

# High-Level Dialogue on Energy 2021

## Concept note for Technical Working Group V on Energy Finance and Investment

Co-leads: European Investment Bank, International Energy Agency  
and the UN Economic Commission for Africa

This note provides a list of issues for consideration by Technical Working Group V (TWG V) and possible questions for discussion to come up with solutions/recommendations for financing energy access, the energy transition and enabling of the SDGs. These recommendations have to be ambitious, innovative and fit-for-purpose, of high impact, replicable at scale across geographies and themes. The recommendations/solutions also have to be implementable in ways that are collaborative across a range of stakeholders and focussed on outcomes. The objective of this note is to mobilise and organise the expertise and inputs from the members of the working group towards the identification of such recommendations.

### Context

The context reflected in the Theme Report will need to be informed by the parallel discussions in the other TWGs. However, it is clear that a major ramp-up of investment in the provision of clean, reliable and affordable energy is the common thread that can meet the objectives of SDG7 and net zero emissions. The key question that TWG V needs to address is how public and private investment can rapidly be mobilized and leveraged to support attainment of these global goals over the coming years.

### **Financing energy access: getting back on course to 2030**

According to the 2020 edition of the *Tracking SDG7: The Energy Report*, there has been significant progress in increasing the number of people with access to clean and affordable energy, with the number of people without access to electricity decreasing from 1.2 billion in 2010 to 789 million in 2018, while the number of people without access to clean cooking only reduced by 200 million people from 3 billion to 2.8 billion in 2018. However, the report notes that, despite the critical role of energy in catalysing economic development and supporting people's health and livelihoods, the world remains severely off track to achieve universal access to affordable, reliable, sustainable and modern energy for all by 2030, especially so in Africa.

Furthermore, the COVID-19 pandemic has exposed the severe vulnerabilities and structural inequalities resulting from chronic under investments in energy access in developing countries. Health facilities are under-energised and so unable to deal with increasing numbers of patients from the pandemic, while critical equipment, handling and distribution of vaccines is hampered by lack of access to secure and reliable energy. The pandemic has underlined the urgency of ensuring that the world gets on track for the SDG 7 goals.

### **Financing rapid clean energy transitions towards net zero emissions by 2050**

Over the last year, many of the planet's largest economies and companies have announced that they aim to bring their emissions down to net zero by the middle of this century or soon after. Making economies carbon-neutral by 2050 is a huge undertaking, and at heart it is an energy challenge, as the energy that powers our daily lives produces three-quarters of global emissions. It is a challenge that goes well beyond setting long-range targets. Nothing short of a total transformation of our energy infrastructure is required — a worldwide undertaking of unprecedented speed and scale. As with the achievement of energy access goals, this calls for decisive action over the next decade.

Rising climate ambitions add to the significant momentum behind investment in clean energy. However, while there are positive signs in many areas, capital flows to clean energy remain well short

of what will be required to meet growing demand for energy services around the world in a sustainable way. While some aspects of clean energy investment showed strong resilience during the global pandemic, notably solar PV and wind for power generation, other key pillars of energy transitions such as energy efficiency have faced a setback. In addition, social implications of the energy transition are raising concerns. As economies recover from the shock of the pandemic, a focus on clean energy investment offers a huge opportunity to stimulate economic activity, provide reliable clean energy employment, and put global emissions into structural decline.

While financial markets are getting greener and increasingly reward ambitious transition policies, there is a need to rapidly increase the number of bankable projects to meet the 2025 milestone and 2030 targets. In order to mobilise public and private investment, all actors will need to enhance their capabilities and design policies and financial structures that appropriately allocate and manage risks, and address the barriers, which inhibit investments in given sectors and countries.

## Key questions for discussion

1. In which regions and sectors are the largest investment gaps that need to be filled in order to hit 2025 milestones and SGD7 targets and put the world on track for net zero emissions?
2. How has the Covid-19 crisis changed the risks and opportunities afforded by the SDGs and energy transitions, and their perceptions among investors? What are the new risks that may have arisen for clean energy financing as a result of the crisis?
3. Are there innovative solutions that are already making an impact or hold potential to make an impact in shifting the billions needed to achieve the 2025 and 2030 milestones?
4. How would you describe a supportive investment and financing environment for clean energy transitions? What roles should different financing products play?
5. What practical solutions can be recommended to governments, development finance institutions, international organisations, the public and private sectors to increase the number of bankable clean energy projects? What are the main lessons learnt from the design and implementation of competitive renewable energy auctions around the world over the last decade?
6. What instruments could be used to mobilise domestic resources and local currency financing for clean energy in emerging economies?
7. How can philanthropy play a role in addressing investment risks in clean energy to make a breakthrough in difficult markets?
8. The momentum behind sustainable finance is clearly rising and this is affecting corporate governance and strategies in many parts of the world, however, actual spending on clean energy projects has not grown at anything like the same rate: where are the missing links?
9. Capital available for clean energy projects, including from institutional investors, and the fiscal space for recovery strategies is largest in the developed economies, but the investment needs for access and clean energy are greatest among developing economies: what strategies are available to address this mismatch?
10. What measures are available to support emissions reductions from existing infrastructure or in hard-to-abate sectors (such as cement, iron and steel and heavy freight) where cost-effective low-carbon technologies are not yet available, and to address the social consequences of the transition for the most affected countries and regions?
11. What are the particular considerations, or constraints, applicable to the strategies and corporate governance of state-owned enterprises?

## Supplementary information and background

This supplementary information is divided into three parts, which may eventually also become a way to organise the material and recommendations in the Theme Report:

1. The need to scale up investment to meet the objectives of SDG7 and net zero emissions
2. Roles of governments, public and private sectors to achieve real-world fit-for net zero clean energy investment projects
3. Opportunities and innovative strategies to expand clean energy finance

### 1. The need to scale up investment to meet the objectives of SDG7 and net zero emissions

*Themes: energy transition investment needs and gaps across sectors and issues. How investment and financing risks – especially in developing economies – are heightened by the pandemic.*

- **There is an urgent need to shift gear in terms of energy investment to meet 2030 SDG7 targets and put the world on track for carbon neutrality by 2050.** For example, according to the IEA, by 2030 the amount of investment required in clean electricity (generation and grid/storage infrastructure) would need to rise to more than \$1.6 trillion per year by 2030 to be on track for net-zero emissions by 2050. This compares with \$380 billion invested in these areas in 2019. In regions like Africa, installed electricity capacity will need to double from its present value of 250 GW by 2030 and increase at least five-fold by 2050.
- **Progress towards universal access to affordable, reliable sustainable and modern energy services is not on track to meet the SDG 7 targets.** The IEA estimates that achieving SDG 7 targets on energy access would require annual investment of around USD 45 billion per year in the period to 2030. This is a small fraction of total energy investment needs and can benefit one third of the global population while improving resilience to the health crisis.
- **Illicit financial flows deprive some key regions of critical resources that are necessary to finance clean energy transitions and resilient recovery from the COVID-19 pandemic.** For example, Africa lost at least USD 50 billion to illicit financial flows in 2015. This is 75% of the annual health financing gap of USD 66 billion needed to make significant progress on SDG 3 on good health and well-being in Africa, 125% of the annual education spending required over 2015–2030 to achieve SDG 4 on inclusive education in Africa, and 30% of the USD 170 billion per year need to close Africa's infrastructure gap.
- **Energy efficiency also lags behind, despite being first priority and often having the lowest cost.** Spending on more efficient buildings; industrial processes and transport needs to more than double during this decade. While most analysis tends to conclude that energy efficiency investments are profitable, progress is slow due amongst other thing to high upfront investment costs, their diffuse nature, split incentives and perceived uncertainty of future benefits in terms of energy savings and associated cash flows.
- **Future deployment of renewable energy will reap the benefits of a decade of dramatic cost declines for some key technologies.** Many Governments have developed effective, competitive auctioning systems and can attract private financing at very low cost based on long term fixed price contracts. There is a considerable room in many countries to accelerate the take-off of renewables with such schemes.
- **As countries reach high share of renewables in electricity generation, they will have to make a trade-off between maintaining financing costs low and to take on higher market risk to**

**incentivise projects with higher value for the power systems.** The rest of the system cannot stand still as shares of wind and solar PV rise. Investment in robust grids and a wide range of sources of supply- and demand-side flexibility will be essential to maintain electricity security.

- **Reaching net-zero will require a large scale-up of investment beyond energy efficiency and renewable sources of power, in order to develop integrated energy systems.** Investment in the electrification of the transport sector and of industry will be massive. For parts of the energy sector where direct electrification is difficult or not cost-effective, a range of low-carbon and sustainable fuels will be increasingly important, including low-carbon hydrogen. Carbon capture utilisation and storage technology can play critical roles in some areas, and some countries will also invest in other low carbon technologies such as nuclear power. Many of the technologies required in hard-to-abate sectors are at demonstration or prototype stages, so public support for clean energy innovation remains essential.
- **Keeping costs low, including financing costs, will be critical to ensure the energy transition is affordable, one of the objectives of SDG7.** While most of the investment needed can save on fossil fuel costs, they are intensive in capital, and this capital needs to be repaid over time, including a return. As the energy sector is decarbonised, its total costs will depend less and less on the price of fossil fuels and increasingly on financing costs. The Covid-19 pandemic has exacerbated imbalances in the cost and availability of capital across different economies, as some developing economies face increased borrowing costs due to increased debt and perceptions of risk.
- **Finding solutions to climate change cannot be just a question of building clean from now on. It is also a question of cleaning up what we already have,** given the long operating lifetimes of some coal-fired power plants, or iron and steel or cement plants. Finding ways to deal with these emissions, and financing the necessary abatement measures, is also critically important.

## 2. Roles of governments, public and private sectors to achieve real-world, fit for net zero new clean energy investment projects

*Themes: How public and private investment can be mobilized and leveraged? Roles for government, private sector and development partners, financial institutions: policy de-risking including energy policy measures and counterparty risk, financial de-risking and liquidity.*

- **All actors will need to enhance their capabilities to undertake holistic assessments and design policies and financial structures that appropriately allocate and manage risks, and address the barriers, which inhibit investments in given sectors and countries.** In addition, meeting the objectives of SDG 7 and net zero will require a new focus on integrating risk and return assessments with new criteria on investment impacts and sustainability.
- **There is a stark difference between geographies and types of company.** Developing countries still substantially rely on public financing but there are sovereign debt limits in many states.
- **State-owned enterprises dominate the picture in many developing economies for fuel supply, thermal generation and electricity networks.** The financial sustainability and strategic choices of these enterprises, and their host governments, will be critical for prospects of expanding finance to reach clean energy goals.
- **The private sector will play an important role to finance the energy transition; these are the dominant actors in many of the clean energy areas (although not in all).** The financial capabilities and strategies of large private companies will guide a significant part of investment. Meanwhile, small and medium sized enterprises (SMEs) everywhere face greater financing constraints, which have been exacerbated by the pandemic.

- **In some geographies, bankable energy projects remain scarce compared with investment needs.** To meet the 2025 milestone and 2030 targets, there is a need to rapidly increase the number of projects available. There is ample evidence that when the market and regulatory frameworks successfully mitigate real and perceived risks associated with investment, finance becomes widely available and many financiers compete for projects.
- **Attracting private finance depends on the government energy policies including infrastructure planning, fiscal incentives and market and regulatory frameworks.** The aim to attract private capital has implications for the design of energy policies.
- **Getting price signals right is crucial.** Phasing out subsidies to fossil fuels improves clean energy investment incentives across economies; these subsidies also encourage wasteful consumption of fuels – bringing higher emissions. Pricing in externalities is likewise very important: new carbon pricing initiatives are coming online, such as the new Emissions Trading Scheme in China or the carbon tax in South Africa, increasing the cost of investing in emissions-intensive activities. The price of emission allowances in the European trading scheme recently reached record levels (EUR 40/TCO<sub>2e</sub>), with the effect of shifting some investment away from fossil fuel power generation where other options are available. Revenues from carbon pricing can be used to fund recovery and adjustment costs elsewhere in the system.
- **Most investments continue to be made on the balance sheets of corporations.** Financial instruments typically encompass a mixture of debt and equity. While equity-type financing can be based on educated risk-taking, loans seek predictability in exchange of lower cost-of capital. For instance, take-or-pay fixed price contracts have been successful in attracting low cost financing in renewable auctions in many countries. The duration and type of fixed price contracts such as PPAs for renewable are important parameters. They can be create sufficient certainty to attract low-cost debt, while still providing incentives for equity investors to develop good quality projects.
- **Lessons learned from the large scale roll out of renewables in some geographies provide many insights to identify best practices to accelerate energy investment.** Renewable auctions have been effective in attracting competition in many countries and the auction design can influence financing conditions. Initiatives like scaling solar initiative can help to deploy rapidly renewables.
- **Risk capital may be needed to finance project development, especially in emerging markets and developing economies.** Early-stage risk capital is needed to develop bankable projects, but often scarce in the local public sector or not mobilized in some countries particular by private sector. Various market failures may exist and are to be addressed in a timely fashion. Dedicated facilities can contribute to develop projects that meet the internationally recognised ESG standards.
- **Investment Funds have also proven effective in financing off-grid electrification.** This market is growing rapidly and Tier 1 companies are already operating in this space. An accelerated deployment of offgrid / minigrd is needed to meet the universal access to electricity but some bottlenecks remain. While the risk profile of off-grid projects remains high, such funds often rely on concessional financing and grants, similar to many electrification projects.
- **Financing energy efficiency and distributed renewable projects is required at scale.** Given the small size of individual investment projects, local commercial banks are the usual financial intermediaries. Governments and banks can scale-up building renovation by developing standardised products that can be aggregated in order to attract large-scale investors.
- **Counterparty risk also matters.** Financial viability of offtakers is a critical aspect in a large part of the world and a main bottleneck to increased investments (and higher costs). The counterparty risk depend on the ability of governments to implement sound energy regulation and in some cases implement energy tariff reforms. In Sub-Saharan Africa alone, the tariff gap has been

estimated as equivalent to USD 21 billion (of which USD 11 billion in South Africa alone), or 1.5% of the region's GDP. Improving billing and collection efficiency and reducing technical and commercial losses are key to reforming this sector and can significantly increase the number of financially viable electricity projects.

- **Multilateral guarantee mechanisms could contribute to lower the counterparty risk associated with offtake agreements.** Cross-border renewable financing mechanisms are emerging in developed countries and have the potential to play an important role to reduce global emissions in a context of low-cost renewables.
- **Given the scale of investment needed to meet the SG7, governments have to make the most of development financing available in the energy sector.** Grants can play a role, for instance for energy access, project development or to meet the international ESG standards. However, scarcity of public funds implies that most of the investment will have to come from the private sector. As such, and public support available should seek to maximise its multiplier effect for instance by addressing key investment risks.

### 3. Opportunities and innovative strategies to expand clean energy finance

*Themes: attaining impact – from immediate response, through measures to kickstart recovery, to actions that reset the financial system. Expanding and reallocating energy financing: Covid-19 recovery strategies, climate risk as financing risk, Paris-aligned investments, green bonds, the Network for Greening the Financial System*

- **The recovery from Covid-19 needs to be a period of acceleration in progress towards SDG7.** Seizing the opportunity of fiscal responses to Covid-19 can support investment needed to meet 2025 milestones. An increasing number of geographies are allocating an important share of their recovery packages to support energy efficiency and renewable investment.
- **Financial markets are getting greener and increasingly reward ambitious transition policies.** As a result, financing is expected to become increasingly available for clean energy projects, which could translate in lower financing costs. This trend is accelerating across the financial sector.
- **Investment funds and equity investors are taking climate risk increasingly seriously.** Transition risk is priced in for carbon-intensive projects and companies. Many asset managers are in the process of reducing their exposure to, or divesting entirely, from energy activities and companies involved in coal, oil and gas.
- **New rules on corporate disclosure and emerging sustainability commitments** by these actors have the potential to significantly bolster capital allocation towards clean energy
- **An increasing number of investment banks are setting lending targets for climate action and excluding investment that are not in line with the Paris agreement.** Many banks have announced that they would no longer finance coal projects. The EIB has also phased out financing to all energy projects relying on unabated fossil fuels, including natural gas.
- **The market for sustainable debt, including green bonds is growing rapidly.** Governments and companies are expected to issue USD 500 billion of green bonds in 2021 alone, an increase of 50% of the stock of green bonds. The EU sustainable finance action plan is defining a taxonomy to increase transparency of climate action and environmental sustainability, contributing to set global standards for this asset class, while other countries are also developing approaches to classifying investments in line with sustainability goals.

- **Public financiers, including MDBs and NDBs, also have an important role to play to finance energy sector.** They usually provide low cost and long term financing that is not otherwise available and their can crowd-in private financing. Given their limited resources, their focus is usually on projects where their additionality is the highest.
- **Central banks as well are increasingly seeing climate change as a source of financial risk.** The Network for Greening the Financial System is a network of 83 central banks and financial supervisors advocating a more sustainable financial system. Banks are being under supervisory pressure regarding climate-related risks.
- **As low-cost supply of finance becomes increasingly available, it can reward ambitious climate policies.** However, while investment needs are huge, there are difficulties to translate sustainable finance into the deployment and construction of clean energy projects at scale.
- **Moreover, there are crucial constraints in the availability of long-term commercial debt from local financial institutions in emerging market and developing economies.** In those countries with adequate savings pools, there is good potential for financial learning among local actors, which can further unlock low-cost finance, when appropriate policies are put in place.
- **The pressures for changes are felt most strongly among publicly traded companies in equity markets;** however, the share of publicly traded companies in overall greenhouse gas emissions is less than 25%. The remainder comes from unlisted state-owned companies, municipal and government entities and from households. Still, financial markets can have important influences with these actors, notably through the bond markets, where state-owned enterprises, municipalities and governments are active.

## Output of the Technical Working Group: the Theme Report

The Theme Report is to be developed by TWG V on Energy Finance and Investment, with inputs from all members of the group. The required report length should be approximately 10,000 - 12,000 words and provide substantive recommendations with a plan of action on this theme which, together with other Theme Reports, will contribute towards an action-oriented global roadmap towards the achievement of SDG 7 by 2030 and net-zero emissions by 2050.

The report should be made in a succinct manner and can be widely consumed by a non-technical audience.

### *Elements recommended for inclusion in the Theme Report*

**Goal** - The overall goal and targets for energy finance and investment, setting clear ambition in support of the 2030 Agenda, the Paris Agreement, the achievement of SDG 7 by 2030, and net-zero emissions by 2050. *Approx. 1,000 words in total.*

**Context** – Introductory section with a state of the sector assessment, providing background and the current landscape for energy finance and investment. *Approx. 1,000 words in total.*

**Challenges** – Identification of critical barriers to progress. These may be categorised, e.g., as political, policy and regulatory, financial, market design, and/or behavioural, and levels of urgency can be attached to each barrier, with due consideration to the different circumstances of countries and regions. *Approx. 2,000 words in total.*

**Recommendations/Plan of Action** – A proposed menu of solutions and policy options that respond to the challenges identified and presented in the form of a plan of action to achieve the goal of the Theme, taking into account unique and diverse challenges faced across countries/regions. To be action-oriented, concrete examples of transformational action should also be provided, including where possible implementation details and potential co-benefits. *Approx. 5,000-6,000 words in total.*

**Impacts** - Assessment of catalytic potential impacts of the proposed recommendations on SDG7 in support of the SDGs and net-zero emissions by 2050. *Approx. 1,000-2,000 words in total.*

### **References**