

## **Input by the International Renewable Energy Agency (IRENA) to the 2021 High-level Political Forum on Sustainable Development (HLPF)**

*“Sustainable and resilient recovery from the COVID-19 pandemic that promotes the economic, social and environmental dimensions of sustainable development: building an inclusive and effective path for the achievement of the 2030 Agenda in the context of the decade of action and delivery for sustainable development”.*

### **A. Impacts of the COVID-19 pandemic on the implementation of the SDGs under review in the 2021 HLPF, bearing in mind the interlinkages with SDG 7**

COVID-19 pandemic had a devastating effect around the world. Response measures, including widespread lockdowns, have disrupted production and supply chains, shrunk demand for goods and services, depressed commodity prices and caused a massive economic contraction. Alongside the health crisis, hundreds of millions of people have lost their jobs or seen their livelihoods threatened.

Renewable energy, while suffering impacts from the pandemic along with the whole global economy, has proven to be more resilient than other parts of the sector. This was especially true for renewable power, given that electricity demand was much less affected than that for transport fuels, for example. Electricity systems with high shares of renewables continued to operate effectively.

The latest numbers of the International Renewable Energy Agency (IRENA) show that new renewable power generation projects now increasingly undercut generation costs of existing coal-fired plants. While **renewable energy capacity has more than doubled between 2010 and 2019**, reaching over 2 500 gigawatts (GW) globally,<sup>1</sup> the cost of renewables decreased drastically. On average, the costs of the **new solar photovoltaic (PV) and onshore wind power are now lower than the marginal costs of existing coal plants in operation**. This year, up to 1 200 GW of existing coal capacity could cost more to operate than the cost of new utility-scale solar PV.<sup>2</sup>

Apart from these technology-oriented figures, **access to and deployment of renewable energy offers a variety of socio-economic benefits for short- and medium- recovery from the pandemic in the efforts to achieve the 2030 Agenda and in the long-term quest for climate stability**. By making the energy transition an integral part of the wider recovery, governments can realize a step-change in the pursuit of a healthy, inclusive, prosperous, just and resilient future in global solidarity that leaves no one behind. While SDG 7 on energy is not under review during this year’s High-level Political Forum on Sustainable Development (HLPF), transitioning to sustainable energy and improved energy access is a prerequisite for reaching many other SDGs, and particularly those under assessment this year.

**No poverty and zero hunger.** Most of the world’s poor people live in rural areas and rely on farming, keeping livestock, operating aquaculture, and other agricultural work. Increasing access to affordable, reliable modern energy for productive uses, such as agricultural

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<sup>1</sup> IRENA (2020), *Renewable Capacity Statistics 2020*

<sup>2</sup> IRENA (2020), *Renewable Power Generation Costs in 2019*, International Renewable Energy Agency, Abu Dhabi

activities, generates incomes, enhances resilience to shocks and catalyses socio-economic development. Feeding the projected 2050 world population of some 10 billion people sustainably presents a big challenge, given that **food systems currently consume 30% of the world's available energy, and energy is responsible for about 35% of GHG emissions from agri-food chains.**<sup>3</sup> The energy transition will need to be closely aligned with efforts to transform food systems to jointly advance the SDGs.

**Good health and well-being.** Over a billion people globally are served by health facilities without access to electricity. Distributed renewable energy solutions can permit **healthcare centres to improve their level of response to the pandemic.** Such solutions also ensure access to water and sanitation services and continued operation of critical infrastructure, such as mobile testing centres and laboratories, as well as cooling along the supply chains for vaccines and other medicines on which so many healthcare services rely.<sup>4</sup>

WHO estimates that 7 million people die every year from exposure to fine particles and air pollution generated to a large extent by the burning of fossil fuels or inefficient use of biomass.<sup>5</sup> The switch to clean renewable energy sources, would **improve the air quality** and bring greater prosperity by reducing ill health.

**Decent work and economic growth.** IRENA estimates employment in renewable energy worldwide at **11.5 million in 2019**, up from 11 million in 2018. **Women hold just 32% of these jobs**, most in administrative posts and rarely in higher management positions, indicating a need to improve the sector's gender balance and ensure that it benefits from women's skills and perspectives. Available evidence suggests that investing in renewable energy employs more people than investing in fossil fuels. On average, spending USD 1 million on renewables creates 7.49 full-time equivalent (FTE) jobs, **almost triple** the 2.65 FTE jobs in fossil fuels.<sup>6</sup>

Globally, investments in the renewable energy transition can create additional **19 million jobs in renewables, energy efficiency and energy system flexibility over the next decade and boost GDP by an extra 1.3%.**<sup>7</sup>

**Reduced inequalities.** Energy lies at the **heart of human development.** It is a critical factor in economic activity and essential for the provision of human needs, including adequate food, shelter and healthcare, and therefore in reducing inequalities also from the gender perspective. While opportunities exist to improve gender balance and make greater use of women's skills, women already hold 32% of jobs in renewables compared to 22% in oil and gas.<sup>8</sup>

**Climate action.** With over two-thirds of global greenhouse gas emissions coming from the energy sector, a transition to cleaner forms of energy is essential for fulfilling the Paris Agreement target. According to IRENA, rapid uptake of renewables, coupled with energy efficiency, can achieve around **90% of the energy-related emission reductions** needed by

<sup>3</sup> <http://www.fao.org/energy/home/en/>

<sup>4</sup> IRENA (2020), *The post-COVID recovery: An agenda for resilience, development and equality*, International Renewable Energy Agency, Abu Dhabi

<sup>5</sup> <https://www.who.int/news-room/air-pollution>

<sup>6</sup> IRENA (2020), *Renewable Energy and Jobs – Annual Review 2020*, International Renewable Energy Agency, Abu Dhabi

<sup>7</sup> IRENA (2020), *The post-COVID recovery: An agenda for resilience, development and equality*, International Renewable Energy Agency, Abu Dhabi

<sup>8</sup> IRENA (2020), *Renewable Energy: A Gender Perspective*, International Renewable Energy Agency, Abu Dhabi

2050.<sup>9</sup> Renewable energy can also contribute to **adaptation efforts**, by promoting the diversification of the power supply and by building resilience through improved energy access.

**Peace and justice.** The UN Security Council has been examining the impact of climate change on international peace and security since 2007.<sup>10</sup> Climate change will have widespread effects that defence and security experts call ‘threat multipliers’ because they can worsen scarcity of food and water, increase poverty, and aggravate risks of conflict and political instability. **Renewables induce geopolitical effects** by mitigating climate change. Renewables also enable countries to **strengthen their energy security** and achieve greater energy independence by harnessing the vast indigenous renewable energy sources that can be found across the planet.

## **B. Actions, policy guidance, progress, challenges and areas requiring urgent attention in relation to the SDGs**

How the world emerges from the COVID-19 crisis will determine our shared future for generations ahead. In addition to health-related measures, much will depend on how countries continue to respond in terms of economic stimulus. Recovery measures over the next three years can either trigger a decisive shift toward resilient energy systems or lock in unsustainable practices. The goals set out in the 2030 Agenda and the Paris Agreement can guide countries to develop an adequate response. A holistic policy approach rooted in a climate-safe energy development, yet also focused on short-term imperatives would reap multiple benefits and help set the stage for a just transition.

**Investments in energy transition must remain a central priority of energy policies in the medium term.** According to IRENA, USD 2 trillion of energy transformation investment is needed each year in the recovery phase between 2021 and 2023. This is more than double the USD 825 billion invested in renewable energy and other energy transition technologies in 2019. Of total USD 6 trillion needed during 2021-2023, half would go to efficiency and half to renewables, electrification, electricity infrastructure.<sup>11</sup>

Investments alone will not achieve the necessary structural shift, so policy measures are equally, if not more important in this regard. IRENA outlines short-term measures to stimulate the recovery and accelerate the energy transition with the following key objectives:

- **Ambition:** Adopt ambitious renewable energy targets in this round of NDCs in line with energy transition plans; set and align renewable energy targets in all energy end uses, related infrastructure and energy efficiency.
- **Public Intervention:** Provide risk-mitigation instruments to mobilise private capital; shift public finance away from fossil fuels and towards energy transition-related investment; implement carbon pricing to avoid distorted economic uptake as the pandemic recedes; mobilise public finance to trigger investment in enabling infrastructure for renewables.
- **Investment:** Safeguard renewable energy projects facing construction delays; maintain investments in planned projects; trigger transition-related heating and cooling investments.

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<sup>9</sup> IRENA (2020), *Global Renewables Outlook: Energy transformation 2050 (Edition: 2020)*, International Renewable Energy Agency, Abu Dhabi

<sup>10</sup> IRENA (2019), *A New World the Geopolitics of the Energy Transformation*, International Renewable Energy Agency, Abu Dhabi

<sup>11</sup> IRENA (2020), *The post-COVID recovery: An agenda for resilience, development and equality*, International Renewable Energy Agency, Abu Dhabi

- **Employment:** Protect existing jobs and support new job creation, encouraging gender balance.
- **Industry:** Diversify supply chains by reducing entry barriers for local firms seeking access to value chains and promoting the shift to regional value chains to foster global resilience to exogenous shocks.
- **Access:** Ensure reliable energy access amid disruptions:
  - Deploy distributed renewable energy solutions to support COVID-19 responses and strengthen health, sanitation and other critical infrastructure;
  - Engage cross-sector partnerships to mobilise rapid responses;
  - Ensure that vulnerable populations continue using modern decentralised solutions rather than reverting traditional fuel use due to income shocks;
  - Address logistical challenges faced by suppliers to service off-grid areas;
  - Mainstream gender in COVID-19 support programmes.

**C. An assessment of the situation regarding the principle of “ensuring that no one is left behind” at the global, regional and national levels against the background of the COVID-19 pandemic in achieving the 2030 Agenda and the SDGs**

IRENA, together with four other international organizations – the International Energy Agency (IEA), the United Nations Statistical Department (UNSD), the World Bank (WB) and the World Health Organisation (WHO), annually tracks the progress in meeting SDG 7 along its different indicators and targets. According to the *2020 Tracking SDG 7: Energy Progress Report*, although the world continues to advance toward SDG 7, its efforts fall well short of the scale required to reach the goal by 2030 (see more below).<sup>12</sup> The COVID-19 pandemic is certain to affect the energy transition and progress toward SDG 7 and its full impact on energy access, energy efficiency, renewable energy deployment, and the full energy transition remains to be seen.

**Global perspective**

- **SDG 7.1 Universal access.** The global population lacking access to electricity dropped to **789 million in 2018**, from 1.2 billion in 2010. The global population without access to clean cooking solutions remained largely unchanged during the same period, standing at close to **3 billion**. Under current and planned policies before the start of the COVID-19 crisis, it is estimated that about **620 million people will remain without access in 2030**, 85% of them in Sub-Saharan Africa.
- **SDG 7.2 Renewable energy.** The share of renewable energy in total final energy consumption (TFEC) continued to increase in 2017, **reaching 17.3%**. But renewables’ share in the heating and cooling, as well as transportation sectors lags far behind its potential. **An acceleration of renewables in all sectors will be needed to achieve target 7.2.**
- **SDG 7.3 Energy efficiency.** The average annual rate of improvement in global primary energy intensity between 2010 and 2017 was **2.2%**, more than the historical rate of 1.3% between 1990 and 2010. To reach the SDG 7.3 target (by doubling the historical

<sup>12</sup> IEA, IRENA, UNSD, WB, WHO (2020), *Tracking SDG 7: The Energy Progress Report*, International Bank for Reconstruction and Development / The World Bank, Washington DC. Please note that the 2021 Tracking SDG 7 Report will be released in May 2021 and will include updated information and numbers on SDG 7 progress.

improvement trend), the annual improvement to 2030 would need **to average 3% in the years between 2017 and 2030**, hence remaining a challenging proposition.

- **SDG 7.A International public finance.** Total international public financial flows in support of clean and renewable energy reached **USD 21.4 billion in 2017**, double the level of 2010. Although this is a promising increase, only **12% of financial flows in 2017 reached the least-developed countries**. Increased efforts are needed to **make sure finance reaches the countries most in need**.
- **Annual financial commitments to off-grid renewables reached USD 460 million in 2019, up from USD 429 million the year before**, an estimated USD 21 million in 2013 and just USD 250 000 known worldwide in 2007. **Yet even now, off-grid renewables still represent only 1% of the overall finance for projects to expand energy access.**<sup>13</sup>

#### Regional and country level perspective

- **SDG 7.1 Universal access.** The world's access deficit is increasingly concentrated in **Sub-Saharan Africa, where the access rate climbed from 34 % in 2010 to 47 % in 2018**. After 2010, access advances in Sub-Saharan Africa outpaced population growth, but the trend reversed recently.
- At country level, the **20 countries with the largest access deficits accounted for 78 % of the total population without access to electricity in 2018**. Nigeria, the Democratic Republic of Congo (DRC), and India had the three largest deficits: 85 million, 68 million, and 64 million people, respectively. Among the 20 countries with the largest access deficits, Bangladesh, Kenya, and Uganda showed the greatest improvement since 2010, thanks to average annual electrification growth rates in excess of 3.5 percentage points.
- **SDG 7.2 Renewable energy.** Sub-Saharan Africa had by far the highest share of renewable energy in TFEC for 2017. **However, reliance on traditional (and typically unsustainable) uses of biomass in the region accounts for almost 85 % of its renewable energy consumption**.
- At national level, the share of renewable energy in TFEC varies widely. Among the largest 20 energy consuming countries, Brazil was the leader, with a 45 % share of modern renewables, mostly attributed to biofuels. **In several countries, the decrease in total renewable energy share was also driven by reduced traditional uses of biomass**.
- **SDG 7.3 Energy efficiency.** Significant geographical differences also exist in energy intensity and recent improvements. Sub-Saharan Africa is the most energy-intensive region; Latin America and the Caribbean the least. The lowest rates of improvement were found in Latin America and the Caribbean (0.5%), Northern Africa (0.4%) and the Middle East (0.3 %).

#### **D. Cooperation, measures and commitments at all levels in promoting sustainable and resilient recovery from the COVID-19 pandemic**

As we entered the decade of action, joining forces at global, regional and national level between all stakeholders to achieve the 2030 Agenda is essential. Millions who are left behind

<sup>13</sup> IRENA and CPI (2020), *Global Landscape of Renewable Energy Finance, 2020*, International Renewable Energy Agency, Abu Dhabi

cannot attain the transformation on their own. Therefore, forging partnerships with a variety of stakeholders is an important priority, also for IRENA.

### **Cooperation with the UN system and their initiatives**

Since April 2019, IRENA has concluded numerous cooperation agreements with a range of UN agencies and entities which are now being implemented (including UNDP, UNFCCC, UN DESA, UN OHRLLS, UNCCD, UNIDO, ESCWA, ESCAP, UN HABITAT, UNECE, FAO).

IRENA is actively involved in the follow up of the initiatives of the UN **Climate Action Summit (CAS)**. The **SIDS Lighthouses Initiative** is a central pillar and implementing framework of the SIDS Climate Package and its Energy Transition Deliverable launched at CAS.<sup>14</sup> IRENA is the coordinator and facilitator of the initiative.

Another notable initiative of CAS is the **Climate Investment Platform (CIP)**, a partnership between IRENA, SEforAll, the UNDP Green Climate Fund (GCF) to address and unlock investment needs in developing countries, in turn initiating a step-change in their pursuit of low-carbon energy ambitions.<sup>15</sup> The Agency currently has a particular focus on risk mitigation and project facilitation.

IRENA is also supporting further CAS initiatives on the *Decarbonizing shipping: Getting to Zero Coalition*, *Cool Coalition*, *Coalition for Sustainable Energy Access*, *Three Percent Club for Energy Efficiency* as well as *Toward A Cleaner Electricity in Latin America*.

IRENA is an active member of the **multi-stakeholder Technical Advisory Group on SDG 7**, which was convened by UN DESA to facilitate stocktaking of progress to-date and to seek advice on the technical preparation of the review of SDG 7 and its interlinkages with other SDGs at HLPF.

Together with UNEP and UN ESCAP, IRENA co-leads the Energy Transition Theme of this year's **High-level Dialogue on Energy in 2021**, the first global gathering on energy under the auspices of the General Assembly since the UN Conference on New and Renewable Sources of Energy held in Nairobi in 1981.<sup>16</sup>

### **Support to multi-stakeholder platforms**

**IRENA's Coalition for Action** forms a key international network, gathering renewable energy industry associations, private sector companies, civil society and research organisation, to discuss industry trends, determine actions, share knowledge and exchange best practices with the vision to drive the global energy transition in line with SDG 7.<sup>17</sup>

The main purpose of **IRENA's Sustainable Energy Jobs Platform**, launched in 2020, is intended to coordinate relevant activities with international partners, improve data quality and underlying methodologies, explore the policy implications of a just transition, and share experiences and best practices.<sup>18</sup>

In 2020 IRENA launched the **Collaborative Framework on Hydropower** to address the need to ensure the continued development of hydropower in a sustainable manner. Further IRENA Collaborative Frameworks include *Green Hydrogen*, *Ocean Energy* and *Offshore*

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<sup>14</sup> <https://islands.irena.org/>

<sup>15</sup> <https://www.irena.org/irenaforcip>

<sup>16</sup> <https://www.un.org/en/conferences/energy2021/about>

<sup>17</sup> <https://coalition.irena.org/>

<sup>18</sup> <http://sejplatform.org/>

*Renewables, Enhancing the Dialogue on High Shares of Renewables in Energy Systems, Geopolitics of Energy Transformation.*

### **National level support to LDCs, LLDCs and SIDS**

IRENA supports LDCs, LLDCs and SIDS by providing advice and capacity building on stimulating short-term, medium-term and long-term recovery efforts through energy transition. The Agency advises on the enhancement and the implementation of renewable energy ambition in NDCs, development of bankable or implementable projects and access to finance, and technology-related aspects of renewable energy deployment.

### **E. Various measures and policy recommendations on building an inclusive and effective path for the achievement of the 2030 Agenda in the context of the decade of action and delivery for sustainable development**

Linking the short-term recovery to medium and long-term strategies is paramount to achieving the SDGs and the Paris Agreement. Policy measures and investments for stimulus and recovery can drive a wider structural shift, fostering national and regional energy transition strategies as a decisive step in building resilient economies and societies.<sup>19</sup>

IRENA suggests the measures to advance the transition through 2030 and beyond, based on holistic milestones and on the principle of leaving no one behind include:

- **Ambition:** Support implementation of national energy transition-related targets as well as the NDC implementation via energy transition-related plans.
- **Public intervention:** Set up comprehensive, supportive and clear policy frameworks to attract energy transition-related investment.
- **Investments:**
  - Scale up power transition-related investment: develop flexibility options, including grids and pumped hydro, introduce financial incentives for smart meters, batteries and other storage technologies, enhance cross-border electricity trading;
  - Scale up transition-related heating and cooling as well as transport investment including R&D.
- **Employment:** Support the expansion of the workforce in energy transition-related fields
  - Identify the occupations required and leverage existing skills;
  - Develop training and education programmes to minimise skills gaps and co-ordinate educational offerings with industry needs;
  - Support the integration of renewable energy and climate topics into all-level educational curricula for relevant technical and non-technical disciplines;
  - Provide financial support to enhance the quality of training by technical and vocational institutions;
  - Improve women's access to education and training programmes.
- **Industry:** Develop local industries:
  - Impose strict performance requirements on local suppliers in exchange for government support (e.g., subsidies and tax breaks);
  - Set up supplier development programmes to promote learning-by-doing for local suppliers;
  - Establish industry clusters for energy transition-related technologies.

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<sup>19</sup> IRENA (2020), *The post-COVID recovery: An agenda for resilience, development and equality*, International Renewable Energy Agency, Abu Dhabi

- **Energy access:** Ensure universal energy access:
  - Allocate adequate funding in national budgets for electrification and clean cooking, complemented by development finance;
  - Capitalise dedicated funding facilities to deliver financing tailored to utilities, enterprises and consumers;
  - Ensure that scarce public financing helps to mobilise private capital;
  - Build capacity in local financial institutions to expand financing for energy access and associated productive activities;
  - Support distributed energy-for-livelihood applications by identifying cross sector opportunities;
  - Develop dedicated programmes to ensure modern energy access in schools, health care facilities and community centres.

**(f) Key messages for inclusion into the Ministerial Declaration of the 2021 HLPF**

- Access to and deployment of affordable, reliable, sustainable and modern energy is essential for both **the short-term response to the COVID-19 pandemic** for powering essential services, such as health facilities, water pumping and information technology; **and the medium to long-term response**, generating a range of socio-economic benefits, including economic growth and jobs.
- Improved energy access and transitioning to sustainable energy are vital for **achieving multiple SDGs and delivering on climate action towards net-zero emissions by 2050**. Therefore, the achievement of SDG 7 and energy transitions will determine whether Agenda 2030 and the Paris Agreement will be realised.
- To accelerate energy transitions, we need to:
  - **Raise ambition** through levelling up national targets, enhancing climate pledges and setting renewable energy targets in all end use sectors.
  - **Secure strategic finance** through investing in transition-related infrastructure, steering investment away from fossil fuels, and making bailouts conditional on climate action.
  - **Support continued technology research and innovation** and prioritise investment in efficiency, renewables and energy infrastructure.
  - **Protect decent employment and support the transitioning of fossil fuel sector workers** and communities to renewables.
  - **Diversify supply chains, leverage domestic capacity, develop local industries,** and promote supplier development programmes and industry clusters.
  - **Maintain energy access initiatives**, ensure reliable power supply and support distributed renewable energy solutions to strengthen health, sanitation and other critical infrastructure.