100%RE multi-actor partnerships

Renewable Energy to Enhance Climate and Development Ambitions and Strengthen Civil Society Inclusion in Nepal

A report for the **"Multi Actor Partnerships for Implementing NDCs with 100% Renewable Energy for All in the Global South"** project

eco Ecological Christian Organisation

Prakriti Resources Centre

GreenID

World Future Council

Brot für die Welt

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Abbreviations

BAU	Business as usual
CAT	Climate Action Tracker
CO2eq	CO2-equivalent emissions, usually measured in metric tonnes (tCO2eqq)
COP	Conference of the Parties (to the UNFCCC)
CSO	Civil Society Organisation
CVF	Climate Vulnerable Forum
GDP	Gross Domestic Product
GHG	Greenhouse Gases
GNI	Gross National Income
HDI	Human Development Index
IMCCCC	Inter-Ministerial Climate Change Coordination Committee (Nepal)
Ktoe	Kilotons of oil equivalents
LDCs	Least Developed Countries
PV	Photovoltaic
MAP	Multi-Actor Partnership
MOALD	Ministry of Agriculture and Livestock Development (Nepal)
MOEWRI	Ministry of Energy, Water Resources and Irrigation (Nepal)
MOF	Ministry of Finance (Nepal)
MOFE	Ministry of Forests and Environment (Nepal)
NDC	Nationally Determined Contribution
NDCP	NDC Partnership
NEA	Nepal Electricity Authority (Nepal)
NPC	National Planning Commission (Nepal)
NRREP	National Rural Renewable Energy Program (Nepal)
RE	Renewable Energy
SDGs	Sustainable Development Goals
UN	United Nations
UNDP	United Nations Development program
UNFCCC	United Nations Framework Convention on Climate Change

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PROJECT INFORMATION

Multi Actor Partnerships (MAPs) for Implementing NDCs with 100% Renewable Energy (RE) for All in the Global South (100RE-MAP)

COUNTRIES
Nepal, Uganda, Vietnam

DURATION
Spring 2020 to spring 2023

PARTNERS
Bread for the World
Ecological Christian Organisation
GreenID
Prakriti Resources Centre
World Future Council
WWF Germany/Nepal/Uganda/Vietnam

PURPOSE
Empower key stakeholders to participate in political decision-making through Multi-Actor Partnerships to develop a 100% Renewable Energy roadmap for each country and unlock the socio-economic benefits of renewables.

URL
https://100re-map.net

Introduction

In 2020, the COVID-19 pandemic pushed humanity into the most severe health, social and economic crisis since the end of World War II. After 18 months since the discovery of the virus, the results are sobering: over 191 million confirmed cases of infection, more than 4.1 million deaths,[1] tens of millions of jobs lost, hundreds of millions of people without access to social protection systems, a global recession (4–6% GDP decrease[2]), increasing geopolitical tensions, a mounting sovereign debt crisis – and all this as the climate crisis continues to escalate. Challenges are indeed unprecedented.

At the same time, the current situation bears a unique opportunity for a new beginning: it is imperative that COVID-19 recovery budgets are allocated to support climate action and resilience efforts so that the 1.5°C temperature threshold remains in reach.

To this end, decision-making, both as part of recovery measures, in specific climate and energy policies, such as the Nationally Determined Contributions (NDCs), and more generally, should prioritise renewable energy, sustainability and a greening of the economy, and should put the socio-economic needs of people, notably the most vulnerable in society, at its heart. Furthermore, policy-making processes should be inclusive, involving a wide range of stakeholders, including those working on improving socio-economic conditions for some of the most vulnerable in society.

This paper is part of a three-part analysis under the project *"Multi Actor Partnerships (MAPs) for Implementing NDCs with 100% Renewable Energy (RE) for All in the Global South" (100RE-MAP)*. This analysis was conducted by Climate & Development Advice on behalf of WWF, Bread for the World, and the World Future Council, in the context of the 100RE-MAP project.[3] As part of this analysis, interviews were conducted with local stakeholders.

The 100RE-MAP project supports and facilitates the formation of multi-stakeholder platforms to promote the energy transition in line with the Sustainable Development Goals (SDGs) and the Paris Agreement's (PA) climate targets. The project is being implemented simultaneously in Nepal, Uganda and Vietnam.

The analysis set out in this document covers the project country Nepal. It offers an assessment of the current state of climate, energy and development policies and trends and places this in the context of the Nationally Determined Contributions (NDCs), which are required under the Paris Agreement. It examines how renewables can contribute to more ambitious NDCs to mitigate climate change and advance national development through unleashing the socio-economic benefits that renewable energy (RE) deployment can generate. The study further considers the role that civil society plays in related processes and how civil society is included in RE policy development. It concludes with recommendations on how to enhance climate and development ambition through RE advancement and strengthen civil society inclusion in this process.

1 Confirmed cases and deaths are as of 21 July 2021: https://covid19.who.int
2 https://www.statista.com/topics/6139/covid-19-impact-on-the-global-economy/
3 https://100re-map.net/who-we-are/

Country analysis

The Federal Democratic Republic of Nepal is a landlocked country in South Asia, bordering China and India, with a population of around 29 million. Around 80% of the population lives in rural areas, many of them in the Indo-Gangetic plain, the Kathmandu valley and the eastern parts of the country. Nepal is a multicultural and multi-ethnic country, with 125 different ethnic groups. It is one of the 10 most rural countries in the world and one of the ten countries with the fastest urbanization rate.[4] Accordingly, employment in agriculture declined from 82% in 1991 to 64.5% in 2020.[5] The poverty rate is still almost three times higher in rural areas compared to urban areas. According to the Nepal Living Standard Survey, about one fourth of the population lives below the poverty line.[6] 89.9% of the population has access to electricity.[7]

After a decade-long armed conflict, a peace agreement in 2006 paved the way for a long transition period, culminating in a new constitution (2015) and election at all levels (2017). In 2018, a new federal government took office, political stability returned and the economy grew strongly until COVID-19 related disruptions started.[8]

Nepal intends to graduate from LDC status by 2022 and develop to reach middle-income country status by 2030. Sustainable development plays a prominent role in Nepal's political agenda. Extreme poverty fell from 33.5% in 1990 to 16.4% in 2013, thereby achieving the target of halving the poverty rate, according to the National Planning Commission's (NPC) final Millennium Development Goals status report.[9] However, this number has seemed to creep up in recent years as the 2020 Nepal Development Update put it at 18.7% and it is expected to further grow due to the loss of livelihoods caused by the COVID-19 pandemic.[10]

The Sustainable Development Goals (SDG) have been aligned with the national development aspiration *Prosperous Nepal, Happy Nepali* and integrated into Nepal's national development planning, including the *15th Five-Year Development Plan 2019/20 – 2023/24*. Furthermore, the *Sustainable Development Goals: Status and Roadmap 2016–2030* was developed.

NEPAL'S ENERGY SITUATION AT A GLANCE

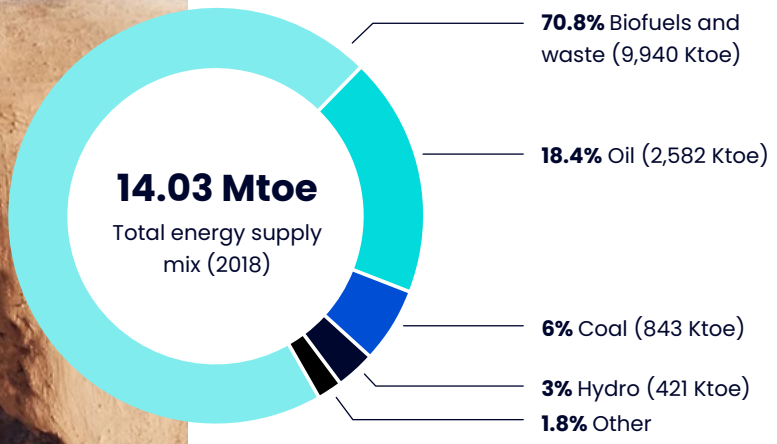
While around 90% of households are officially electrified, access to reliable, affordable and uninterrupted electricity for a significant part of the day stands at 72% (2019).[11] 100% high-quality energy access is a set target for 2023.[12] Traditional biomass, such as firewood and cow dung, are still the prevailing primary fuels for cooking and heating for the majority of Nepali people, particularly in rural Nepal. These traditional biomass sources, however, are the leading cause of indoor air pollution affecting health, notably respiratory disorders.[13]

In 2019, modern renewable energy (excluding hyrdropower) contributed only 2.4% of the country's total energy consumption share.[14] Altogether, energy consumption is one of the lowest in South Asia. Annual per capita electricity consumption

4 https://data.worldbank.org/indicator/SP.RUR.TOTL.ZS?locations=NP
5 https://data.worldbank.org/indicator/SL.AGR.EMPL.ZS?locations=NP
6 https://borgenproject.org/ten-facts-about-poverty-in-nepal/
7 https://data.worldbank.org/indicator/EG.ELC.ACCS.ZS?locations=NP
8 https://www.worldbank.org/en/country/nepal/overview
9 https://www.npc.gov.np/images/category/SDGs_Baseline_Report_final_29_June-1(1).pdf
10 http://www.xinhuanet.com/english/2020-07/23/c_139235741.htm
11 https://www.worldbank.org/en/news/press-release/2019/11/19/first-of-its-kind-world-bank-survey-on-quality-of-electricity-access-in-nepal-shows-remarkable-progress-challenges-persist-on-clean-cooking
12 *Ibid.*
13 https://pubmed.ncbi.nlm.nih.gov/15875891/

Nepal's energy situation at a glance

These figures are based on the IEA's database.
https://www.iea.org/countries/Nepal



in 2017 was at only 160 kWh, as compared to 380 kWh in Bangladesh and 1180 kWh in India.[15] Total energy supply increased from 5,670 Ktoe in 1990 to 14.03 Mtoe in 2018.

National electricity consumption stood at 6.53 TWh in 2017, an increase of 87,5% compared to 1990.[16] Electricity demand is covered mostly by large hydro energy and (coal-based) electricity imports from India, and to a minor part from diesel generators, small hydro and solar photovoltaics (PV). However, the country aims at scaling up its own electricity production significantly, ensuring energy security and reducing dependence on electricity or fuel imports through deploying RE solutions: the *Rural Energy Policy of Nepal* (2006) aims at contributing to rural poverty reduction and environmental conservation by ensuring access to clean, reliable and appropriate energy such as micro hydropower, PV, small wind, or biogas; the *National Rural and Renewable Energy Program* (NRREP) invested USD 170 million in RE subsidies, technical support and business development; in 2016, a *Renewable Energy Subsidy Policy* was adopted, which had a particular focus on subsidizing very poor households to use RE.[17] Apart from these policies, the Nepal Electricity Authority (NEA), with financial support of donors like the World Bank, piloted grid-connected bigger PV power plants and the first wind turbines.[18]

These developments, however, are still in a very early phase. Further progress can be assumed, given the fact that the country has great RE potential. Early assessments calculated a potential of 2,100 MW grid-connected PV, 1,830 MW concentrated solar energy and 450–3,000 MW wind energy.[19] Given that these data originate from 2008–2010, it can be assumed that new assessments would come to a higher potential, given the significantly increased efficiency of wind turbines and solar PV.

14 Ministry of Energy, Water Resources, and Irrigation (2020)
15 Chhetri, R. 2017
16 https://www.iea.org/countries/nepal
17 https://www.iea.org/policies/6228-renewable-energy-subsidy-policy-of-nepal
18 http://documents1.worldbank.org/curated/en/365271468297315374/pdf/IPP7270P14634400Box385251B00PUBLIC0.pdf; http://documents1.worldbank.org/curated/en/592481554093658883/text/Nepal-Energy-Infrastructure-Sector-Assessment.txt
19 Chhetri, R. 2017 and http://www.wind.arch.t-kougei.ac.jp/APECWW/Report/2009/NEPAL.pdf

Nepal at a glance

Sources: World Bank, UNDP, Oxfam, UNDP

USD 3,610
GNI per capita
Purchasing Power Capacity 361% increase compared to 1996

0.602
Human Development Index value
50% increase compared to 1990

81
Income inequality
(out of 152 countries)

110
Gender inequality
(out of 162 countries)

Energy and climate vulnerability in Nepal

Sources: World Bank, Global Climate Risk Index 2020

95%
of households have **access to energy**

72%
of households have **reliable, affordable and uninterrupted** access to energy

9th
Ranked 9th (out of 192) worldwide for **vulnerability to climate change** (1999-2018)

109th
Ranked 109th worldwide for **carbon dioxide emissions**

THE COMPARATIVE CASE

Bangladesh

At 162 million, Bangladesh's **population** is about six times larger than Nepal's (29 million). Close to 62% of the population in Bangladesh live in rural areas, which is around 80% in Nepal. In both countries, **demand for electricity** is projected to increase significantly in the coming decade: 40,000 MW in Bangladesh by 2030 (compared to approximately 20,000 MW now) and 4,280–5,371 MW in Nepal by 2030 (compared to approximately 1,500 MW now). Both countries have comparable levels of **energy access**: in the low 90s%.

Natural gas accounts for the majority of the Bangladesh's electricity production followed by petroleum oil, but wind, hydropower and solar PV shares are growing. Bangladesh has the largest off-grid solar power programme in the world. The country's **solar home systems** have enabled 20 million Bangladeshis to access electricity. At its peak, the programme provided electricity to approximately 16 percent of the rural population. Renewables make up around 3% of the energy mix in Bangladesh. In 2020, the government introduced an ambitious *National Solar Energy Action Plan*, which lists three possible scenarios for total solar energy capacity by 2041: business as usual (8 GW), medium (25 GW), and ambitious (40 GW). In follow-up, in February 2021, the government launched the *Perspective Plan 2021–2041* which puts a "strong emphasis on the development of renewable energy" and calls for policy support to **enhance energy generation from renewables**. The Plan underscores the need to increase grid-connected renewable generation capacity and encourage RE supply by private producers, including supply to the grid as well as direct sales to households.

Sources: IEA, World Bank, IRENA, EnergyTrackerAsia, pv magazine, US International Trade Administration, Perspective Plan 2021-2041

Climate action in Nepal

Although annual greenhouse gas (GHG) emissions grew from 26 MtCO2eq in 1990 to 54 MtCO2eq in 2016, Nepal is still a very small emitter, contributing only 0.027% to global emissions. In a business as usual (BAU) scenario, emissions would increase by 31–36% by 2030 in absolute terms, according to Climate Action Tracker.[20]

From 1999 to 2018, Nepal was ranked the ninth most negatively climate-affected country in the world.[21] The high climate vulnerability and risk exposure result from the combination of geography (much of the country is situated in the Himalayas), climate and hydrology (melting glaciers, thawing permafrost) and socio-economic vulnerability. Without enhanced resilience building, climate induced loss and damage will steeply increase.

Nepal's *National Climate Change Policy* (2019) envisions a climate-resilient country in the context of climate justice, environmental conservation and sustainable development.[22] Community-based adaptation with a focus on vulnerable communities and a strong sustainable development nexus has always been an important component of climate policies and actions. Local governments play an important role in these efforts. Vertical and horizontal coordination mechanisms are well developed: The Climate Change Council, chaired by the Prime Minister, coordinates measures at the highest political level. At the ministerial level, coordination is arranged through the Inter-Ministerial Climate Change Coordination Committee (IMCCCC), chaired by the Secretary of the Ministry of Forests and Environment (MOFE), to facilitate mainstreaming, monitoring and reporting of climate actions in the country. In these platforms, line ministries are involved, with the Ministry of Finance (MOF), Ministry of Energy, Water Resources and Irrigation (MOEWRI), Ministry of Agriculture and Livestock Development (MOALD) and the National Planning Commission as the most important ones.

Nepal's Nationally Determined Contribution

Nepal submitted its second NDC in December 2020 to the UNFCCC secretariat,[23] pledging, *inter alia*, to:

ENERGY GENERATION

- By 2030, expand clean energy generation from approximately 1,400 MW to 15,000 MW (5–10% generated through micro-hydro/PV/biogas/wind; 5,000 MW unconditional).[24]
- By 2030, ensure 15% of the total energy demand is supplied from clean energy sources.

TRANSPORT

- By 2030, increase sales of e-vehicles to cover 90% of all private passenger vehicle sales, including two-wheelers and 60% of all four-wheeler public passenger vehicle sales.
- By 2030, develop 200 km of electric rail network.

20 https://climateactiontracker.org/countries/nepal/pledges-and-targets/
21 https://germanwatch.org/sites/germanwatch.org/files/20-2-01e%20Global%20Climate%20Risk%20Index%202020_14.pdf
22 https://mofe.gov.np/downloadfile/climatechange_policy_english_1580984322.pdf
23 https://www4.unfccc.int/sites/ndcstaging/PublishedDocuments/Nepal%20Second/Second%20Nationally%20Determined%20Contribution%20(NDC)%20-%202020.pdf
24 https://100re-map.net/conditional-and-unconditional-climate-action-in-ndcs/

RESIDENTIAL SECTOR

- By 2030, ensure 25% of households use electric stoves as their primary mode of cooking.
- By 2025, install 500,000 improved cookstoves, specifically in rural areas.
- By 2025, install an additional 200,000 household biogas plants and 500 large scale biogas plants.

Source: Ministry of Forests and Environment, Government of Nepal, 2020

Most targets are conditional on international support, which is calculated to amount to USD 25 billion, while the investment needs for achieving the unconditional targets are estimated to be USD 3.4 billion.

Furthermore, the pledge was made to adopt a long-term decarbonisation plan soon that would lead to net-zero emissions by 2050. This builds trust and is well aligned with the pledge made as a member of the Climate Vulnerable Forum (CVF).[25] In fact, the second NDC has become much more specific on mitigation action, while the first NDC had a clear priority on adaptation. In its most recent assessment of Nepal's climate action,the Climate Action Tracker (CAT) concluded that the country's targets still seem to be coherent with the 1.5°C temperature goal (a formal rating was not given because Nepal's NDC does not include an economy-wide emission reduction target) but that the country has been relatively slow in policy implementation, and that action has to be speeded up significantly, especially in the energy and transport sectors, if the country was to achieve its own 2030 targets.[26]

Nepal, as a member of the NDC Partnership (NDCP), recieved technical support for the NDC enhancement, provided by Climate Analytics, GIZ, UNDP and WWF. Stakeholder consultations, including with certain civil society organisations, took place. Further consultations for NDC implementation are planned, including at the provincial level. Mainstreaming social inclusion and gender in climate mitigation and adaptation programmes, as well as alignment between climate, energy and development planning, are other important pillars for both Nepal's approach to climate change and the NDCP in technical support of it.

There is room for improvement in terms of engaging CSOs in the formation and implementation of these sort of policies. For example, CSOs played a relatively marginal role in the enhanced NDC preparation process. The restrictions on gatherings due to the COVID-19 pandemic played a role in limiting stakeholder discourse and engagement on NDC formulation (the draft was put up on the Ministry of Forests and Environment website for comments seeking feedback in a written form) but there could have been other ways of making the process more inclusive and participatory.

The **NDC Partnership** is a global initiative to assist countries implement NDCs under the Paris Agreement and the 2030 Sustainable Development Goals. It was launched at COP22 in 2016 in Marrakesh and aims to enhance cooperation so that countries have access to the technical knowledge and financial support they need to implement their NDCs. By now, the NDC Partnership has over 100 members, including countries from the Global South and North, international institutions as well as non-state actors.

For more information see:
www.ndcpartnership.org

25 https://thecvf.org/activities/program/official-documents/marrakech-vision/
26 https://climateactiontracker.org/countries/nepal/pledges-and-targets/

Sustainable development in Nepal and the effects of COVID-19

In recent years, Nepal has made steady progress on advancing sustainable development. According to the Asian Development Bank, the unemployment rate was 4.4% in 2020 and the proportion of employed people living below USD 1.90 purchasing power parity a day (international poverty line) stands at 4.3%, which marks impressive progress on poverty reduction in recent decades.[27] Furthermore, the SDGs have been streamlined across the country's national development planning, including the *15th Development Plan 2019/20 – 2023/24*,[28] and political commitments and institutional capacity is in place for effective implementation. Besides, an *SDG roadmap 2016–2030* was developed to operationalize the SDGs at all levels. According to the *Voluntary National Review 2020*, progress has been achieved with regard to the targets set, particularly on poverty, food security, health, water and gender equality. Particular efforts are still needed on housing, affordable and clean energy and sustainable cities.[29]

Climate policies have also factored in sustainable development. For example, Nepal's *National Climate Change Policy* (2019) links the objective of becoming a climate resilient country explicitly to advancing climate justice, environmental conservation and sustainable development. In addition, climate policies and interventions are often underpinned by a focus on community-based adaptation, with particular attention given to vulnerable communities, and efforts to mainstream climate change into development planning are increasingly common.[30]

Unfortunately, this progress has been stymied due to the socio-economic shocks of the COVID-19 pandemic.[31] The economic growth rate in 2020 slowed down to an estimated 0.2% and growth in 2021, with expected continuous disruptions of economic activities, especially tourism, is again projected to be only 0.6%, hitting the poorest in the large informal sector hardest.[32]

The Government of Nepal responded to the crisis through various policy, institutional, fiscal and monetary measures including: Formation of COVID Crisis Management Centre (CCMC) led by the Deputy Prime Minister; formation of the Nepal Relief, Resilience and Recovery Advisory Committee by the Ministry of Finance; preparation of a *National Recovery Plan*; and creation of a nearly USD 1 billion programme on public health and economic recovery; establishment of the *Corona Virus Infection Prevention, Control and Treatment Fund* (CPCTF).[33]

27 https://www.adb.org/countries/nepal/poverty#accordion-0-0
28 https://npc.gov.np/images/category/15th_plan_English_Version.pdf
29 https://sustainabledevelopment.un.org/memberstates/nepal
30 https://mofe.gov.np/downloadfile/climatechange_policy_english_1580984322.pdf
31 As of 23 July 2021 there have been 672,871 confirmed cases of COVID-19 with 9,637 deaths reported to the WHO.
32 https://www.worldbank.org/en/news/press-release/2020/10/08/COVID-19-impact-on-nepals-economy-hits-hardest-informal-sector
33 http://nhrc.gov.np/wp-content/uploads/2021/02/Policy-audit-Report-Final-MD.pdf

Implications of COVID-19 for the energy sector

As many other sectors of Nepal's economy, COVID-19 has also severely affected energy generation and utilisation. The National Planning Commission has reported a significant gap in progress of energy generation in the last fiscal year.[34] The Nepal Electricity Authority has reported a decline of about 20–25% in peak demand and around a 30–35% drop in energy demand during the lockdown.

The *Relief, Recovery and Resilience Plan*, which is currently being prepared by the National Planning Commission, has identified 14 specific areas that need to be prioritised in order to effectively recover from the negative impacts caused by the COVID-19 pandemic.[35] Energy is a recurring issue in all areas, notably in the health and tourism sectors:

- A prompt emergency response to COVID-19 depends on reliable energy access. Health facilities have many energy requirements, including: electricity for health services and medical equipment (such as ventilators); cooling of medicines and vaccines; thermal requirements related to sterilisation; space and water heating; and incineration. As COVID-19 cases are growing, the demand for these health services is also increasing.

- The tourism sector is characterised by high levels of energy consumption. Transportation, including aviation and shipping, hotels and accommodation and food and beverages distribution are highly energy intensive segments. Lighting and heating in hotels and the production and supply of food and beverages for travellers consumes large amounts of energy.

Nepal's *Relief, Recovery and Resilience Plan* and the financial support pledged by development partners in December 2020, offers a great opportunity to advance a green and sustainable recovery from COVID-19, including through introducing nature-based solutions, which create jobs and tackle climate change impacts, building green and resilient infrastructure, enhancing resilience of health and social systems and making significant investments in RE, all well aligned with the NDC and the SDG targets.[36]

34 *Annual Report of Fiscal year 2076/77*. Kathmandu, Nepal: National Planning Commision, Government of Nepal.
35 For more analysis on how RE can play a key role in green recovery plans in the wake of the COVID-19 pandemic, see: https://100re-map.net/wp-content/uploads/2021/05/100RE-MAP-REcovery-Policy-Brief-Nepal.pdf
36 https://www.developmentaid.org/#!/news-stream/post/81239/nepal-and-dps-agree-to-enable-green-and-sustainable-recovery-from-the-COVID-19-pandemic

The role of renewables in increasing climate ambition and achieving the 2030 Agenda

Nepal has the potential to further build on the impressive progress it has made in recent years in improving energy access by ensuring access is reliable, affordable and uninterrupted. With a substantial part of the population still living in rural areas, renewable energy – notably decentralised RE solutions – has significant potential to improve overall energy security and help the country achieve critical sustainable development goals. Even small increases in energy consumption have been shown to strongly correlate with dramatic improvements in quality of life, particularly for the poorest people. Building Nepal's energy future on RE would also unleash the many co-benefits associated with RE deployment.

To that end, it is highly recommended that the country includes a clear and bold RE target in the NDC. As a 'slightly critical indebted' country[37] with limited fiscal or private resources, Nepal relies on financial support. A long-term political commitment to a clear RE target, expressed within the NDC and across other policy instruments, and stable, consistent and transparent enabling frameworks and institutional capacity building are critical to unleash climate finance at scale. As the *Rural Energy Development Programme* (REDP), which introduced decentralised RE services to Nepal's remote rural populations as far back as 1996, shows the original strong commitment from the government and allocation of upfront public investment, in turn, attracted long-term commitments from donors and partners including the Danish International Development Agency, the World Bank, UNDP and various NGOs, as well as from local governments, who contributed financing under subsidy provisions and for capacity building.[38] As Nepal is among the most climate vulnerable countries in the world, a strong focus should be on decentralised RE solutions – whether in the electricity, water pumping, heating or cooling sectors – as these have strong adaptation co-benefits, and can ensure continuity of critical services even in times of disaster, thus improving climate and energy resilience.

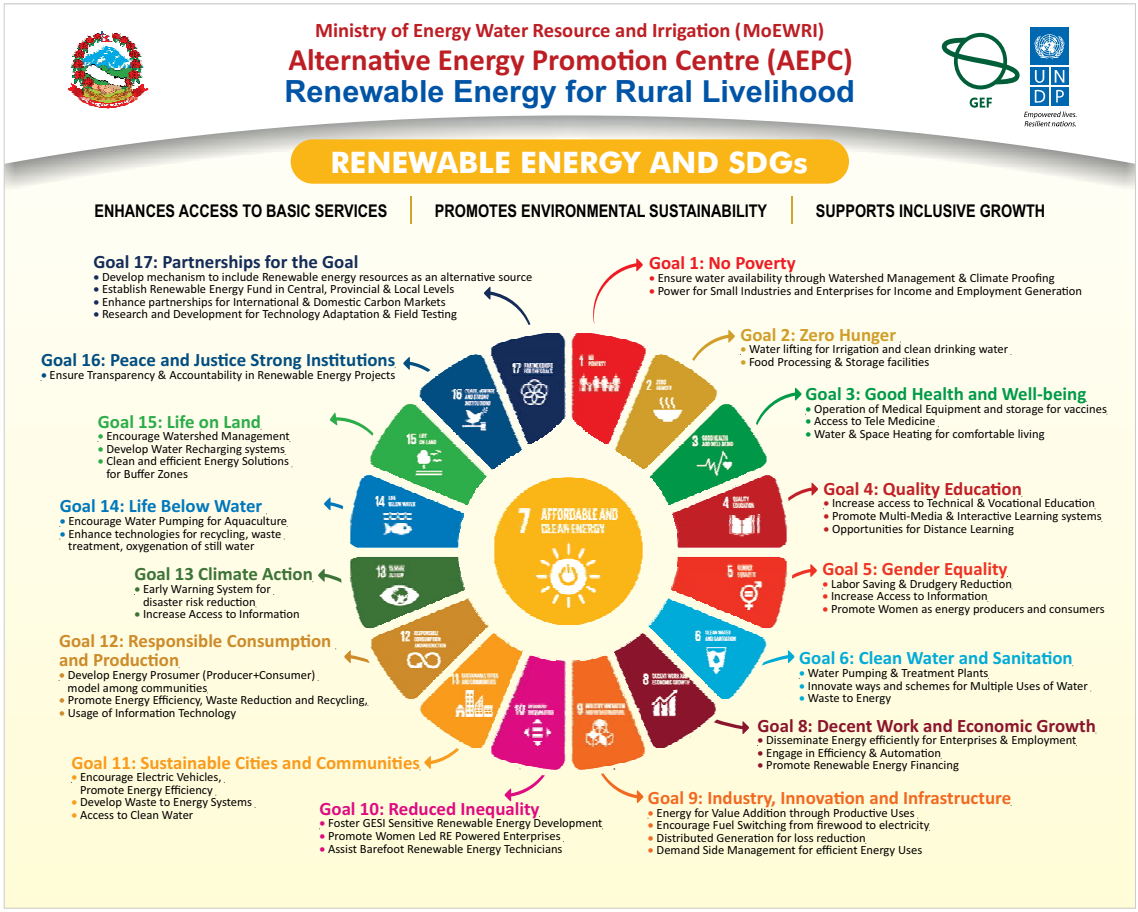
Equally, decentralised RE systems can strengthen local governance and support the development of rural economies and livelihoods, as they foster productivity across all stages of the agri-food chain, from irrigation to food production, increase energy security, make communities more resilient, power vital medical and educational services, and enhance and contribute to the safety and security of communities. For that to occur, it is crucial that RE projects take a community-based approach and invest in local capacity building, which also ensures sustainability and local ownership.

The deployment of renewables across agri-food value chains can improve the profitability and sustainability of the food and agriculture sectors, foster climate action and resilience and, boost economic growth and create jobs, particularly for youth and women. As interviews with NGOs that are engaged in development and poverty eradication confirmed, in order to get these stakeholders on board in supporting 100%RE, the full spectrum of benefits of RE solutions for (rural) people and livelihoods needs to be highlighted, including for cooking, heating,

37 https://erlassjahr.de/en/information/map-highly-indebted-countries-worldwide/
38 https://www1.undp.org/content/dam/undp/library/Poverty%20Reduction/Participatory%20Local%20Development/Nepal_REDP_web.pdf

Overview of benefits for RE across the SDGs

Prepared by Nepal's Ministry of Energy Water Resource and Irrigation's
Alternative Energy Promotion Centre



cooling, drying, lightening, pumping, running electric devices and machines, transportation, and water filtering. Partnering with rural communities, creating opportunities and fostering collaboration in the production and promotion of renewable energy can significantly enhance their livelihood and ensure them access to basic services. The Nepalese government recognises these co-benefits (see figure above). Once again, REDP offers a useful case study: the programme produced multiplier benefits for targeted communities and unleashed progress across key sustainable development metrics, such as poverty reduction, primary education rates, gender equality and women empowerment, reducing child mortality, improving maternal health and combatting diseases, and ensuring environmental sustainability and protection.[39]

39 *Ibid.*

There are, however, implementation challenges to be addressed in rolling out such an ambitious renewables agenda: Integrating RE in rural livelihoods in a sustainable way requires – apart from technologies and funding – raising awareness and capacity building support. This includes knowledge transfer and building capacities on irrigation, crop preservation and processing; the development of an energy master plan; enabling policy frameworks are needed, in particular for the transport sector; considerations on sector-coupling; as well as the implementation and maintenance of successful pilot projects are required to enhance knowledge and confidence in RE of both, the people, and all three levels of government.

Conclusion and recommendations

Nepal's government has promoted RE solutions as an inclusive means to lift people out of poverty, and the vulnerable out of marginalisation. This is reflected in renewable energy programmes, development plans, recovery programmes and the updated NDC with its specific targets for small and micro-scale RE. Moreover, the government's approach toward RE-focused or climate-focused CSOs is generally characterised as open, trustful, and cooperative, providing space for engagement and participation.

But in order to leverage the co-benefits of RE deployment to the fullest extent, and ensure that it maximises socio-economic impacts, frameworks for inclusion and stakeholder engagement, including CSOs and marginalised communities, should be bolstered. Civil society, through strong ties to vulnerable communities and marginalised groups of society as well as strong narratives that mobilise societal support, can have a powerful impact on policies and through them can ultimately move the real economy toward a social-ecological transformation. CSOs which deliver quality results should be accepted as partners in piloting solutions on the ground, in awareness-raising and capacity building, in serving as bridge-builders, including to the private sector and internationally, and in providing technical expertise. However, political tail wind alone will not lead to the desired results. The challenges are manifold, and successful implementation seems to be the by far bigger problem in Nepal, as compared to mobilising political will.

There are a few focal areas where action could make progress in closing this implementation gap.

Firstly, it would be desirable to achieve a more granular picture of the specific RE solutions for Nepal's energy needs, now and into the future.

Secondly, as interviewees for this study identified, cooperation between energy companies and the development sector is another necessity for improving implementation.

Thirdly, the co-development of low-cost RE micro solutions, that are affordable and accessible for poor people and people in remote areas should be prioritised.

Targeted strategies, multi-stakeholder cooperation, out-of-the-box thinking, entrepreneurship and financial support are needed to develop such products, value chains, financing instruments and markets. Experience from other countries, including those of RE start-ups with a pro-poor perspective, may help to develop solutions for Nepal, too, e.g., through organising exchange with Bangladesh or India, where relevant experience exists. Apart from enhancing participation, including of vulnerable groups, this would also unlock SDG co-benefits, such as rural job creation.

Large-scale RE deployment in Nepal can provide energy independence at affordable prices and to the benefit of national value added. Thus, it is highly recommendable to include a bold RE target in the NDC. Considering the implementation of such a bold RE target requires the mobilisation of climate finance at scale, all available global mechanisms for this need to be explored and leveraged. One key step in attracting the required levels of finance is the adoption of a clear, long-term target and the creation of reliable institutions to regulate and administer projects throughout their lifespan.

Finally, it is imperative that the RE nexus linking the NDCs with the Agenda 2030 is embedded in COVID-19 recovery strategies. In this context, it is particularly important to consider the contribution of decentralised RE to climate and economic resilience.

For more recommendations on how to leverage RE solutions as part of COVID-19 recovery plans, please see the report, *RE-CONSIDER: Renewable Energy as a Catalyser for a Green Recovery from COVID-19 Impacts in Nepal*, which was released as part of the 100RE-MAP project.[40]

40 http://prc.org.np/assets/uploads/resource/03dedd93a2a4ff5591e15d4f837b984e.pdf

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