raising.

Indirectly, the project will contribute to achieving the national target of 490 MW solar PV installed capacity by 2030, expected to translate into 1,600 new green jobs by 2030.

## PARTNERSHIP HIGHLIGHT

In collaboration with the Albania-Japan Chamber of Trade and Industry (AJCCI), feasibility studies have been conducted for five businesses interested in purchasing and installing solar PV systems. UNDP Albania and AJCCI are now tailoring a training programme (planned for October 2023) around the benefits of solar PV and related investment impact assessment targeting representatives of relevant ministries, AJCCI members, SMEs, and entrepreneurs.

\*A request by the project for a no-cost extension until end of 2023, has been granted by the donor.

## MAIN ACHIEVEMENTS

Solar PV projects are underway at ten public buildings across the municipalities of Shkodër, Klos, Diber, and Permet. With feasibility studies and technical specifications completed, installation is expected to be concluded by the end of October 2023.

Meanwhile, in collaboration with the National Energy Efficiency Agency, training in renewable energy and energy efficiency in public buildings has been conducted with 250 personnel from the National Agency of Natural Resources, Ministry of Infrastructure and Energy, and the four target municipalities.

To accelerate the solar PV market, a draft financing mechanism report has been developed and governmental decrees following the Law on Renewable Energy Resources are in preparation. These decrees will support the production of clean electricity as well as outline the rights and responsibilities of consumers.

The project’s progress has been shared with the public via UNDP’s digital platforms and multimedia products shared with the Embassy of Japan and the National Energy Efficiency Agency.



# Supporting NDC targets for climate risk resilience



**Budget**  
US\$950,000



**People who benefited**  
Directly: 25,000  
Indirectly: ~505,455



**People trained/  
informed**  
200



**Green jobs created**  
n/a



**Locations**  
Gegharkunik, Tavush,  
and Syunik regions

## CONTRIBUTION TO NDC

In Armenia, climate-related hazards including landslides, mudflows, and floods pose considerable risks to food security, water supply, energy stability, infrastructure, and the overall safety and wellbeing of the population. At the local level, poor rural communities are particularly vulnerable. At the macroeconomic level, losses from diminishing agricultural productivity could exceed 8 percent of Armenian GDP by 2100.

Emphasizing ecosystems-based solutions, Armenia's NDC (2021) and National Adaptation Plan have set out priority adaptation measures in agriculture, human settlements, and infrastructure. With a view to supporting these, and adopting a multi-hazard approach, this activity focused on improving climate information and forecasting for early warning of disasters, reducing loss and damage, and improving evidence-based adaptation planning.

## MAIN ACHIEVEMENTS

A key focus in Armenia has been to strengthen the country's climate information and early warning systems.

To this end, a system for data management has been established – unifying data from weather stations and other sources – as well as a public website and mobile app with weather information, forecasts, and early warnings.

## PARTNERSHIP HIGHLIGHT

A partnership with EUMSTAT – the European agency for monitoring weather, climate, and the environment from space – informed the modernization of Armenia's satellite data and visualization system. Meanwhile, through the Embassy of Japan, the project forged productive partnerships with Japan's International Cooperation Agency (JICA), Japan's Meteorological Agency, and the Japanese company, OYO Corporation, facilitating the exchange of knowledge in relation to mudflow risk modelling, and laying the foundations for future capacity-building.

A new GIS-based 'Natural Hazard Index Portal' hosted by the country's Hydrometeorology and Monitoring Centre includes information on water basins, mudflow channels, and infrastructure, as well as pinpoints the location of dangerous hazards such as landslides and flash floods.

Mudflow risk modelling has been completed and guidelines provided to the country's Crisis Management State Academy. Regional adaptation plans for Gegharkunik and Syunik have been developed and are to be integrated into the GIS risk index platform supporting the availability of data for climate risk-informed planning and monitoring.

With the modernization of 11 weather stations, forecast capacities have increased from 50 percent to approximately 80 percent.

In the town of Chambarak, the clearance of mudflow channels and construction of riverbank protection is now protecting 160 households, community infrastructure, and farmland from mud flows. This intervention has also helped prevent soil carbon loss across 20 ha of land, equating to a saving of 5.6 tonnes of carbon (0.28tC/ha).

Two hundred representatives from government and academic institutions now have greater technical capacity in GIS and remote sensing.



Faced with the annual threat of mudflows, little Ariana's life in Chambarak, Armenia, was transformed when Japan-funded projects cleared mudflow channels and constructed protective walls. © Arzuman Harutyunyan | UNDP Armenia

Little Ariana's life in the town of Chambarak in Gegharkunik, Armenia, is overshadowed by the annual threat of mudflows triggered by intense rainfall and snowmelt. These destructive events not only deprive her of carefree playtime in their garden but also pose a constant danger to her family's home and assets. "When the water levels rise, it becomes incredibly challenging for me to ensure the safety of my family and safeguard our livestock," says Samvel, Ariana's father. The clearing of mudflow channels and construction of protective walls, funded by Japan, have brought much relief to the community. "This has been an immense help to us," Samvel exclaims. "Finally, I can breathe easily, knowing my family and our property are safe from mudflows. I now joyfully watch Ariana play in the garden without fear, and my mother will finally sow the beans she has been longing to grow for years."

“  
*Finally, I can breathe easily, knowing my family and our property are safe in case of heavy mudflows.*





Zergune's struggle to provide warmth and affordable utilities for her family transformed when energy efficiency measures were implemented in her building.  
© Elman Nabiyeu | IAPA

“  
*I can now focus on taking care of my family without the constant worry of inadequate heating.*”

Like any mother, Zergune, 49, strives to provide the best life for her children. Yet each winter she has been presented with the same difficulties – how to keep her family warm and the lights on, given the prohibitive cost of utilities. Their life changed dramatically in March 2022, however, when Zergune's building in Barda was among those selected for energy efficiency measures, funded by Japan, including installation of a centralized heating system, provision of hot water, and solar panels for lighting. With the building's heating system now delivering warmth and comfort, Zergune no longer needs to worry about the expense of electric heaters or the safety hazards of using a wood stove. And with the installation of solar panels, the building's lighting is no longer subject to frequent power outages. Zergune's children say, “With the new heating system, we no longer have to worry about freezing during the winters.”

## Increasing energy efficiency in public and apartment buildings



**Budget**  
US\$885,772



**People who benefited**  
Directly: 3,000  
Indirectly: 400,000



**People trained/  
informed**  
1,800



**Green jobs created**  
23



**Locations**  
Ganja and  
Barda cities

### CONTRIBUTION TO NDC

In 2017, the Republic of Azerbaijan submitted its NDC with a pledge to reduce GHG emissions by 35 percent from 1990 to 2030. At COP26 in 2021, the government announced a target to reduce emissions by 40 percent by 2050. To meet these targets, the country must take rapid action on energy efficiency, particularly in the residential sector, the country's largest energy consumer.

Funding from Japan has supported the government to implement energy efficiency measures in public and apartment buildings in the cities of Ganja and Barda, both located in regions which continue to consume excessive amounts of energy (due to building design as well as the absence of energy-saving consciousness among their inhabitants).

As well as delivering immediate benefits for residents, the energy efficiency measures – including centralized heating systems and solar PV systems – have demonstrated to the wider public the advantages of reducing electricity usage and switching to renewable forms of energy. The measures have also helped build the capacity of local institutions and stakeholders to plan, design, implement, and monitor their own energy efficiency projects, thereby contributing to broader NDC implementation efforts.

### PARTNERSHIP HIGHLIGHT

This successful activity was conducted in partnership with multiple government agencies – including the Ministry of Ecology and Natural Resources, the Ministry of Energy, and the Ministry of Education, as well as the Embassy of Japan and JICA. Other stakeholders, including the executive power of Barda and Ganja cities, as well as the state-owned companies Azerigaz, Azersu, and Azerenergy, also played instrumental roles.

### MAIN ACHIEVEMENTS

Under this activity, the shift to more efficient means of heating and lighting in a selected residential building and a secondary school, along with a switch to solar energy and efforts to change habits – for example, encouraging people to opt for energy-efficient appliances, unplug electronics, and switch to LED lights – have reduced GHG emissions and significantly improved the well-being of vulnerable families.

Centralized heating systems have improved living, studying, and working conditions for 3,000 citizens, and reduced the financial burden on the public purse and families themselves. In previous times, families would allocate approximately 50-100 Azerbaijan Manat (approximately US\$29-58) per month for household expenses – however this has more than halved, to a mere 15-20 AZN.

The integration of 20 solar panels, boasting an impressive capacity of 10 kWt for outdoor lighting, has also played a pivotal role in curtailing energy consumption.

Sixty two low-income families in Barda are now less exposed to high utility bills, with positive life-long flow-on benefits (studies show people who enjoy more favourable living conditions demonstrate superior academic performance and overall life outcomes).

Finally, the upgrade of the residential building and secondary school led have led to the creation of 23 green jobs, including for seven young people and two persons with a disability.



# Supporting Bhutan to reach zero emissions



**Budget**  
US\$1,145,340



**People who benefited**  
Directly: 572  
Indirectly: 1,395



**People trained/  
informed**  
Trained: 262  
Informed: 953



**Green jobs created**  
21



**Locations**  
Thimphu, Zhemgang,  
Tashigang

## CONTRIBUTION TO NDC

In 2017, Bhutan became the first country in the world to become carbon negative. Since then, the government has remained firmly committed to retaining its carbon neutral status.

In recent years however, the country has seen a spike in carbon emissions, with the transport sector accounting for a significant proportion (around one quarter of the country's total emissions, or approximately 398,829 metric tonnes in 2019). Projections indicate that transport, under the business-as-usual scenario, could hit 1.25 million metric tonnes by 2050.

Recognizing the challenges, Bhutan's Second NDC aims to replace 70 percent of vehicles with EVs by 2035. To get there, Bhutan has been focusing on putting in place enabling policies; increasing consumer awareness and demonstration of feasibility; and building the capacity of technicians.

As well as reducing emissions, the transition to EVs will help reduce dependency and spending on imported fossil fuels. The 19 EVs delivered with funding from Japan are projected to save US\$11,500 per annum; in 15 years, the estimated life of an EV, the 19 vehicles will mitigate 538.65 metric tonnes of carbon.

## PARTNERSHIP HIGHLIGHT

Partnership with Japan brought significant value to this activity. Nissan Motor Corporation delivered high-quality and reliable EVs; JICA provided training; and a Japanese EV master trainer also provided expertise. Close communication with the Embassy of Japan and the support of a Japanese UN Volunteer ensured smooth implementation. Meanwhile, partnerships with domestic stakeholders in the transport sector, including Bhutan Power Corporation and taxi associations, and secondary schools, supported capacity-building and awareness-raising.

## MAIN ACHIEVEMENTS

With funding from Japan, 19 Nissan Leafs have been distributed to 11 government agencies, including His Majesty's Secretariat. As well as putting these EVs on the road, the activity has been instrumental in advancing implementation of Bhutan's EV Road Map 2021-2035 which aims to support zero-emission mobility by 2050.

With a view to increasing the pool of people skilled in servicing EVs, 50 engineers and technicians from Bhutan Power Cooperation, including four women, have been trained in the operations and maintenance of EV chargers. Twenty drivers and officials have completed a course on Nissan Leafs, including providing roadside assistance, while 141 taxi drivers have completed an induction course on MG ZS, MG5, NETA V and BYD (all types of EVs).

The construction of charging sheds has been contracted to the De-suung Skilling Programme, a government-led initiative providing training for unemployed Bhutanese youth. Twenty "De-suups", including four women, were involved in construction activities, with the number to increase. These young Bhutanese have been able to apply their new skills, further increasing their employability.

A study tour to India was conducted in June 2023 with government officials and members of the EV technical working group from six different agencies.

The installation of eight more charging stations is helping alleviate concerns around insufficient infrastructure.



Alongside taxi drivers, government drivers like Yevraj Dhal are proving to be the country's emerging champions of EV. © Priya Rai | UNDP Bhutan

Yevraj Dhal, 34, has been driving for Bhutan's Department of Energy for the last 12 years. Each day he witnesses how Thimphu's roads are getting clogged with more and more cars, resulting in greater congestion, air pollution, and carbon emissions. At the same time, he has also observed changes to his home city's climate. "Thimphu has warmed up a lot over the years. Rainfall and snowfall patterns have changed drastically. It's a lot harder to predict weather now," he says. This year, for the first time, Yevraj is driving an EV for work, and he is more than happy with the switch. "It's much easier and more comfortable to drive an EV," Dhal says, explaining that EVs require minimal maintenance and offer a swift, smooth, and comfortable ride with no jerks and noise. What excites him even more, though, is the fact EVs run on clean energy.

“  
*It's much easier and more comfortable to drive an EV.*”





Business owners such as Nihad Alikadić see many advantages in decarbonizing their operations.  
© Anes Turković | UNDP Bosnia and Herzegovina

“*The consumption of electricity in a year will be drastically lower compared to when we used old machines.*”

In 1994, mechanical engineer Nihad Alikadić established a family-run metal processing company, Niho Motors. Based in Konjic, it is a successful business that Nihad has worked hard to build, and which now employs a dozen people.

Nihad knows decarbonization is inevitable to minimize the carbon tariffs now being levied on goods imported into the EU. But it is not the only reason he is looking to reduce emissions. With foreign customers interested in the green credentials of their suppliers, he knows reducing their carbon footprint will only make them more competitive.

With funding from Japan, Niho Motors was supported to update their machinery. “We received a very modern machine that will certainly improve the quality of our products,” Nihad says. “Our annual consumption of electricity will be drastically lower compared to the past. Before we had to use two or three machines to make our products, now we only use one.”

## Supporting a just transition to a zero-carbon future



**Budget**  
US\$1,870,076



**People who benefited**  
Directly: 129,860  
Indirectly: 358,920



**People trained/  
informed**  
307,891



**Green jobs created**  
390



**Locations**  
National

### CONTRIBUTION TO NDC

Although Bosnia and Herzegovina nurtures agriculture and strives to preserve the natural environment, the country’s economy relies heavily on industrial production powered by fossil fuels. This is driving high GHG emissions as well as heavy air pollution throughout the country.

The government sees the benefits in transitioning to a low-carbon economy, not least in stimulating economic growth and creating green jobs, and the country’s revised NDC (2021), commits to cutting emissions for 33.2 percent by 2030, and almost 66 percent by 2050 compared to 1990 levels, with the energy sector and carbon-intensive industries at the heart of the transition. In late 2022, the government, alongside other Western Balkan countries, signed the Sofia Declaration on the Green Agenda, aligning the region with the EU’s 2050 ambition to make Europe a carbon-neutral continent.

With funding from Japan, Bosnia and Herzegovina are moving to fulfil their climate pledge, beginning to lay the strategic basis for a just transition with no-one left behind and providing support for small and medium-sized enterprises (SME) to take up renewable energy.

### PARTNERSHIP HIGHLIGHT

To learn from Japanese best practice, 40 participants participated in Kaizen training and virtually visited Japanese entertainment company, Avex, exploring methods to optimize operations while delivering maximum value to clients. In March 2023, representatives from SMEs, chambers of commerce, government ministries, and public electricity companies took part in a study tour which included visiting Serbian and Croatian companies, including TOYO Tire and JBAS Serbia.

### MAIN ACHIEVEMENTS

In cooperation with the Ministry of Foreign Trade and Economic Relations, a national blueprint “Just Transition for All,” has been created, as well as just transition strategies for the power, steel, and cement industries.

Support has been provided for decarbonization initiatives in carbon-intensive industries, with 20 SMEs selected as beneficiaries. Energy audits and technical documentation have been provided to selected businesses, while 19 SMEs have been provided with co-finance to implement their projects. Alongside the \$1 million contribution from Japan, \$3.38 million was leveraged from the SMEs themselves.

As well as enabling the creation of 390 new jobs, investment in the SMEs helped secure 1,734 existing jobs. Collectively, the SMEs’ projects represent an annual reduction of 3,920.3 t CO<sub>2</sub>, or 43,648.1 tCO<sub>2</sub> over the investments’ lifetimes, equivalent to the average annual emissions of 2,537 cars.

To increase public awareness of the benefits of a green transition, ten sessions were held in five cities, with more than 240 people attending. A three-day training for 50 coal miners in Banovići explained the opportunities of decarbonization as well as principles in the construction and operations and maintenance of solar power plants, domestic hot water systems, biomass boilers, and heat pumps. It was the first “green training” for coal mine workers in the country.



# Promoting Small-Scale Innovative Photovoltaic Systems in Egypt



## Budget

US\$1,103,288



## PV systems installed

300kW



## People trained/ informed

457



## Green jobs created

40+



## Locations

Giza, Qualiobia, Beni Seuf, and Sharm El Sheikh

## CONTRIBUTION TO NDC

Consistent with Egypt's various sustainable development and climate and energy policies – including its 2030 Vision 2030, 2050 Long Term Low Emission Development Strategy, the National Climate Change Strategy 2050, and the SDGs – Egypt's NDC sets a range of ambitious targets, among them to reduce emissions by 37 percent in the electricity sector by 2030 (compared to business-as-usual) and to generate 42 percent of its electricity from renewable resources by 2030.

The government has already begun to establish a framework for accelerating renewable electricity generation, including the implementation of small-scale decentralized PV systems. However, there is still more work to be done. With funding from Japan, solar panels have been installed for demonstration purposes on public buildings including Sharm Airport, Sharm El Sheikh Museum, and education institutions, as well as high-rise residential buildings.

With the support of Japan and UNDP, and with the pilot installations serving as demonstration, more solar plants will be installed, establishing solar energy as a viable alternative source. More households and businesses will also be encouraged to adopt solar power.

Notably, this activity has resulted in savings of 2,768 tonnes/year of carbon emissions.

## PARTNERSHIP HIGHLIGHT

In coordinating the pilot installation of solar PV as well as training, UNDP worked closely with the Embassy of Japan, Industrial Modernization Center, Ministry of Civil Aviation, King Salman University, the Grand Egyptian Museum Administration, Ministry of Local Development, Ministry of Housing and New Communities, and Ministry of Education, each proving an enthusiastic partner.

\*A request by the project for a no-cost extension until September 2023 has been granted by the donor.

## MAIN ACHIEVEMENTS

With funding from Japan, solar PV systems (300 kW in total capacity) have been installed at Sharm El-Sheikh Airport and five public schools in the same city, with implementation at other rural and urban locations ongoing.

Efforts have been underway to raise awareness among real estate developers and solar PV companies, consumers, students, and government. More than 450 people have taken part in knowledge exchanges, workshops, and awareness campaigns.

The installation of the solar car shed at Sharm El-Sheikh Airport is not just generating clean electricity for the airport. It has inspired private sector interest and investment leading to the installation of solar PV systems in at least 15 hotels.

Solar energy, once perceived as a distant and unrealistic solution, is now making a tangible impact in Egypt. This transformation has also been accompanied by a notable shift in consumer behaviour, with an increasing number of Egyptian consumers willing to pay a higher price for environmentally sustainable electricity, thereby driving the demand for green power.



Abdel Rahman El Anwar is proud to be leading the way in installing solar panels on his hotel.  
© UNDP Egypt

Located by the Red Sea on the tip of the Sinai Peninsula, Sharm El Sheikh has become an international tourist destination in recent years on account of its natural and cultural beauty and its year-round dry climate. The city's abundant sunshine is attractive to visitors, but it also makes it an ideal location for harnessing solar energy. With this, hotels have received government incentives, such as tax exemptions for investments, encouraging them to increase their business' share of renewable energy.

Abdel Rahman El Anwar is proud that his hotel, Sharm Bride Hotel, already houses four solar power plants, with plans to reach a capacity of 1MW, accounting for 30 percent of the hotel's total electricity consumption. He emphasizes the role of demonstration projects such as that at Sharm El-Sheikh Airport, saying, "The installation of a solar car shed at the airport has inspired hotel owners to expand their use of solar energy."

“  
*The installation of a solar car shed at the airport has inspired hotel owners...*





High school students Luka and Giorgi share a love for nature and are keen to promote sustainable practices in their schoolyard and community.  
© Giorgi Shengelia | UNDP Georgia

“*Children have the right to live in a clean environment.*”

Luka and Giorgi are high school students from Mtskheta and members of the eco-club, “Chlorophyll”. They share a love for nature and work hard to make their schoolyard and community greener. In 2022, the friends engaged in a campaign for youth initiated by UNDP and Japan on the importance of protecting fragile forest ecosystems. They were excited about a manga-style animation, “Forest My Friend”, which tells the story of a world where humans and trees make peace and go on adventures together. Thrilled to hear about a contest for a sequel, they spent weeks brainstorming ideas. Together with friends from the eco-club – Mariam, Ketii, Lizi, and Mariam – they worked tirelessly on a script, carefully refining the dialogue and characters. They even drew sketches. To their delight, they were declared among the three winners of the contest and some of their ideas will be brought to life on screen in 2023.

# Scaling-up sustainable and climate-friendly forest management



**Budget**  
US\$926,659



**People who benefited**  
Directly: 43,359  
Indirectly: 63,300



**People trained/informed**  
5,500



**Green jobs created**  
15 (once all three Business Service Yards are fully operational)



**Locations**  
Mtskheta-Mtianeti and Kartly regions

## CONTRIBUTION TO NDC

Georgia’s forests, which contain globally significant biodiversity, suffer from both forest degradation and illegal logging. The main drivers are climate change and so-called “social cut” practices, in which local communities cut trees for firewood for cooking and heating.

Recognizing the role of forest ecosystems in combating climate change, and their importance in the economy and local livelihoods, the country’s updated NDC contains an unconditional commitment to expanding sustainable forest management practices and to increasing forest carbon capture capacity by 10 percent by 2030 from 2015 levels. The government’s Climate Change Strategy 2030 and Action Plan 2021-2023 mirror these priorities.

With funding from Japan, Georgia has been advancing the transition to sustainable and climate-friendly forest management practices – introducing the concept of “Business Service Yards” to supply sustainably harvested timber to local communities – and has moved to reduce pressure on forests for fuelwood by distributing energy-efficient stoves.

## MAIN ACHIEVEMENTS

Under the project, a fully functioning Business Service Yard has been constructed in Jighaura village. Three Business Service Yards – in the villages of Dzegvi, Jighaura and Kvemo Lisi – have been equipped with trucks, all-terrain vehicles (quadricycles), fire-fighting equipment, and electricity generators. The National Forestry Agency plans to install solar panels in the yards in the future.

More than 60 Business Service Yard foresters and staff have been trained in sustainable forest management and firefighting, while sixty socially vulnerable families have received energy-efficient stoves, translating into savings on heating and cooking, improved health conditions, and reduced demand for firewood.

An information campaign on the importance of protecting fragile forest ecosystems, titled “Forest My Friend”, has reached around 5,500 young people from all over Georgia. Among its highlights, a powerful animation in the style of Japanese manga, created in partnership with the National Forestry Agency.

Once all the Business Service Yards are fully operational 120 square kilometres (12,000 hectares) of forest in Mtskheta-Mtianeti and Kartly will be sustainably managed.

## PARTNERSHIP HIGHLIGHT

Through a partnership with Japanese company Asia Air Survey, forged through JICA’s Resident Representative, two Japanese experts were contracted to share knowledge on sustainable forest management, to review Georgia’s forest sector reform, and to assess Mtskheta municipality’s eco-tourism potential.

Partnerships with the Ministry of Environment Protection and Agriculture, National Forestry Agency, and Environmental Information and Education Centre supported the construction and equipping of the Business Service Yards



# Leveraging NDCs to achieve net-zero emissions and climate-resilient development



## Budget

US\$5,133,541



## People who benefited

Directly: 683,125  
Indirectly: 2,965,625



## People trained in green livelihoods

1,041 (including 290 women)



## People trained in entrepreneurship

832 (all women)



## Locations

12 states\*

## CONTRIBUTION TO NDC

As a fast-growing emerging economy, India faces the challenge of reining in GHG emissions while rapidly building adaptive capacity and advancing inclusive sustainable development.

Recognizing both the urgency and benefits of climate action, the country is leading the charge with ambitious mitigation and adaptation targets. These include installing 500GW non-fossil energy capacity by 2030; meeting 50 percent of energy requirements from renewable energy by 2030; reducing projected carbon emissions by one billion tonnes by 2030; reducing economy-wide emissions intensity of its GDP by 45 percent by 2030 from 2005 levels; and, ultimately, achieving net-zero emissions by 2070.

With a focus on strategic interventions in key sectors across 12 states – including the introduction of innovative low-carbon technologies and measures for building adaptive capacity of vulnerable communities – this activity has supported the Government of India's efforts to accelerate climate action while also progressing a post-COVID green recovery.

## PARTNERSHIP HIGHLIGHT

To develop climate information systems for remote communities in Uttarakhand and Sikkim, the project collaborated with the India Meteorological Department, state disaster management authorities, and agromet departments. Coordination with JICA was key to the initiative to establish EV charging stations near metro stations. The signing of an MoU with the Japan Chamber of Commerce and Industry in India (JCCI) will accelerate private sector partnerships.

## MAIN ACHIEVEMENTS

The funding from Japan has yielded impressive results. Among them, the solarization of 61 primary health centres, directly benefiting 550,000 community members; the installation of 19 solar-powered cold storage units, directly benefitting 950 small producers; and the installation of 48 electric vehicle (EV) chargers in three cities, directly benefitting more than 40,800 people.

Energy audits have been conducted in 95 micro, small, and medium enterprises (MSME), with recommendations to facilitate emissions reductions of 49,200MWh annually. Meanwhile, feasibility studies in vulnerable locations have identified the potential for low-carbon technologies in health, agriculture, transport, and MSME.

Climate-Resilient City Action Plans have been prepared for Srinagar and Jammu. In the high-risk geographies of Uttarakhand and Sikkim, studies have mapped climate-related vulnerabilities and identified gaps in the flow of climate information at the Gram Panchayat (village council) level. Eighteen automatic weather stations have been deployed to strengthen the weather observation network and forecasting.

In support of a “Just Transition”, a skill-gap assessment covering four coal mining districts has been completed. Around 1,873 people took part in green livelihoods and entrepreneurship training.

The ‘Data in Climate Resilient Agriculture’ (DiCRA) platform has been expanded to three additional states – Uttarakhand, Jharkhand, and Odisha – putting vital data and analytics into the hands of farmers.



Solar-powered cold storage units have helped small-scale producers like Shehzadi Begum, Neelam Sharma and Chanda Devi to keep their produce fresh – thereby increasing their bargaining power.  
© Deepak Malik | UNDP India

Bihar litchis are known the world over. Marginal producers such as Shehzadi Begum, Neelam Sharma and Chanda Devi want to capitalize on this growing market but are grappling with a host of challenges stemming from rising temperatures and unpredictable rains. “Litchi is a kind of fruit which, if not stored in proper condition, needs to be sold within a day or two,” says Shehzadi. Chanda adds, “In the past when we went to the market, we had to sell our litchis at the price that buyers wanted. The reason being, if we did not sell them, we couldn’t store them and they dried up.” Neelam says that with new solar-powered cold storage systems, they can now keep their produce fresh, and their bargaining power has been restored: “Now we don’t have to worry about the market price. We can sell our produce when we get a better price.”

“*With solar-powered cold storage, we’ve got our bargaining power back.*”

\* Uttar Pradesh, Uttarakhand, Jammu & Kashmir, Bihar, Sikkim, Delhi, Nagaland, Gujarat, Jharkhand, Maharashtra, Madhya Pradesh, and Odisha





Dhian Widayani and Rifka Nur Anisah collect sediments in mangrove soil in a forest conservation area as part of a course in how to measure carbon stock. © Bella Anamika Widyoko | UNDP Indonesia

“*This training has helped me understand the important role of coastline ecosystems in achieving our NDC climate commitments.*”

Around the world, coastal ecosystems have been rapidly gaining attention for their capacity to capture and store carbon. In Indonesia, the potential is immense – the country’s 3.1 million hectares of mangroves and 1.8 million hectares of seagrass account for an estimated 30 percent of the world’s “blue carbon”.

Following the issuance of a Presidential Regulation in 2021, Indonesia has begun setting the regulatory landscape for carbon trading in the sector. Experts are needed, especially those skilled in the measurement, reporting, and verification of blue carbon.

Junior analysts Dhian Widayani and Rifka Nur Anisah are among 90 scientists and officials working for the Regional Offices of Marine and Fishery who have completed a field course, supported by funding from Japan, in how to measure carbon stock. Dhian welcomed the training, saying, “This training has helped me understand the important role of coastline ecosystems in achieving our NDC climate commitments.”

# Accelerating towards robust carbon pricing



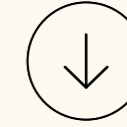
**Budget**  
US\$2,101,699



**People who benefited**  
Directly: 60,170



**People trained/ informed**  
6,017 (43% female)



**Tonnes of carbon emissions avoided/ reduced**  
~31 million\*



**Locations**  
National (Jakarta) and provincial levels (Bengkulu Province, South Kalimantan, Riau Islands, East Nusa Tenggara)

## CONTRIBUTION TO NDC

In 2022, the enhanced NDC of the world’s fourth most populous nation unconditionally pledged to reduce emissions from 2020-2030 by 31.89 percent, or up to 43.20 percent with international support (against business-as-usual). The government has unconditionally committed to cutting emissions by 358 Mtonne CO<sub>2</sub>e by 2030 under the energy sector.

Implementation of a national carbon pricing instrument is expected to help drive down emissions and fill in the gap in finance needed for transition to a net-zero, climate-resilient future.

To this end, with funding from Japan, this activity has focused on five activities: development of GHG emissions cap guidelines for the coal-fired power and cement sub-sectors; formulation of offset and trading mechanisms focusing on the energy, industry, and ocean-based sectors; strengthening the national registry system addressing NDC and carbon pricing implementation; upgrading of MRV readiness for forestry; and assessment of International Transfer Mitigation Outcomes (ITMOs).

In the first year of implementation of the emission trading system (ETS) at coal-fired powerplants, the project will contribute to the potential reduction of estimated 31 million tons CO<sub>2</sub>e. The emissions reductions associated with implementation of the ETS until 2030 are estimated to be 217 Mtonnes CO<sub>2</sub>e, equal to 61 percent of total emissions from electricity power production.

## PARTNERSHIP HIGHLIGHT

Pioneering blue carbon research, and with the government preparing to launch an ETS in 2023, Japan made a natural partner for this activity, their experience a welcome addition at all stages including at a COP27 side event. A partnership with Indonesia’s Joint Crediting Mechanism (JCM) Secretariat – established to help manage the implementation of carbon credits between Indonesia and Japan – similarly proved key. Leadership of the national government was also crucial.

\*Potential emissions reduction within the first year of implementation of the ETS at coal-fired power plants.

## MAIN ACHIEVEMENTS

Since March 2022, the activity has registered several significant achievements, in particular stemming from support for the passing of a ministerial regulation on the implementation of carbon trading in the power sector (MEMR Reg 16/2022), along with its derivative rule (Roadmap of Carbon Trading in the Energy Sector).

Following the issuance of this regulation, the first country’s first mandatory ETS for coal powerplants was launched in February 2023, putting an upper limit on carbon emissions for each plant. If a powerplant exceeds the quota, they need to buy an allowance or buy an offset certificate credit.

To date, the project has supported the certification of 20 government staff as emissions reduction verifiers; 4,700 stakeholders have been involved in policy-related events/ dialogues; and 964 government officials have an increased understanding of blue carbon – including measuring, sampling and reporting techniques – having participated in a national workshop, collectively helping to build the country’s readiness to leverage carbon markets.

Roadmaps of carbon trading for the energy and forestry sectors have been developed as well as an emissions profile of blue carbon in Indonesia.



# Promoting climate-smart agro-technologies



**Budget**  
US\$974,408



**People who benefited**  
Directly: ~1,000  
Indirectly: 1.6 million+



**People trained**  
550



**Green jobs created**  
10



**Locations**  
Eastern Kazakhstan,  
Aktobe, Almaty, Jetysu  
and North Kazakhstan  
regions

## CONTRIBUTION TO NDC

One of the largest landlocked countries in the world, Kazakhstan faces a range of threats driven by climate change, including rising temperatures and shifting rainfall patterns, melting glaciers, and greater risk of climate-related disasters such as floods, mudflows, and landslides.

There is an urgent need for Kazakhstan to prioritize climate change adaptation and build resilience to safeguard its people and ecosystems.

The government is taking action and in 2023, submitted an updated NDC to the UNFCCC including a new component on adaptation; a target to reduce GHG emissions by 25 percent by the end of 2030 (relative to 1990); and a plan to raise public awareness about climate change and to increase the involvement of the public, particularly youth, in climate policy. The country is developing a strategy to achieve carbon neutrality by 2060.

Meanwhile, a chapter on climate change adaptation in the Environmental Code (2021) set a seven-step process for adaptation at national and sub-national levels and defined four priority areas for attention: agriculture, water management, forestry, and civil protection/disaster risk reduction.

With funding from Japan, this activity has supported the localized introduction of new, scalable climate-smart agriculture technologies and improving existing hydrometeorological and drought forecasting systems.

## PARTNERSHIP HIGHLIGHT

The Embassy of Japan and JICA were closely involved in this activity including joining the Steering Committee and attending field visits. In February-March, representatives from KazHydromet, the Ministries of Emergency and Ecology, and academia, took part in a study tour to Japan to enhance understanding of meteorology and related sciences, as well as to explore potential collaboration with Japanese companies, universities, and government agencies.

## MAIN ACHIEVEMENTS

As well as supporting the introduction of new, scalable climate-smart agriculture technologies – including renewable energy, digitization of water use, and drip irrigation systems – and providing training to farmers and government personnel, the project has focused on improving existing hydrometeorological and drought forecasting systems, crucial to adaptation in the agricultural sector and the country’s food security.

The new climate-smart technologies, which can be deployed on small and medium farms, are supporting farmers who are simultaneously struggling with the impacts of climate change and the economic recovery from COVID-19.

Improved meteorological monitoring will increase drought resilience and facilitate access to up-to-date hydrometeorological information for farmers and communities.

The introduction of water-saving technologies as well as the transition to drought-resistant crops will support more efficient water management into the future.

In total, the activity has benefitted about 1,000 farmers and farm workers, and indirectly benefitted more than 1.6 million people.

Around 400 farmers in all regions have completed training promoting the importance of alternative energy sources in combating climate change. Hundreds of pieces of promotional material have been published in the media and through social networks, with informational videos produced in three languages (English, Kazakh, Russian).



Agronomist Pavel Kovunov is keen to see Kazakhstan’s farmers capitalize on renewable forms of energy and other green technologies.  
© UNDP Kazakhstan

Pavel Kovunov is an agronomist in “Farmers of Chilik” a cooperative of 22 farmers in his village. Among its activities, the cooperative aims to demonstrate the benefits of “green technologies” to farmers, for example biogas, solar PV systems, and water installations such as drip irrigation.

With funding from Japan, a solar PV system and inverters for pumps were installed in one of the cooperative’s pepper growing greenhouses. The system helps support favourable temperatures in cool seasons and to heat water and regulate humidity year-round. “Our goal is to help farmers by introducing new technologies that will help them adapt to climate change and make their businesses profitable,” says Pavel. “Farmers depend on the climate and such installations will help them to avoid big losses, thereby helping them to remain a sustainable business.”

“*Farmers depend on the climate and such installations [of solar energy in greenhouses] will help them to avoid big losses.*”





“*This source of income [the sale of nursery seedlings], has enabled me to pay school fees.*”

Zechariah Kiplagat lives in Kaptagat in Kenya’s Rift-Valley. Despite having one of his legs amputated 37 years ago (due to contracting polio as a child), he has been a farmer for 12 years, planting maize and potatoes. His farm relies on rainfall and irrigation from local rivers, but he is witnessing the rivers running dry year on year, severely threatening his farm and livelihood. To diversify his income, Zachary established two tree nurseries. With funding from Japan, UNDP purchased seedlings from his nursery to restore degraded sections of Kaptagat Forest and provided training in other livelihood opportunities and entrepreneurship. “The project has helped me by purchasing seedlings from my nursery,” says Zechariah. “This source of income has enabled me to pay school fees for my three children.”

# Restoring forests and landscapes for people and for the planet



**Budget**  
US\$2,680,898



**People who benefited**  
Directly: 1,400  
Indirectly: 2,0240,092



**People informed**  
~3,000,000



**Green jobs created**  
2,292



**Locations**  
Kaptagat Forest, Kakamega Forest, and Magadi–Suswa ecosystem

## CONTRIBUTION TO NDC

In Kenya, one of the major drivers of carbon emissions is deforestation and land degradation. Accordingly, the government is focused on the forest sector with the goal of converting the country from being a net emitter into a net sink.

In fact, nature-based solutions are at the heart of the country’s updated NDC (2020) both in relation to mitigation and adaptation. This includes the ambition to reduce emissions by 32 percent against the business-as-usual (BAU) scenario, covering five sectors including forestry and land-use.

Co-created by the Ministry of Environment and Forestry and UNDP, this activity sought to break down the systemic barriers that hinder sustainable tree growing in three key threatened ecosystems: Kaptagat Forest, Kakamega Forest, and Magadi–Suswa ecosystem. A four-prong strategy was adopted, including investing in strengthened forest governance; enhanced production of certified, quality seedlings; piloting and scaling-up technologies for tree growing; and mobilizing the public to grow trees and conserve the forests.

350 hectares of forest have been rehabilitated, while twenty seedling nurseries have been established within learning institutions. The activity has brought wide-ranging benefits for livelihoods and life on land, advancing a green recovery while building resilience to climate change.

## PARTNERSHIP HIGHLIGHT

A partnership between the Ewaso Ngiro South River Basin Development Authority (ENSDA), and Japanese NGO, CORE supported the implementation of “Do-nou” technology to reinforce embankments around the farm ponds. CORE engineers trained hired community members to fill and lay around 18,000 “Do-nou” bags. Other partners that made this project a success in Kenya include Rhino Ark, Kenya Forest Service, Kenya Wildlife Service, NETFUND, County Government of Kakamega and County Government of Vihiga.

## MAIN ACHIEVEMENTS

Rapid results have been recorded under this activity. Notable results include the fencing of 15km of Kakamega forest, an equatorial forest and a national biodiversity hotspot, one threatened by settler encroachment and unsustainable harvesting of timber.

Meanwhile, the project has supported the signing of a long-term agreement, with partners such as Rhino Ark, Kenya Forest Service, Kenya Wildlife Service, NETFUND, County Government of Kakamega and County Government of Vihiga, to protect and conserve Kakamega forest.

A global workshop hosted by UNDP Kenya brought together government officials from 20 countries to exchange experience in the implementation of their own JSB-funded activities. From this meeting, Kenya is keen to pursue lessons from India’s use of solar-powered cold storage.

In Suswa, the erosion zone for the Magadi ecosystem, integrated water and soil conservation measures are helping address severe land degradation, a trend driven by unsustainable land management practices, including poor cultivation practices. The project has completed the construction of five farm ponds to store rainwater (collectively the ponds will store 15,000 cubic metres of water), gabion walls to prevent erosion, and built 50km of bench terraces, known as “fanya juu” terraces to help conserve soil and water.



# Growth through green and just recovery from COVID-19



**Budget**  
US\$704,052



**People who benefited**  
Directly: 139,986  
Indirectly: ~1.78 million



**People trained/  
informed**  
Trained: 1,240  
Informed: ~500,000



**Green jobs created**  
183



**Locations**  
Nationwide

## CONTRIBUTION TO NDC

Kosovo faces environmental degradation and risks associated with rising temperatures and more frequent and extreme weather events, including floods and drought. The combined impacts of the climate crisis and COVID-19 have exacerbated existing vulnerabilities, especially among marginalized groups.

In this context, despite not being party to the UNFCCC and Paris Agreement, Kosovo has taken significant steps towards addressing climate change and promoting sustainable development. In 2021, the government initiated discussions to establish voluntary NDCs and approved the Energy Strategy 2022-2031, launching its first renewable energy auction. In 2022, the Kosovo Climate Change Council was established. In 2023, ambitious Renewable Energy and Energy Efficiency targets were approved, paving the way for a greener future aligned with international climate goals. Drafting of a Climate Change Law and National Energy and Climate Plan are underway.

UNDP Kosovo has adopted an integrated approach to reducing vulnerability, enhancing resilience, and implementing green policies.

Collaborating closely with the public sector, private sector academia and civil society this activity has focused on enhancing policies in the areas of environment, climate change, energy efficiency, and biodiversity, while also seeking to mobilize citizen engagement in climate change and biodiversity initiatives, and to kick-start private sector engagement.

## PARTNERSHIP HIGHLIGHT

This activity has placed great emphasis on partnerships for greater impact, including with the Japan Mission in Kosovo, Japanese companies, and civil society organizations. As part of the Boost Impact Accelerator for Businesses, 50 SME in Kosovo took inspiration from Japanese companies – including Toyota Adria, Mitsubishi Corporation, Biomass Company, and CSO Parson, each of which shared their experience via ‘Tokyo Talks’ events – to enhance their green solutions.

## MAIN ACHIEVEMENTS

With funding from Japan, UNDP supported establishment of the Kosovo Climate Change Council (KCCC) in 2022, facilitating the drafting of the Kosovo Climate Agenda, its coordination mechanism, and a draft Climate Change Law.

Policy briefs were developed with the goal of informing decision-making on sustainable agriculture, circular economy, energy poverty, and climate change and gender. A Circular Economy Roadmap was produced with the Ministry of Environment, and guidance provided through workshops.

During the energy crisis, UNDP was part of the working group of the Ministry of Economy to design energy efficiency policies and measures, benefiting more than 9,000 households (equivalent to more than 36,000 individuals), by supporting the purchase of energy-efficient appliances.

Awareness campaigns, including one on energy efficiency, have reached more than 630 primary school students and teachers.

An outstanding achievement has been implementation of the ‘Boost x Kosovo’ acceleration programme, through which 32 companies and 130 employees received grants and implemented green solutions – from tackling waste management in food production to increasing energy efficiency to greener manufacturing – leading to increased productivity and job opportunities, particularly for women and vulnerable groups (among them mature unemployed people, as well as young people having difficulty finding a job).

A partnership with the European Bank for Reconstruction and Development (EBRD) and Raiffeisen Bank Kosovo leveraged a further €165,000 in investment.



With support from the BOOST x Kosovo programme, Havushe has invested in solar panels, a solar inverter, an herb extraction machine, branding and marketing, and additional bio certificates for her business.  
© Rina Abazi | UNDP Kosovo

Havushe Bunjaku, the owner of ‘99lule’, specializes in cultivating organic medicinal and aromatic plants. Since 2009, she has promoted organic teas and the benefits of organic products. 99lule is now a certified organic enterprise, ensuring environmental protection and consumer trust.

With the assistance of the BOOST x Kosovo programme funded by Japan, Havushe and her daughter Erblina have invested in solar panels, a solar inverter, an herb extraction machine, branding and marketing, and additional bio certificates. This has enabled 99lule to power 50 percent of its operations with solar energy, reducing their costs and carbon footprint. Additionally, 99lule has generated job opportunities for women in rural areas, with more than 50 women farmers employed in production.

Support from BOOST x Kosovo has enabled them to expand their production capacity and product line, including Erblina’s innovation, ‘Greenergy,’ which utilizes production waste to create affordable and sustainable spices.

“  
*Half our daily operations are now powered by solar energy, and our energy bills have gone down ever since.*”





Approximately 90 percent of Malawi's population use firewood and charcoal for energy and cooking, with adverse consequences for their health, the environment, and the climate. © UNDP Malawi

“  
The new [energy-efficient] stove requires less time to prepare, and less money to run.”

Edna Chimbalanga, 29, used to spend long hours hiking the mountains near her village, Chilunga, in search of firewood for cooking and other household needs. Over the years, she has had to travel even further in search of firewood, risking her safety and leaving her with almost no time to spend with her family.

Edna's family is one of 2,000 in Zomba district who received energy-efficient stoves funded by Japan. The stove has brought many benefits. “The new stove requires less time to prepare, and less money to run. We can now cook entire meals with just three sticks of wood,” says Edna. “There isn't a lot of smoke, unlike the open fires we had been using, and we don't experience the kind of coughs we used to. It also makes me happy knowing that my family is helping save our trees by using this type of stove,” she says.

## Scaling up NDC actions for climate change mitigation and adaptation



### Budget

US\$3,827,726



### People who benefited

Directly: 17,500 households  
Indirectly: 62,500



### People trained/ informed

Trained: 970  
Informed: 25,000



### Green jobs created

110



### Locations

Dowa, Ntchisi,  
Nkhotakota, Kasungu,  
Machinga, Zomba districts

### CONTRIBUTION TO NDC

Prone to a range of climate hazards, including both drought and floods, Malawi has a comprehensive policy framework for climate change management. The country's revised NDC (2021) sets an ambitious economy-wide target of cutting emissions 51 percent by 2040 – an important contribution to global efforts but also a key target in driving the country's transition to a zero-carbon economy. Alongside mitigation and adaptation measures, the NDC contains a detailed implementation plan with estimated funding requirements.

By providing households with sustainable energy alternatives – ones which reduce reliance on biomass, kerosene, and charcoal – and by rehabilitating and improving the management of degraded ecosystems, this activity contributed to mitigation outcomes in the energy, agriculture and land use sectors while building community resilience.

A significant contribution has been made to the overall funding required to implement the NDC priority measures of installing off-grid small-scale solar PV systems (34 percent of the \$4 million cited in the NDC) and efficient charcoal production (39.6 percent of the \$1.2 million cited in the NDC).

### MAIN ACHIEVEMENTS

On the shore of Lake Malawi, in Nkhotakota district, the project is helping restore the river ecosystem by planting more than 30,000 tree seedlings, promoting sustainable bamboo lots, and implementing measures to improve soil conservation and land management.

### PARTNERSHIP HIGHLIGHT

The project's activities have been delivered with a range of partners including government (foremost, the Ministry of Forestry and Natural Resources and Ministry of Energy), community leaders, NGOs (including Community Energy Malawi) and the private sector (including local company, 265 Energy). Also involved were several Japanese partners including the Japanese Embassy and JICA which supported the installation of solar irrigation systems and new approaches to agricultural production.

Meanwhile, more than 11,000 rural households have received improved cookstoves and 1,750 in urban areas have received Liquid Petroleum Gas (LPG) sets including a gas cylinder and burning plate, reducing reliance on charcoal and fuelwood.

The installation of solar PV systems in 2,000 homes has brought many benefits, not just lighting but increased learning time for school children and phone charging services.

Training for communities in climate-resilient livelihoods, such as beekeeping and bamboo planting and the sowing of climate-resilient crops, is helping to diversify household income. Not only are the bees providing income for vulnerable households, they are also helping regenerate plants and crops in the area.

In total, more than 200,000 seedlings have been planted over 70 hectares to increase forest cover, 100,000 seedlings planted to promote agroforestry for farmers, and 75,000 giant bamboo seedlings planted, helping to reduce illegal charcoal production in protected forests.

Biogas systems installed at Zomba Central Hospital and Mukuyu Prison are resulting in significant savings on emissions and running costs. The total carbon equivalent offset by the biogas systems is around 126 tonnes per year (equivalent to the annual emissions of 27 typical passenger vehicles).

Three hundred farming households will benefit from the construction of three solar-powered irrigation systems.



# Driving change with renewable energy



## Budget

US\$1,159,084



## People who benefited

Directly: ~221,830  
Indirectly: ~515,000 the population of the Maldives



## People trained/ informed

4



## Green jobs created

52



## Locations

Greater Maale, Laamu Atoll, and Noonu Atoll

## CONTRIBUTION TO NDC

The Maldives, a low-lying island nation in the Indian Ocean, is highly vulnerable to the impacts of climate change. With the majority of its land area lying just a few meters above sea level, the Maldives faces the imminent threat of sea-level rise, coastal erosion, and inundation, jeopardizing the existence of its communities, economy, and natural ecosystems. Action of climate change is at the top of the government's agenda.

Under its updated NDC (2020), the country has pledged with international support to reduce GHG emissions by 26 percent by 2023 and to achieve net zero by 2030. At the heart of this vision, and in the context of a push to build back better from COVID-19, an ambitious plan to increase the share of renewable energy economy-wide.

This activity aimed to augment the efforts of the government in reaching its NDC targets by supporting the switch to renewable energy in the transport sector, a major driver of emissions, and by reducing emissions, with co-benefits, in the agricultural sector.

By demonstrating the viability of renewables, these initiatives have illuminated the pathway towards reaching the nation's NDC targets. But they also provide inspiration to bigger global players to embrace sustainable practices and to support the small island developing state on its journey to a zero-carbon, climate-resilient future.

## PARTNERSHIP HIGHLIGHT

The Embassy of Japan was integrally involved in the activity's progress, providing valuable feedback and recommendations when challenges arose, including supporting a no-cost extension. The attendance of the Ambassador of Japan to the Maldives, HE Mrs. Takeuchi Midori, at the launch of the charging stations and initiation of the "EV bus route" in Maale was a particularly significant demonstration of support, underscoring the importance of the partnership with Japan.

## MAIN ACHIEVEMENTS

In the bustling heart of the country, Greater Maale, the establishment of a clean energy public minibus system has presented a win-win scenario, for the climate, environment, and residents' health. The infrastructure to ensure its success is almost complete. Two charging stations are now in operation, with three more solar-powered charging stations to launch in the capital by September 2023.

In partnership with the Ministry of Environment, Climate Change and Technology, a new air quality monitoring system in Male' provides continuous monitoring of air pollution levels, enabling the city to track progress in the air quality and provide a baseline to evaluate the effectiveness of implemented measures and policies.

Meanwhile, on islands of Laamu Atoll and Noonu Atoll, the installation of solar-powered irrigation systems and cold storage facilities has had the triple benefit of saving emissions, increasing local food production, and reducing reliance on food staple imports.

Solar-powered irrigation farms on Noonu Mafaru and Kendhikulhudhoo islands will be completed by August 2023. The farms, established in partnership with AgroNational, will serve as model farms, allowing individuals to learn and eventually pursue their own independent farming endeavours. The plan is for AgroNational to continue to support them even after the contract ends.



Bus driver Abdullah Hameed Mohamed Fulhu sees the benefits of electric buses, praising the new system as more environmentally friendly and more convenient.

© Ashwa Faheem | UNDP Maldives

Abdullah Hameed Mohamed Fulhu (Hamitte) is a dedicated bus driver at Maldives Transport and Contracting Company (MTCC) who now operates electric buses in Villingili, a green island just minutes away from the bustling mainland. With a genuine smile and passion reflected in his eyes, Hamitte says, "I have operated all vehicles in the MTCC fleet, and I can say that the EV system is most convenient. The charging station is extremely fast and powers the bus for 24 hours. Back when I was operating the fuel buses, I would need to refill the tank every eight hours as it burns through the petrol." When asked about his thoughts on the introduction of EV to the Maldives, Hamitte says, "It's great – we need to consider our carbon emissions and work towards minimizing them. We need to think about our health and the planet's future."

“  
*The EV charging station is extremely fast and powers the bus for 24 hours.*”

\*A request by the project for a no-cost extension until September 2023 has been granted by the donor.





Martin's exchange visit to Ghana broadened his horizons and helped illuminate a path for his own country's participation in international carbon markets. © UNDP Namibia

“  
For me it was a real eye opener seeing another African country fully engaged in the international carbon market.”

Martin Kaonzo Kaonzo is the National Development Advisor and Focal Person for Climate Change at Namibia's National Planning Commission. In March 2023, he was among a group of Namibian government delegates to take part in a four-day study tour of Ghana's carbon markets – including a review of Ghana's policy, legal, technical, and administrative frameworks – to assess his own country's readiness for carbon trading.

Witnessing Ghana's success in accessing international carbon markets, under Articles 6.2 and 6.4 of the global Paris Agreement, Martin sees great opportunities for Namibia, with potential revenue for supporting climate adaptation and the transition to a zero-carbon economy.

He also sees potential for collaboration between the two countries in areas such as EV, waste management, and sustainable rice production. Particularly impressed by Ghana's integrated approach to waste management, he sees valuable lessons for Namibian municipalities to learn from and trade carbon credits, contributing to a circular economy.

# Promoting carbon markets for a net-zero and climate-resilient future



**Budget**

US\$1,003,042



**People who benefited**

Directly: 100  
(55 women, 45 men)  
Indirectly: ~600



**People trained/  
informed**

480 (264 women,  
216 men)



**Green jobs created**

25



**Locations**

National

**CONTRIBUTION TO NDC**

Namibia is committing to a total mitigation potential of 14.075 Mt CO<sub>2</sub>e in absolute terms, representing an increase in the sink capacity by 15.5% compared to the business as usual (BAU) scenario in 2030. Of this, 14% would be achieved under limited domestic and international support and an additional 77% reduction with substantial international support. In 2022, Namibia revised its first NDC and developed a NDC update version that expressed mitigation relative to net emissions, that is, the enhancement in the net sink capacity of the country. To elaborate more concrete measures to implement its engagement in the international carbon market, in September 2022, the UNDP assisted the Government of Namibia through the Ministry of Environment, Forestry and Tourism (MEFT) to prepare an options assessment report. The report recommended Namibia's proposal for the implementation of Article 6 under the Paris Agreement. Implemented by UNDP in collaboration with MEFT, and with the input of other government representatives, private sector stakeholders and relevant experts, this activity sought to establish an enabling environment for the country to pursue its carbon trading options and to advance the development of a region-wide framework for carbon market mechanisms.

**MAIN ACHIEVEMENTS**

With funding from Japan, UNDP worked with MEFT in the preparation and adoption of a Carbon Market Framework and development of the legal guidelines that will establish for Namibia clear-cut national arrangements for participating in Article 6.2 of the Paris Agreement, cooperative approaches, and the processes for developing eligible projects under Article 6.4.

A carbon trading registry (now in testing phase), will host verified data on all projects and programmes undertaken, including already-registered mitigation projects. It will allow tracking of and trading with carbon credits (generated by mitigation projects and through emissions reductions) and will support issuance and transfer of credits in national and international carbon markets. At the same time, the government has also been assisted to identify projects eligible to participate under Article 6.2.

Over the past year, several training workshops have helped to build the capacity of key stakeholders in carbon markets, carbon trading, legal instruments, and understanding of the national and international landscape. Two hands-on study tours to Ghana and Japan facilitated the exchange of knowledge and experience between the host countries and the Namibian delegation, particularly on relevant policy, legal, technical, and administrative arrangements.

**PARTNERSHIP HIGHLIGHT**

As well as looking to countries such as Ghana, the Namibian government is keen to learn from the experience of Japan in accessing and leveraging carbon markets. A study tour to Japan included visits to the Fukushima Green Hydrogen Demonstration project, as well as the Institute for Global Environmental Strategies (IGES), learning more from Japanese private companies, state-owned enterprises, financial institutions (SMBC Group and Mizuho group) and government institutions (Tokyo Metropolitan Government). Based on the visit to Japan, the Namibian government, with UNDP, is exploring broader, ongoing opportunities for technology transfer, technical assistance, and capacity-building.



# Promoting renewable energy solutions and green recovery



**Budget**

US\$2,956,395



**People who benefited**

Directly: 81,056  
Indirectly: 110,127



**People trained/  
informed**

11,026 (including 5,662 women, 897 youth)



**Green jobs created**

350 (including 117 women)



**Locations**

Madheshi, Karnali and Sudurpaschim provinces

**CONTRIBUTION TO NDC**

In December 2020, the Government of Nepal submitted its second NDC for the period 2021-2030. Among its conditional targets, to expand clean energy generation from approximately 1,400 MW to 15,000 MW by 2030 (5-10 percent to be generated from mini and micro-hydro power, solar, wind and bio-energy); to have 15 percent of total energy demand met by clean energy sources by 2023; to have 25 percent of households using electric stoves as their primary mode of cooking by 2030; and to promote sustainable agriculture and to improve waste management. In 2021, the country's Long-term Strategy for Net-zero Emissions committed to achieving net-zero greenhouse gas emissions by 2045.

This activity aimed to directly support the implementation of these targets, focusing on both policy and practical community-level interventions.

**MAIN ACHIEVEMENTS**

Although nearly 88 percent of Nepal's population have access to grid electricity, vulnerable communities in remote mountain areas are left without. To help address this gap, this activity focused on the implementation of reliable small-scale renewable energy solutions.

In the remote provinces of Madhesh, Karnali, and Sudurpaschim, seven solar drinking systems were installed or rehabilitated, as well as 13 solar PV backup systems, and 14 micro-hydropower plants, generating 1,564 kW of reliable energy. This has enabled 6,652 residents to have improved access to drinking water, irrigation, and electricity. The mitigation impact over the total lifespan of solar systems and micro hydropower plants is estimated at 49,586t CO<sub>2</sub>e.

The activity has also focused on other NDC targets, including agroforestry to restore degraded land and improved waste management. Through river-bed farming and agroforestry plantation, 100 hectares of degraded land have been restored in Siraha and Rupandehi districts leading to increased vegetable farming and income for locals.

Meanwhile, six hospitals have improved their waste segregation, recycling, and disposal systems through planning, capacity building, and establishing waste segregation chambers. A total of 765 households in Ghorahi municipality have access to biogas stoves through the waste-to-energy initiative. And two local governments have been supported to develop Municipal Energy Plans.

**PARTNERSHIP HIGHLIGHT**

Underpinning the success of this activity were strong partnerships, including with the Alternative Energy Promotion Centre (AEPCC) – which played a leading role in linking produced electricity to livelihood activities – local governments, NGOs, hospitals, community members, and the Embassy of Japan. Collaboration with such an array of stakeholders leveraged a diversity of expertise and helped ensure the sustainability of impact. Notably, the project secured co-financing of US\$670,475 from different partners.



Hiukala Saud of Tribeni Municipality, Bajura, has a decent income from running an electricity-powered mill at home. © Prakash Chandra Timilsena | UNDP Nepal

Before electricity came to her village, life was challenging for mother of three, Hiukala Saud. A subsistence farmer from the remote district of Bajura in northwest Nepal, Hiukala had to travel around four hours to grind grains at a water-powered mill.

With the rehabilitation 40 KW Kasegad II Micro-Hydropower Plant, however, life turned around. With this development, she was able to invest in an electric mill at her home. “Previously, when I depended on the water-powered mill, I occasionally had to spend the night there or return empty-handed,” she said. “Now, I save on travel time and earn a stable income. With my savings, I’ve started sending my children to good schools.”

With funding from Japan, more than 67,000 residents in Bajura and Jumla now have access to sustainable electricity. Hiukala is among 164 beneficiaries who have established new enterprises in the milling, poultry, welding, and closing sectors.

“*[With access to an electric mill] I save on travel time and earn a stable income.*”





Farming couple Severino Torres Sablay (left) and Miles Lilio (right) have been inspired by the training they received in “bio-circularity” and converting food waste into food security. © Aimee Francesca Terrenal-Tamayo | UNDP Philippines

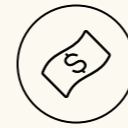
“*This [training] will help us innovate our farming practices... and help lessen the waste we generate.*”

Severino Torres Sablay and Miles Lilio live in the barangay (village) of Bagong Silangan in Quezon City, on an 11-hectare farm. Since the early 2000s, they have seen numerous instances of flooding due to typhoons – in fact, in 2009, most of the houses in their area were washed away by a super typhoon.

In 2021, their local farmers’ association was officially established as a response to the challenges associated with these ongoing disasters, as well as the growing need for employment opportunities and to address food insecurity in the wake of COVID-19.

Under the project, Severino and Miles received training in the concept of “bio-circularity” and converting food waste into food security. This included the handling of food waste, and introduction to new technologies such as rapid composting. “This will help us innovate our farming practices, better manage our produce, and help lessen the waste we generate,” said Severino and Miles.

# Accelerating NDC action through circular economy in cities



**Budget**  
US\$2,900,000



**People who benefited**  
Indirectly: 7,596,383



**People trained/  
informed**  
2,274



**Green jobs created**  
10



**Locations**  
Pasig City, Quezon City,  
Caloocan City, Manila City,  
and Cotabato City

## CONTRIBUTION TO NDC

In the Philippines, waste is among the country’s most pressing environmental issues and is a significant contributor to growing GHG emissions. In this context, and with a commitment to reducing GHG emissions by 75 percent by 2030, the government has emphasized the importance of circular economy and sustainable consumption.

Partnering with the Department of Environment and Natural Resources and five local government units – Pasig City, Quezon City, Caloocan City, Manila City and Cotabato City – this activity has focused on facilitating the Philippines’ transition to a circular economy by demonstrating how implementing circular economy at the city level can help achieve economic, social, and environmental goals.

In addition to government actors, UNDP has worked together with small and medium enterprises, academia, NGOs, households, and communities. The focus has been on three main outputs: first, the development of data-driven and gender-responsive analytical systems and policies to support the transition to a circular economy; second, the generation of a portfolio of solutions, to be implemented in each partner city; and thirdly, the establishment of partnerships and knowledge networks to create a shared understanding and vision of circular economy.

## PARTNERSHIP HIGHLIGHT

A learning exchange visit to Yokohama City and Tokyo in June 2023 offered 14 government representatives the opportunity to learn first-hand from Japanese local government and businesses, and to see how circular economy is being adapted in different sectors in Japan. Visits to a landfill site, biogas digestion plant, textile recycling plant, and a commercial waste plastic recycling plant each provided an opportunity to interact and share knowledge, challenges, and solutions.

\*A request by the project for a no-cost extension until March 2024, has been granted by the donor.

## MAIN ACHIEVEMENTS

Since its inception, the project has provided more than ten capacity-building sessions, with 2,421 participants from different sectors, including systemic design and value chain mapping exercises, to identify opportunities for circular economy solutions, by sector, at the city-level.

As well as increasing knowledge and ownership of circular solutions, the project has provided equipment to assist cities in improving waste management. In the cities of Pasig, Manila, Caloocan and Cotabato, for example, the Mobile Materials Recovery Facility provided by UNDP was equipped with a multi-purpose shredder and glass pulverizer able to process plastics and glass waste into small bits, which can then be used as raw material for upcycled items such as school chairs, flowerpots and bricks.

The project has also provided biogas digesters to Pasig, Cotabato, and Quezon cities and is scheduled to provide plastic melters to Manila, Caloocan, and Cotabato cities before the end of 2023. This equipment will be used in various barangays (villages).

As of June 2023, the project continues to support the Department of Environment and Natural Resources in the implementation of the Extended Producer Responsibility (EPR) Law, which aims to extend the accountability and responsibility of “obliged enterprises” throughout the life cycle of their product, including plastic packaging.

With support to the Department of Environment and Natural Resources, the implementing rules and regulations of the law were approved in January 2023.



# Supporting a just green transition and decarbonization



**Budget**

US\$1,010,000



**People who benefited**

Directly: ~540  
Indirectly: ~25,000 citizens (mostly employees of carbon-intensive sectors)



**People trained**

110



**Green jobs created**

25



**Locations**

Belgrade, Indjija, Nis, Pancevo, and Stara Pazova

**CONTRIBUTION TO NDC**

In 2022, Serbia submitted its revised NDC, committing to an unconditional emissions reduction target of 13.2 percent compared to 2010 levels, or a conditional 33.3 percent compared to 1990 levels, by 2030. The NDC put particular emphasis on decarbonization of the energy sector – one of the largest sectors of the economy – and on reducing energy consumption, not only the public and residential sectors, but also industry and business. The NDC noted electricity consumption remains very high, mostly due to demand for heating and a very low level of energy efficiency.

At the same time that the government is moving to transition to the economy to a low-carbon, competitive economy in the coming decades, the impacts of COVID-19 pandemic continue to reverberate, with potential long-term impacts on the economy and society.

This project focused on decreasing the potential adverse consequences of a green transition, including job losses in carbon-intensive industries and flow-on impacts for communities. By initiating planning for the needs of affected workers, and designing means of support, the project has helped pave the way for a more inclusive transformation of the economy.

**PARTNERSHIP HIGHLIGHT**

The support of the Embassy of Japan and well as the Japanese Business Alliance – instrumental in strengthening cooperation between Japanese and Serbian companies – was key to the success of this activity. The introduction of Serbian businesses to Japanese examples of best practice and KAIZEN management, through a virtual study visit, was a valuable source of motivation for Serbian companies.

**MAIN ACHIEVEMENTS**

One significant achievement of this activity was the establishment of a collaborative and inclusive approach to achieve a just transition to a zero-carbon economy. Extensive dialogues were conducted with various stakeholders, including national and local governments, civil society, the private sector, UN agencies, and representatives from carbon-intensive industries. These dialogues served as the basis for recommendations and the identification of investment opportunities. Eight projects were selected through a competitive process, resulting in an additional 7.8 MW of solar power capacity and a reduction of 12.563 tCO<sub>2</sub>/year.

Furthermore, 110 individuals were trained through these projects, leading to the creation of 25 new jobs in areas such as solar power plant maintenance, organic waste management, compost machine area maintenance, zero-emissions internal combustion engine research, and software and Blockchain development.

The success of these results has inspired similar initiatives in other projects. For instance, the “EU for Green Agenda in Serbia” project, funded by multiple donors including the EU, European Investment Bank, Governments of Sweden, Switzerland, and Serbia, has launched an Innovation Challenge to encourage new investments in clean energy.

By stimulating additional investments in Serbia’s green transformation, motivating companies to decarbonize, and fostering discussions around a just transition, this project has made a significant contribution to enhancing the competitiveness of the economy while promoting social justice and responsibility.



With a passion for community and the environment, Vesna led the 134 apartments in her building complex to invest in the installation of solar panels. © UNDP Serbia

Vesna Rajska lives in Niš, a city in the south of Serbia. After retiring from a successful career in the banking industry, she became a manager of building complex, Magdon. With a passion for community and the environment, in 2022 she led the tenants of 134 apartments to invest in the installation of solar panels. This collective effort – supported by funding from Japan, awarded through UNDP Serbia – made Magdon the first residential community in the country to produce electricity for its own consumption. “Thanks to this initiative, my neighbours realized it is possible to make a difference, and that each individual counts when it comes to preserving the planet. The greatest satisfaction for me is all the children in the buildings know my name and run towards me when they see me. The greatest motivation to persevere, despite all the obstacles, is recognition from other building managers who are inspired to do the same.”

“*Each individual counts when it comes to preserving the planet.*”





Safarmo Loikova is glad that her family, including her grandchildren, are more prepared in the event of a flood or mudflow. © UNDP Tajikistan

“*Now my family and I know what to do, where to go, and what sound to listen for.*”

Safarmo Loikova, 69, and her children and grandchildren live in Tudakavsh, a small village in the region of Khatlon, Tajikistan. In May 2021, their home was destroyed by a flood-induced mudflow. The night is forever imprinted in Safarmo’s memories, “I can never forget that night, with loud storms and heavy rains,” she says. “I did not know what to do and everyone was scared, we barely managed to escape.” In September 2022, Safarmo and her family participated in an evacuation drill organized with funding from Japan. Taking part in the drill brought her comfort: “Now my family and I know what to do, where to go, and what sound to listen for (the siren of the early warning system). Thanks to the youth-led emergency groups, I know in case of flooding we will be evacuated to a safe spot and taken care of.”

# Strengthening community resilience to climate-induced disasters through nature-based solutions



**Budget**  
US\$996,446



**People who benefited**  
Directly: 140,000  
Indirectly: ~170,000



**People trained/ informed**  
140,000 (71,125 females and 39,200 youth)



**Green jobs created**  
80 (including 43 women and 20 youth)



**Locations**  
Khatlon region, Tebalay watershed

## CONTRIBUTION TO NDC

In October 2021, Tajikistan submitted its updated NDC, setting an unconditional emissions reduction target of 30-40 percent compared to 1990 levels by 2030 and defining 27 lines of action on adaptation, across five crucial sectors.

Despite having a negligible contribution to global greenhouse gas emissions, Tajikistan is highly vulnerable to the impacts of climate change and the country has been grappling with increasingly frequent and unpredictable climate-related events, in particular, floods. The floods, landslides, and mudflows caused by heavy rains in May 2021 resulted in significant loss of life and property in Khatlon Province, home to 300,000 people.

This project focused on decreasing the vulnerability of local communities to climate-induced hazards by installing early warning systems and increasing preparedness in hazard-prone areas; increasing awareness of climate change risks; and implementing both engineered and ecosystem-based measures for riverbank protection.

## MAIN ACHIEVEMENTS

With funding from Japan, several key interventions have enhanced local resilience to climate change.

In the Tebalay watershed, a two-pronged approach involved a hydrometeorological hazards assessment – conducted using remote sensing software, satellite imagery, flood modelling, and field assessments – and the design and implementation of watershed management solutions prioritized by local stakeholders. The information gathered

has served as a foundation for upgrading the region’s Watershed Management Plan.

Among the project’s other main achievements to date:

The introduction of soil erosion control measures in Muminabad district, including fencing and planting vegetation, has protected 10 hectares of land, also reducing the downstream risk of floods.

The installation of an early warning system in the upper stream of Tebalay watershed has helped improve the capacity of local communities and authorities to prepare for and response to disasters.

Three Community Emergency Response Teams, consisting of 90 members, have been established and trained and are now responsible for promptly evacuating at-risk populations, conducting search and rescue, and providing first aid. Around 70,000 people residing in hazard-prone areas are indirect beneficiaries.

Approximately 20 kilometres of riverbank in Kulob, Muminobod and Sh.Shohin districts, located along the Tebalay river, have been safeguarded using protective cubes.

Finally, the project has raised significant community awareness around disaster preparedness. On International Day for Disaster Risk Reduction (October 13), more than 1,300 youth took part in an event in Kulob. Street banners were erected and a dedicated programme broadcast on local TV. Simulation exercises were organized in flood risk zones.

## PARTNERSHIP HIGHLIGHT

Domestically, partnerships were formed with the Tajik Committee of Emergency Situations and the Agency for Land Reclamation and Irrigation, as well as local authorities, community-based associations, individual farmers, and other development partners. Taken together, these partnerships provided the project with a wide array of expertise and buy-in.



# Waste management and marine protection in Hatay



## Budget

US\$1,817,102



## People who benefited

Directly: 510  
Indirectly: 149,367



## People trained/ informed

50



## Green jobs created

n/a



## Locations

Hatay province

## CONTRIBUTION TO NDC

In 2021, Türkiye ratified the Paris Agreement and committed to net zero by 2053. The country is now preparing its long-term climate change strategy and action plan to enhance adaptation, accelerate mitigation of GHG emissions, and increase co-benefits for cities, sectors, and ecosystems.

Among the key economic sectors receiving attention in the NDC with regards to mitigation – and ensuring a sustainable development pathway – is waste, a sector responsible for around 3.4 percent of overall national emissions.

In line with the targets of the country's NDC, and taking both an immediate and long-term view, this activity focused on reducing emissions and increasing climate resilience through improving the management of waste and marine ecosystems in the coastal province of Hatay. Thanks to the project, national reports on plastic waste management, upcycling, energy recovery, and marine litter best practices have augmented Türkiye's position on NDC implementation within the waste sector.

\* In February 2023, a devastating earthquake hit Türkiye, affecting 11 provinces including Hatay and disrupting the work of the project. Amendments were made to keep the project on track to achieving its planned results, that is, helping the affected population and municipality to preserve its water resources, minimize waste, and improve waste management.

## PARTNERSHIP HIGHLIGHT

Japanese experience and expertise added significant value to this activity. For example, Heisen Yoko, a leading Japanese company in the field of aquatic ecosystem management, was engaged to provide recommendations for appropriate technologies to be used in the Asi River. Professor Takda Hideshige from the University of Agriculture and Technology in Tokyo played a key advisory role in the field of marine litter minimization and management. National partners included the Ministry of Environment Urbanization and Climate Change, Hatay Metropolitan Municipality, and the Nature Conservation Center.

## MAIN ACHIEVEMENTS

Towards improving waste management in coastal cities, the activity has been mobilizing waste collection units at two points along the Asi River. Additionally, work has been underway to expand the coverage of civic amenity centres and dual waste separation units in Hatay, to encourage greater separation of waste among the local community.

Innovative technologies, such as the aquatic robot and floating waste collector, have also helped to raise public awareness and promote effective waste management practices.

Meanwhile, the project carried out work with local fisherman to raise awareness around waste management and marine protection (78 fisherman have participated in training/awareness-raising activities). This will help promote biodiversity and enhance the long-term sustainability of fishing in the region.

To address the growing threat of invasive alien species to the marine ecosystem, thereby making it more resistant to the negative impacts of climate change, the project has advanced several initiatives. The acquisition of an amphibious vehicle to enable mechanical control of the invasive water hyacinth, coupled with extensive training for four municipal staff on its use, has been a crucial step forward.



Şahika Ercümen, holder of the world record in free-diving and UNDP Türkiye's Life Below Water Advocate, is passionate about protecting marine ecosystems.  
© Şebnem Coşkun | Anadolu Agency

“

*If we endanger life below water then we threaten all humanity, so we need to intensify local action.*

In December 2022, Şahika Ercümen, holder of the world record in free-diving and UNDP Türkiye's Life Below Water Advocate, conducted a dive at the Cape of Hırlavuk near Samandağ in Hatay province, to raise awareness about the threat that water pollution poses to maritime ecosystems. Ahead of her dive, Ercümen joined a group of school students in a clean-up event along the coast at Samandağ aimed at educating children about zero waste practices. A key message of day: local action and community solidarity are crucial in reducing pressure on our oceans. “Our seas and oceans are suffocating,” said Ercümen. “Pollution, overfishing, invasive species, climate change – all these problems created by humanity are starving marine life of the oxygen on which it depends. Today we are sounding the alarm...if we endanger life below water then we threaten all humanity, so we need to intensify local action to put a halt to this global problem.”





Fruit grower Khabibullo Nazarov knows the importance of accurate climate information and weather forecasts for individual farmers but also for the agriculture sector overall. © UNDP Uzbekistan

“*Now we feel how critical it is to be informed of all weather changes well in advance.*”

In 2007, Khabibullo Nazarov established his “Dulanalik gardener fruits” farm in the densely-populated region of Andijan, in the eastern part of the Fergana Valley. On 4.7 hectares he cultivates grapes and other fruit for export.

To grow quality products, it is critical to know exactly when to water, use pesticides, and so on. However, without forecasts, and in the context of increasing climate variability, Khabibullo says it is a livelihood characterised by risk: “We struggle with not knowing what the weather will be in a week or ten days.”

To support access to accurate weather forecasts, early warnings, and to evidence-based recommendations for agricultural operations, 35 agro- meteorological stations have been installed throughout Fergana Valley. One automatic weather station stands tall near Khabibullo’s garden. “Now we feel how critical it is to be informed of all weather changes well in advance,” says Khabibullo. “This is important not only for our farms, but for agriculture overall.”

# Advancing climate-resilient livelihoods in Fergana Valley



**Budget**  
US\$954,147



**People who benefited**  
Directly: 250\*  
Indirectly: ~11,276,000



**People trained/ informed**  
~10,000



**Green jobs created**  
n/a



**Locations**  
Andijan, Fergana, and Namangan regions

## CONTRIBUTION TO NDC

In 2021, the Republic of Uzbekistan submitted its revised NDC. In addition to raising ambition on cutting emissions, the revision featured strengthened adaptation measures, particularly in agriculture, a sector key to the economy and food security but which is extremely sensitive to the impacts of climate change. Key to strengthen adaptive capacity: establishing early warning and risk management systems at all levels in synergy with mitigation actions.

In the Ferghana Valley, one of the most populous regions of Uzbekistan (accounting for nearly 30 percent of the national population), agriculture provides the main source of income for most rural households.

Here, small-scale Dekhkan farmers are being hit hard by climate change. Due to changing weather conditions, they are losing 15 to 30 percent of their total expected yield.

This activity focused on the main components required to improve agrometeorological services and early warning systems, including the modernization of observation networks, improvements to data processing and user services, and the introduction of climate-informed planning.

## PARTNERSHIP HIGHLIGHT

Under this activity, UNDP partnered with the Uzbek-Japanese Centre to introduce the Kaizen methodology – a Japanese business philosophy that focuses on continuous improvement and efficiency – to farmers and government specialists. Training was conducted for farmers and representatives from Uzhydromet and the Agency for Plant Quarantine and Protection. A conference on agricultural adaptation was held, at which Japanese experts presented on land surface processes modelling and water circulation in the Aral Sea basin.

\*150 staff of Uzhydromet + 100 experts in other institutions responsible for provision of agro-meteo information/services  
\*\*A request by the project for a no-cost extension until March 2024, has been granted by the donor.

## MAIN ACHIEVEMENTS

With funding from Japan, 35 weather stations have been installed across the Fergana Valley (including 15 large automated one and 20 small weather stations). The equipment ensures precise forecasting and more effective agrometeorological planning.

15 “Agroclimatologist Cases” have been procured and distributed to Uzhydromet, each containing equipment to assist with setting an anemometer, and measuring pH, temperature, and conductivity in water and soil, soil sampling, and more. The equipment will allow Uzhydromet specialists to carry out field trips at the request of farmers.

Following an IT needs assessment for both the central office of Uzhydromet and departments in Fergana Valley, a main backup server and other hardware were provided, as well as licences for specialist software which are expected to increase the capacity of the server infrastructure by almost 50 percent.

Outdated computers have been upgraded for the departments in Fergana Valley, while 32 tablets have been provided to inspectors for operational analysis of the data from weather station on sites.



# Catalyzing a sustainable shift towards e-mobility



**Budget**  
US \$896,583



**People who benefited**  
Directly: 1,127  
Indirectly: 83,221



**People trained/  
informed**  
Trained: 165  
Informed: 31,595



**Green jobs created**  
52 (27 women  
and 25 men)



**Locations**  
National, Hue city

## CONTRIBUTION TO NDC

Submitted in 2022, Viet Nam's updated NDC set a new target for GHG reduction: by 2030, the country will unconditionally cut emissions by 15.8 percent compared to business-as-usual, or up to 43.5 percent with international support. At COP26, the government committed to reaching net zero by 2050.

Following the energy generation and industrial sectors, the transport sector is a significant contributor to the country's total GHG emissions. Electric (e)-mobility and green transport are therefore key to realizing the net zero target.

To progress towards its goals, by 2030 the government aims to improve energy efficiency in the sector and to accelerate the switch to electric and green sources of energy. By 2050, Viet Nam aims for all road transport to be electric. The benefits will extend beyond emissions reductions to improved air quality and public health.

Through support for national policy formulation and capacity-building, and pilot activities in the city of Hue, this activity has supported the Government of Viet Nam to advance a shift in transport modes and fuels, scaling-up the adoption of electric vehicles.

## MAIN ACHIEVEMENTS

Notable achievements of this activity include the approval of three technical standards for charging infrastructure by

## PARTNERSHIP HIGHLIGHT

Throughout the activity, the Embassy of Japan was engaged to discuss opportunities for the involvement of Japanese organizations and companies. Meetings with organizations such as JICA, the Viet Nam Automobile Manufacturers' Association and the Viet Nam Association of Motorcycle Manufacturers (including Honda, Toyota, Suzuki), Honda, and Nippon Koei also sought to identify collaboration opportunities. A representative from the Japanese Association of Motorcycle Manufacturers was invited to share experience on EV batteries.

the Ministry of Science and Technology and the participation of government officials from various ministries in panel discussions on barriers to EVs.

Regional debates and a national debate with students from 21 universities helped inform a national action plan on green and environmentally friendly public transport (to be submitted to the Prime Minister for approval by the end of 2023). The project also conducted consumer market research on EV, with more than 1,283 people surveyed on their attitudes to the environment and EVs.

In Hue, initiatives included the introduction of six electric trucks for waste collection and the provision of concessional loans via Thua Thien Hue Women's Union, to incentivize the adoption of EVs. The first round of disbursement resulted in 185 individuals, including 16 delivery drivers, purchasing electric bikes and motorcycles, with the number expected to double in the second disbursement in the next two years. The success of the scheme has presented a model for other cities.

A public awareness campaign in Hue – encompassing in-person events, school debating competitions, social media, TV, and newspapers – has reached tens of thousands of citizens.

Finally, more than 165 representatives from government, business, and academic institutions have received training in policies and tools to integrate electric mobility into their plans and practices.



Switching from a regular gasoline-powered motorbike to an electric one was an exciting transition for Tuan Anh.  
© UNDP Viet Nam

In the city of Hue, the streets are alive with a cacophony of honking horns, revving engines, and the rhythmic rumble of motorcycles. Tuan Anh sighs, "The traffic density in Hue is rising, and it feels like more vehicles are on the road daily. The emissions from these vehicles contribute to air pollution and have a harmful effect on our environment."

With a growing awareness of the climate crisis, delivery driver Tuan Anh has become increasingly interested in the benefits of electric vehicles (EV). Recently, he decided to switch from his regular motorbike to an electric one. "Switching to an electric motorbike was a significant change for me. It not only eliminates emissions, but it also reduces noise." He obtained a zero-interest loan from the Women's Union to buy his new bike. The loan programme, funded by Japan, supports the purchase of EV and encourages women and delivery drivers in Hue city to switch from gasoline-powered transportation to eco-friendly alternatives.

“  
*Switching to an electric motorbike was a significant change for me. It eliminates emissions but it also reduces noise.*





***United Nations Development Programme (UNDP)***

1 UN Plaza, New York, NY 10017, USA

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