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POLICY BRIEF #23

ACHIEVING SDG7 IN LDCS, LLDCS AND SIDS

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This document is a part of a series of Policy Briefs being developed to support SDG7 review at the UN High-Level Political Forum to be held in July 2018. The objective is to inform intergovernmental discussions by providing substantive inputs on SDG7 and its interlinkages with other SDGs prepared through inclusive multi-stakeholder consultation processes. The development of these Policy Briefs is coordinated under the auspices of the Ad Hoc Informal Multi-stakeholder Technical Group of Advisors on SDG7.

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KEY MESSAGES

Status of and progress towards achieving SDG 7 in LDCs, LLDCs and SIDS

- LDCs, LLDCs and SIDS consist of 91 countries with a total of about 1.1 billion population. **Access to energy in these vulnerable countries remains a major challenge.** In 2014, the proportion of population having access to electricity in LDCs is 38%, in LLDCs it is 48.5 %, and SIDS it is 77%. This data hides the disparities between countries and regions; with some countries trailing way behind with an access rate as low as 5%.
- Ending energy poverty in vulnerable countries and ensuring **that no country or person is left behind has to become a priority** for all stakeholders in order to achieve the 2030 Agenda.
- Each country's transition to a sustainable energy sector involves a unique mix of resource opportunities and challenges. National plans and policies should be designed to meet the unique needs and resources of each country with the necessary mix of grid, mini-grid and off-grid solutions.

Priority actions over the next 4 years

- To achieve the global goals on energy in LDCs, LLDCs and SIDS it will be essential to act fast towards **creating enabling environments** for private sector investment and to promote attractive project pipelines. This will require well-functioning institutions and policy and regulatory reforms to help build credibility with investors and effectively scale-up private investment and leverage public resources for country-level implementation.
- DFIs and partners should **increase the funding allocated to sustainable energy in LDCs, LLDCs and SIDS** as this will have an impact across different sectors, including most of the SDGs, accelerate poverty eradication, structural transformation, and reducing vulnerability to fluctuating global energy prices.
- Moving a project from initial plan to **bankable project** requires significant time and human and capital resources (to prepare feasibility studies, environmental impact assessments, permits etc.). Vulnerable countries need more targeted support from their partners for project preparation to fast-track progress.
- Enhance **regional/cross border energy programmes**: development of the region's energy infrastructure and institutions, and stronger integration of the region's energy markets are necessary to ensure economies of scale and lower the unit cost of energy generation and to make available adequate volumes of commercial energy to all in a reliable, affordable, financially sustainable, and environmentally sound manner. Regional projects would require addressing the barriers to trade.

Priority actions towards 2030

- **Create cross-sectoral linkages** between sustainable energy and other development priorities (e.g., clean water, gender equality, improved education, access to healthcare, and climate change) to increase development finance flows that have the potential for higher impact and harmonized planning.
- Lack of maturity in energy access markets and underdeveloped financial markets in vulnerable countries mean that **DFIs will have to play larger role in catalyzing energy access investment in vulnerable countries.**
- National energy policies need to take into consideration the **energy demand profile of the poorest people** and ensure access to affordable energy. The positive development impacts of sustainable energy can be broadest by targeting the poorest, who would normally not benefit from modern energy. Yet, focus should not only be on promoting minimum access to households, but should also support productive uses and economic development and support a gradual shift towards self-sustaining systems **promoting economic development that is transformative and inclusive.**

Vulnerable Countries and the Sustainable Development Goals

Electricity access and achieving SDG7 in vulnerable countries

Sustainable energy[1], encompassing its three dimensions of access, efficiency, and renewable energy, is a key development enabler for all SDGs. Despite the potential that sustainable energy has for development, the vulnerable countries, including the Least Developed Countries (LDCs), Landlocked Developing Countries (LLDCs) and Small Island Developing States (SIDS) still face daunting challenges in achieving SDG 7.

Together the LDCs, LLDCs and SIDS consist of 91 countries with a total of about 1.1 billion population. Access to energy remains a major challenge for them. In 2014, the proportion of population having access to electricity in LDCs was 38%, in LLDCs it was 60%, and SIDS it was 77%. However, this data hides the disparities between countries; with some trailing way behind with an access rate as low as 5%. It is also important to stress that the proportion of this population overlaps with acute poverty as this population is not able to utilise the benefits of modern energy to improve their health, education, income generation and overall social and economic development. Furthermore, there are wide disparities between urban and rural areas with urban areas having access rates that are multiple times higher than the rural areas.

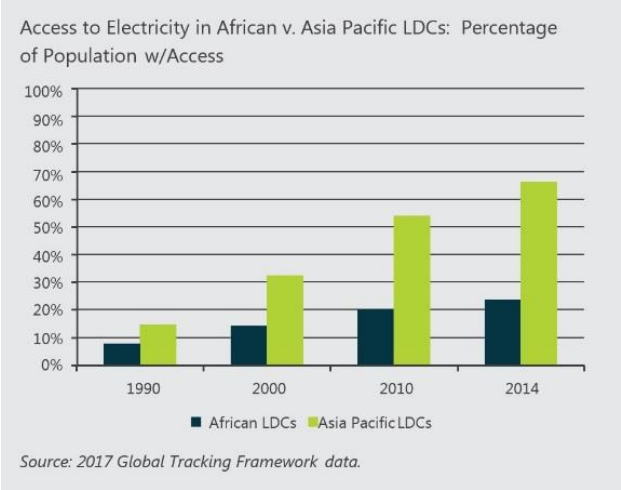
The three groups of countries, LDCs, LLDCs and SIDS, all face a different set of energy challenges and the progress made so far depends on which pillar –access, efficiency or renewables- is being measured. However, none of the vulnerable countries can afford to focus on only one of the pillars, but all three areas must be pursued at once to achieve accelerated energy transition.

This policy brief will identify how vulnerable countries are doing towards achieving SDG 7 and what is needed to accelerate their energy transition.

Current energy access status and main challenges in LDCs, LLDC and SIDS

The 47 Least Developed Countries (LDCs) represent the poorest and weakest segment of the international community and thus are the battleground on which the 2030 Agenda will be won or lost. The LDCs have a long way to go to achieve universal access to modern energy by 2030. While the average global electrification rate reached 85% in 2014, the average access to electricity across LDCs hovered at 38% and 556 million of the world's 1.06 billion people without electricity live in LDCs. There has been progress in LDCs in recent years, and while access to electricity increased faster between 2010 and 2014 than in the previous decade, the expansion rate is still far from what is needed to achieve universal energy access by 2030. Expanding access has been hindered by high connection costs, unreliable or unavailable grid electricity, high leakage, high operational costs that pose challenges for utilities and consumers ability to pay, and lack of investment.

The electricity access situation in the LDCs also varies by region. In 2014, the Asia Pacific LDCs reached an average electrification rate of 66%, while the rate in African LDCs was much lower at 24% (as shown in below Figure). Among the Asia Pacific LDCs, expansion of electrification and deployment of renewable energy systems in Bhutan, Tuvalu, Afghanistan, Cambodia, Nepal, and Lao PDR have led to notable growth. In some LDCs where significant gains have been made, engagement and buy-in by the government have been driving forces.



Within the LDCs, access to electricity tends to be far greater in urban areas than in rural areas, in 2014, on average, 69% of

[1] The term sustainable energy in this policy brief encompasses access to three forms of energy, each of which provides distinct but essential benefits for economic and social development: less polluting household energy for cooking and heating, including from improved cookstoves with traditional solid biomass fuels, from liquid and gaseous fuels such as kerosene and LPG or energy from renewable energy sources such as solar; electricity for powering appliances and lights in households and public facilities such as health clinics, schools, and government offices; and mechanical power from either electricity or other energy sources that improve the productivity of labor.

the urban population had electricity access, compared to only 26% of rural populations and access is expanding only slightly faster in rural areas. With a significant portion (68.5%) of the LDC population living in rural areas and a steep urban-rural electrification gap, closing this gap in LDCs will require a higher level of investment in infrastructure, including a combination of off-grid / mini-grid and decentralized grid-connected solutions to reach more remote populations. The gap between urban and rural populations is more extreme in Africa, where 57% of urban populations and 9% of rural populations have electricity, than in Asia Pacific LDCs, where 92% of urban and 58% of rural populations had access to electricity by 2014.

The 32 **landlocked developing countries (LLDCs)** with a total population of 478 million face development challenges owing to their geographical disadvantage of lacking direct territorial access to the sea and their remoteness and isolation from world markets. Investment in energy infrastructure, along with information and communications technology, underpins the ability of LLDCs to structurally transform their economies, and therefore it is a key priority for all landlocked developing countries.

While the average proportion of population with access to electricity rose from 34.9 in 2000 to 48.5 in 2014, wide disparities between urban and rural areas also exist in LLDCs. Furthermore, at least two thirds of the population relies on biomass for cooking, underscoring the urgent need for improved access to clean and modern cooking energy.

Small Island Developing States (SIDS) face additional geographic barriers to economic as well as sustainable energy development. SIDS generally rely heavily on imported fossil fuels for both transport and electricity generation, while their remoteness poses logistical and financial challenges for trade. This reliance makes them highly vulnerable to fluctuations in global oil prices and increases their cost of doing business. Most SIDS rely on widespread use of oil-based generators for electricity, but with small, dispersed populations, the grid does not reach the majority of inhabitants in many islands. At the same time, SIDS have the potential to access several renewable energy sources, such as solar, wind, geothermal and tidal. Hence, SIDS have the prospects to be forerunners in switching to renewable energy by adopting national renewable energy strategies and building the enabling environment, scaling up existing initiatives, establishing new partnerships, adopting new technologies and having better access to financing.

With respect to sustainable energy, across LDCs, the share of sustainable energy (including traditional and modern use of renewables) of total final energy consumption (TFEC) was 67.8%, which is significantly higher than the global average of 18.3%. However, this is largely due to traditional use of biomass, which has negative health, gender, and environmental consequences. In terms of renewable energy use, the average proportion of renewable energy in the total final energy consumption is 53% for the LLDCs. In seven of these countries the proportion of renewable energy in final consumption is very small, accounting for less than 10%, which shows that there is still great potential to promote greater use of renewable energy sources.

Improving energy efficiency is also a priority for all vulnerable countries, and most of them have only experienced small improvements. One crucial factor in increasing energy efficiency is the improvement of transmission and distribution systems. Improving energy intensity in these countries would make them more attractive for private sector activity, but greater private sector involvement and technological innovation is a necessity for driving such improvements.

In addition, all vulnerable countries face operational inefficiencies of power utilities, which need to be addressed as they impact significantly on the financial viability of these utilities. These inefficiencies reduce expected cash flows and deter private funding going to power generation and distribution.

Leaving no one behind - are we on track to achieving SDG7 in vulnerable countries?

Achieving universal access to modern energy globally is critically dependent on achieving it in vulnerable countries. But for most of them, achieving the SDG7 by 2030 will be an enormous challenge. Despite progress in recent years, only four of the 47 LDCs could achieve universal access to electricity by 2030 without an acceleration of the rate of increase in access, while only seven more could do so even if they doubled their current rate of progress. In nearly a quarter of the LDCs, by contrast, achieving universal access by 2030 would require the number of persons gaining access annually to be 10 times higher in the coming years than over the past decade.

The vulnerable countries with the least resources often also pay considerably higher price for a kWh. The average electricity rate across LDC capitals stands at USD 22.4¢/kWh, compared to the rates of developed countries such as the U.S.A. (10.08¢/kWh, commercial 2016). The range of electricity rates across these countries extends from 5.7¢/kWh (Bhutan) to 96¢/kWh (Solomon Islands). The significant variation is partly due to the energy mix, with countries highly dependent on imported fossil fuels for meeting energy needs, displaying the highest rates.

Despite the vast challenges ahead, significant progress has been made in many countries. Vulnerable countries are increasingly incorporating access to reliable, affordable and renewable energy in their national development strategies and are making continues efforts towards implementing their plans, and many success stories exist already, including the examples discussed below.

Many SIDS are emerging as forerunners in the pursuit of renewable energy based energy systems. Several SIDS have included in their national plans solid targets on increasing the share of renewable energy in their power mix. Samoa, for example, set a target of achieving 100% renewable energy by 2025 in its Nationally Determined Contributions under the Paris Agreement. To contribute to this target, Samoa recently signed a project on Improving the Performance and Reliability of RE Power Systems, funded through the Global Environment Facility (GEF) with USD 6 million and USD 46million co-financing by the Government of Samoa.

In Burkina Faso the government aims to cover 100 percent of electricity needs in urban areas and 40 percent in rural areas, by providing reliable and affordable electricity by 2025. Significant efforts are underway to achieve this, and the largest

solar power plant in West Africa was inaugurated in Burkina Faso last year. This 33 MW Zagtouli power plant has 129,600 solar panels on a surface area of 60 hectares.

Bangladesh has made considerable progress in electricity access in recent years. The major sources of renewable energy in Bangladesh are solar and wind energy. The innovative financing model for Solar Home Systems has led to rapid expansion of their use and over 4.5 million Solar Home Systems has been installed all over Bangladesh till now, and the energy output from solar has increased from 51 to 212 GWh between 2010 and 2014. The coastal areas in Bangladesh also provide good opportunities for wind-powered pumping and electricity generation.

The Economic Community of West African States (ECOWAS) has demonstrated the added value of sub-regional cooperation, by creating the ECOWAS Centre for Renewable Energy and Energy Efficiency (ECREEE) and the implementation of a comprehensive sub-regional policy process which resulted in the adoption of regional renewable energy, energy efficiency and energy access targets by 2030. Under the coordination of ECREEE, all member states developed national action plans on renewable energy, energy efficiency and energy access. In the partnership with DFIs and investors, sustainable energy investment prospectuses were developed. ECREEE has become an important vehicle to ensure equal and accelerated progress (nobody is left behind), as well as harmonization of donor activities. Currently, other also other regions have started to replicate the model.

These success stories are clear signs that achieving rapid progress in the energy sector is possible. The historic climate agreement in Paris have shaped recent year's developments, price decreases in renewable energy and new technical innovations including have all paved the way for brighter future. With strong national leadership, multi-stakeholder partnerships and increased access to finance, vulnerable countries will be able to accelerate their progress in providing access to modern energy.

However, by considering the long up-front times of energy investments and the current pace, it is uncertain whether SDG7 can be attained by 2030 in many vulnerable countries, as the uptake of sustainable energy investments continues to be hindered by a broad range of interrelated barriers (e.g. policy, technical, financial, institutional, capacity, knowledge, awareness).

Moreover, in many LDCs, LLDCs and SIDS the inability of the private sector to supply sustainable energy quality products and services under competitive prices has become a major bottleneck. Often the domestic manufacturing and services sectors are weakly developed and market demand remains underserved by international suppliers and supply chains due to high market entry costs and risks. This situation has led to a miss-match between the increasing demands for specialized services and equipment on the one hand and the limited capacities of the domestic private sector to meet them. Despite enabling policies and targets this leads in some cases to a stagnating market where sustainable energy investment occur only ad-hoc or without the perspective of scaling-up. The lack of viable business, operation and maintenance models is questioning the long-term sustainability of decentralized RE projects in various developing countries (e.g. mini-grids in SIDS or Sub-Sahara Africa).

How to accelerate energy transition in vulnerable countries & policy recommendations

Sustainable growth, advancing development, and improving livelihoods can only be achieved with efficient use and distribution of energy. Access to affordable, reliable, and renewable energy and related technologies should be made a priority and will be critically important on the path towards sustainable development and ending extreme poverty. Each country's transition to a sustainable energy sector involves a unique mix of resource opportunities and challenges and national plans and policies should be designed to meet the unique needs and resources of each country with the necessary mix of grid, mini-grid and off-grid solutions.

To accelerate energy transition, LDCs, LLDCs and SIDS and their partners need to focus on **1)** creating and enforcing predictable and coherent demand and supplier oriented policies and regulatory frameworks, **2)** unlocking investment in the energy sector including tailored de-risking and financial instruments, **3)** addressing currently limited funds and human capacity in policy development and project planning stage, **4)** improving technology transfer and strengthening domestic R&D on adapted solutions, **5)** enhancing regional cooperation, **6)** engaging and building multi-stakeholder partnerships to support the energy transition, and **7)** considering options for building energy systems catering the demands of the "bottom of the pyramid".

To accelerate progress, a holistic approach, which addresses all above mentioned issues simultaneously, is needed. This will require multi-stakeholder partnerships of many different stakeholders with individual comparative advantages. A **national plan for energy transition** that brings together development finance institutions (DFIs), the private sector and national stakeholders, and that will align energy sector budget allocations to support energy access investments is needed.

It is equally important to enact **regulatory reforms** that are consistent and predictable for DFIs and the private sector to adhere to in accelerating the transition to sustainable energy by expanding the sector, boosting investor confidence, and unlocking financial flows. National investment prospectus can also support countries in making rapid progress. These prospectuses should include identification of gaps; clear, ambitious and realistic goals; risk assessment and management; prioritization of actions and communication/sharing of information with the general public on the investment prospectus. It is also important to create **cross-sectoral linkages between sustainable energy and other development priorities** (e.g., clean water, gender equality, improved education, access to healthcare, and climate change) to increase development finance flows that have the potential for higher impact and harmonized planning.

Additional sources of financing and tailored programmes for vulnerable countries are key for accelerating progress. It is the responsibility of LDC, LLDC and SIDS governments to take necessary actions to shift funding priorities and design enabling policies to promote investments in the energy sector. Similarly, development finance institutions (DFIs), development partners and the private sector will have to play a large role in providing the capital, mitigating risk, and building the market for high quality and affordable energy products. There is a role to play for these actors in unlocking investment in vulnerable countries. However, the lack of maturity in energy access markets and underdeveloped financial markets mean that **DFIs will have to play larger role in catalyzing energy access investment in vulnerable countries**.

One of their main constraints for vulnerable countries in accessing funds is **weak project preparation, implementation and monitoring capacities.** Financial and human resources required for building robust project pipelines are considerable from enhancing project preparation capacities to deploy financing models that encourage blended finance. A sustainable business model, needs to take into account ownership structure, communities, understanding requirements for funding, capacity, technology, financial models, environmental and market analysis, etc. Many project developers in LDCs, LLDCs and SIDS find that having the technical capacity and/or connections is not sufficient to develop a bankable, financially viable project. The shortage of funds to undertake this critical preparation work further hampers the creation of bankable project concepts in these countries. **Vulnerable countries will need further support in preparing bankable projects**, and partners should provide targeted support in this area.

Many LDCs, LLDCs and SIDS that have made impressive strides in their energy access have had **a strong local institution or so-called "local champion"** to work in tandem with DFIs and taken the lead in the development and implementation of the national energy plan and subsequent programmes with a clear, transparent and well managed approach, i.e. Alternative Energy Promotion Center in Nepal.

To make the shift towards sustainable energy and climate technologies sustainable and a win-win situation for vulnerable countries, there is a need to **strengthen technology transfer and the absorption and innovation capacities of the domestic private sector**. Apart from demand-creating support, a strong emphasis on supply side is needed (e.g. incubation services, tailored grant and loan financing for entrepreneurs, R&D on adapted technologies, cluster building, innovation networks linking industry with applied research, south-south and north-south business partnerships).

To reach economies of scale, there is a need to strengthen **sub-regional cooperation and capacities in the sustainable energy sector.** Some of the barriers (e.g. capacity building, policy, knowledge and data, investment and business promotion) can be addressed more (cost-)effectively through regional exchange, methodologies and tools. In this context, regional sustainable energy centres, owned by the regional economic communities, can play an important role in setting priorities, coordinating complex policy implementation processes, as well as creating synergies between country and donor activities. Such centres can complement and support the activities of DFIs, regional power pools and regulatory authorities.

A greater effort is needed to strengthen **synergies between access, energy efficiency and renewable energy.** A fragmented approach to the three key sub-goals of SDG 7 is an obstacle to building linkages to other key SDGs such as health, food, water, gender, industry. A well performing and efficient energy system strengthens the opportunity to provide energy access to those now deprived of affordable and reliable energy. Provision of modern energy access, including electricity and clean cooking fuels, will also inter alia: increase productive capacity and economic growth; provide better health outcomes through reductions in both indoor and outdoor air pollution, and greater provision and access to health services; raise education standards, and help mitigate the impacts of climate change. In fact, there are very few areas in the sustainable development agenda where sustainable energy will not play a significant role.

In going forward, national energy policies need to take into consideration the **energy demand profile of the poorest people** and ensure access to affordable energy. The positive development impacts of sustainable energy can be broadest by targeting the poorest, the so called "bottom of the pyramid", who would normally not benefit from modern energy. Bottom-up planning will enable a realistic understanding of the technologies needed and the scales on which they are required. This will allow bringing the right financing tools to best address the challenges of the poorest people. The distributed generation solutions often require smaller project portfolios and may require different sets of aggregation tools and early-risk capital.

At the same time, focus should not be on promoting minimum access to households, but should also support productive uses and economic development and support gradual shift towards self-sustaining systems **promoting economic development that is transformative and inclusive**.

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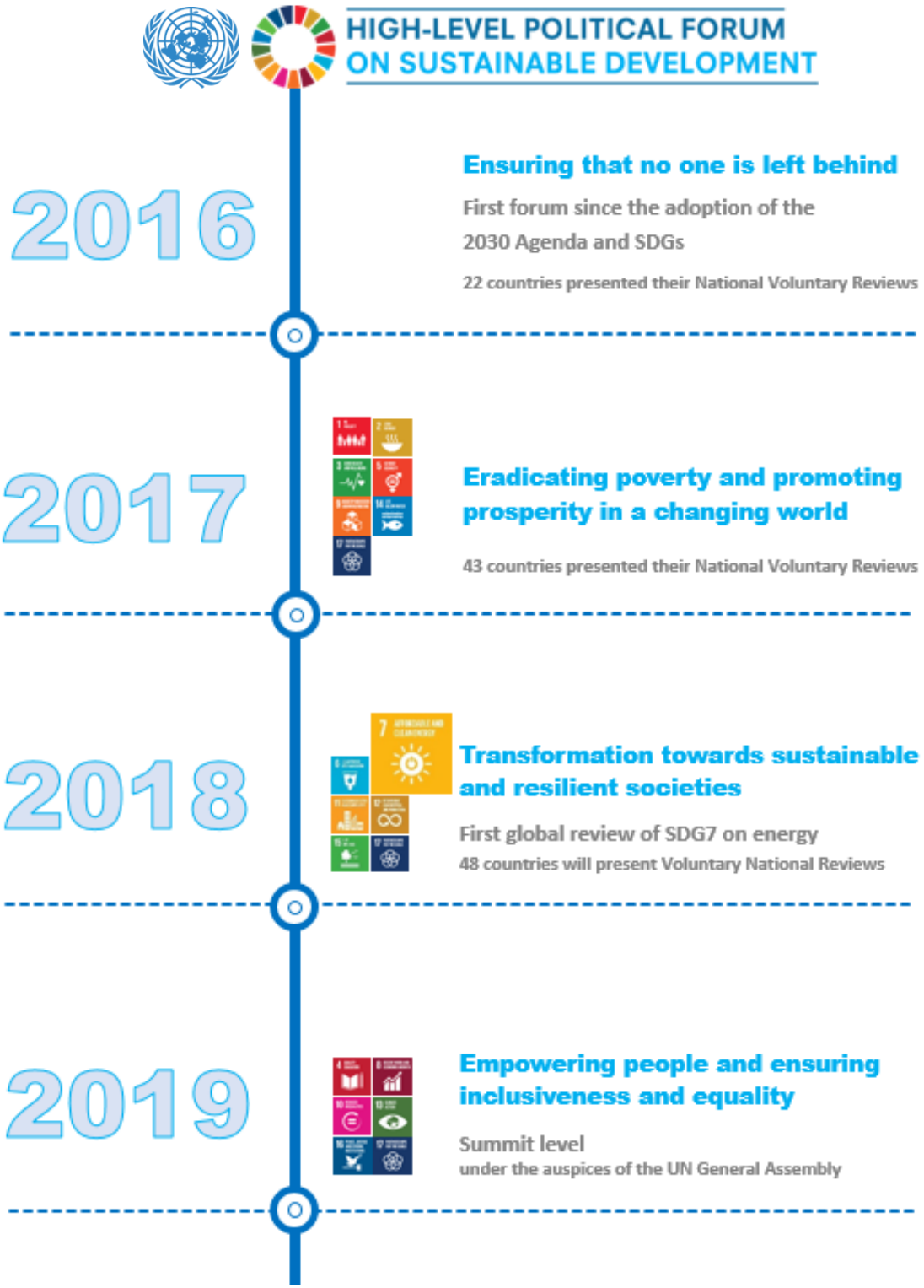

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