European Financial Flows on SDG7 to Africa
2021 Report

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<tr>
<td>AEEP</td>
<td>Africa-EU Energy Partnership</td>
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<tr>
<td>AFD</td>
<td>Agence Française de Développement</td>
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<td>AfDB</td>
<td>African Development Bank</td>
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<tr>
<td>AU</td>
<td>African Union</td>
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<td>BDEA</td>
<td>Arab Bank for Economic Development in Africa</td>
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<td>BGFA</td>
<td>Beyond the Grid Fund for Africa</td>
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<tr>
<td>CRS</td>
<td>OECD DAC Creditor Reporting System</td>
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<tr>
<td>CRT</td>
<td>cost-reflective tariff</td>
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<tr>
<td>DAC</td>
<td>OECD Development Assistance Committee</td>
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<td>DBSA</td>
<td>Development Bank of Southern Africa</td>
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<tr>
<td>DFI</td>
<td>development finance institution</td>
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<td>DRE</td>
<td>distributed renewable energy</td>
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<td>EC</td>
<td>European Commission</td>
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<td>Ecowas</td>
<td>Economic Community of West African States</td>
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<td>EI &amp; MS</td>
<td>European Union Institutions and Member States</td>
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<td>EIB</td>
<td>European Investment Bank</td>
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<tr>
<td>ERA</td>
<td>Electricity Regulatory Authority (Uganda)</td>
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<tr>
<td>EU</td>
<td>European Union</td>
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<tr>
<td>FEI</td>
<td>Facility for Energy Inclusion</td>
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<tr>
<td>GCC</td>
<td>Gulf Cooperation Council (Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and UAE)</td>
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<tr>
<td>GDP</td>
<td>gross domestic product</td>
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<tr>
<td>GET FIT</td>
<td>Global Energy Transfer Feed-in-Tariff</td>
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<tr>
<td>GNI</td>
<td>gross national income</td>
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<tr>
<td>GW</td>
<td>giga-watt</td>
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<tr>
<td>GWh</td>
<td>giga-watt hour</td>
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<tr>
<td>HEP</td>
<td>hydroelectric power</td>
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<tr>
<td>IEA</td>
<td>International Energy Agency</td>
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<tr>
<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>IPP</td>
<td>independent power producer</td>
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<tr>
<td>IRENA</td>
<td>International Renewable Energy Agency</td>
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<tr>
<td>IUCN</td>
<td>International Union for Conservation of Nature</td>
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<tr>
<td>kW</td>
<td>kilo-watt</td>
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<tr>
<td>kWh</td>
<td>kilo-watt hour</td>
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<tr>
<td>kWp</td>
<td>kilo-watt peak</td>
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<tr>
<td>LDC</td>
<td>Least Developed Country</td>
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<tr>
<td>LIC</td>
<td>Low-Income Country</td>
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<td>LMIC</td>
<td>Lower-Middle Income Country</td>
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<tr>
<td>LPG</td>
<td>liquefied petroleum gas</td>
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<tr>
<td>Masen</td>
<td>Moroccan Agency for Sustainable Energy</td>
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<tr>
<td>MDB</td>
<td>multilateral development bank</td>
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<tr>
<td>MVA</td>
<td>megavolt ampere</td>
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<tr>
<td>MW</td>
<td>mega-watt</td>
</tr>
<tr>
<td>MWp</td>
<td>mega-watt peak</td>
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<tr>
<td>ODA</td>
<td>Official Development Assistance</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<td>OGS</td>
<td>off-grid solar</td>
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<tr>
<td>PPI</td>
<td>Private Participation in Infrastructure (World Bank)</td>
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<td>PPP</td>
<td>public/private partnership</td>
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<tr>
<td>RE</td>
<td>renewable energy</td>
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<tr>
<td>REIPP</td>
<td>Renewable Energy Independent Power Producer Procurement (South Africa)</td>
</tr>
<tr>
<td>RISE</td>
<td>Regulatory Indicators for Sustainable Energy</td>
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<tr>
<td>SADC</td>
<td>Southern African Development Community</td>
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<tr>
<td>SDG</td>
<td>Sustainable Development Goal</td>
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<td>SEforALL</td>
<td>Sustainable Energy for All</td>
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<tr>
<td>SSA</td>
<td>Sub-Saharan Africa</td>
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<tr>
<td>T&amp;D</td>
<td>transmission and distribution</td>
</tr>
<tr>
<td>TDB</td>
<td>Trade and Development Bank of Eastern and Southern Africa</td>
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<tr>
<td>TWh</td>
<td>tera-watt hour</td>
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<tr>
<td>UMIC</td>
<td>Upper-Middle Income Country</td>
</tr>
<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>Unctad</td>
<td>United Nations Conference on Trade and Development</td>
</tr>
<tr>
<td>WBG</td>
<td>World Bank Group</td>
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<tr>
<td>WHO</td>
<td>World Health Organisation</td>
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Foreword

The historical ties, geographic proximity and complex networks of longstanding political, economic and social relationships that bind Africa and Europe have been underpinned since 2007 by the Africa-EU Energy Partnership (AEEP). The Africa-Europe partnership has entered a new decade with a structured approach to further deepening these interdependent relations, which both continents believe will flourish within such guiding frameworks as the United Nations’ (UN) Sustainable Development Goals (SDGs) and the African Union’s (AU) Agenda 2063, and through shared endeavours of which the AEEP is a striking example.

Energy has long been a central element in Euro-African collaboration, recognising its essential role in meeting development and climate goals. Since its inception the AEEP has played a leading role in placing energy high on the bicontinental agenda, with the partnership driven by a collaborative approach – bringing together government, industry, academic and civil society stakeholders in a unique forum structured by the AU and EU and supported by an AEEP Secretariat known for its dynamic approach.

Just as important, the AEEP has established a reputation for empirical rigour. Its binding targets were established in the last decade to support access to affordable, reliable, sustainable and modern energy. Those targets have been based since 2010 on often innovative statistical research. Based on this solid foundation, the AEEP’s targets helped pave the way for SDG7, which aims to ensure “access to affordable, reliable, sustainable and modern energy for all” on a global basis.

Innovation and change continue apace as African governments and institutions have engaged with the SDG7 challenge. Many have made impressive progress in tackling climate change threats and energy supply shortfalls by mobilising finance and investment – often from European partners – to introduce renewable energy and other cutting-edge technologies. Just as Africa has impressed in adopting and adapting mobile communications and payments – often ‘jumping a generation’ in the process – so the continent and its European partners are advancing together to create cleaner, more sustainable and broad-based energy industries.

The private sector is an indispensable partner in achieving these aims. New ways to prepare and mobilise investment have been pioneered by African and EU institutions to support the essential energy transition and drive towards global access. Prices and technologies have evolved rapidly, supported by innovations across a range of sectors and accelerated by the rapid adaptation and expansion of digitalisation.

Innovation and investment in a fast-changing energy sector environment are being driven by both established and new providers of expertise, entrepreneurship and investment finance – a growing number of them rising up from Africa’s dynamic younger generations. It is for African and European professionals to work quickly, effectively and transparently to keep up with the demands of a fast-growing consumer base, whose access to services may often not reflect their needs.

Accommodating these various trends places well-established African and European partnerships in new contexts, which the AEEP is committed to helping stakeholders to better understand. By contributing to improving access to data and its interpretation, the AEEP can help policymakers, industry and financial professionals, and wider civil society to tackle a situation where some 600 million Africans still live without the basic energy access as defined by SDG7.

It is against this background that the first assessment of European Financial Flows on SDG7 to Africa has been commissioned. The report quantifies the annual investment needed and the present funding gap and reveals that the SDG7 funding challenge can be met through enhanced co-operation. The report shows clearly the progress made to date.

The report highlights the quality of financing mobilised to support the SDGs and Agenda 2063, also detailing the equitability of European financial flows through targeted support for poorer countries. It further provides an initial assessment of private sector contributions to meeting these goals, which lays the basis for the AEEP’s European Financial Flows 2021 report, which will investigate how these can be better leveraged in future.

Johan van den Berg
Head of Secretariat, Africa-EU Energy Partnership
1. Executive Summary

The SDG targets and the Africa-EU Energy Partnership

This report investigates European and other financial flows to Africa in the years 2014-2019 that would contribute to meeting the globally agreed SDG7 goal to ensure "access to affordable, reliable, sustainable and modern energy for all." It is based on analysis of the available data for African, European and wider global financial flows into sustainable energy. To meet SDG7 criteria much of that financing should be available on a transparent, concessional basis.

The Sustainable Development Goals (SDGs) are comprised of 17 interlinked goals designed as a "blueprint to achieve a better and more sustainable future for all", agreed at the United Nations General Assembly in 2015. The aim of Africa, Europe and the wider international community is to achieve the SDG objectives by 2030 – which would mean giving some 600 million Africans access to affordable and sustainable modern energy that doesn't further stress environments that are badly affected by climate change. This is a longstanding aim of the Africa-EU Energy Partnership, whose work to develop targets and data since 2007 made a contribution to SDG7's emergence.

The purpose of this report is to assess the quantity and equitability of European contributions to SDG7. It has been commissioned by the AEEP Secretariat also to help guide the future focus of policy and funding flows. To achieve this, it triangulates multiple, credible sources -- African governments, institutions and development banks; the development finance institutions of European Union (EU) Member States and other European and non-European states; EU financial institutions; multilateral development banks and international organisations including the Organisation for Economic Cooperation and Development (OECD), the International Energy Agency (IEA) and Sustainable Energy for All (SEforALL).

In addition to the totals stated, official budget documents show that some EUR 898 million was provided to these 43 states by external budgetary support from actors including bilateral development finance institutions (DFIs) and multilateral development banks (MDBs). The 'internal funding' along with that committed by development banks and institutions was equivalent to almost double the global investment that flowed into the continent's energy sectors in 2019 and 113% on average over the study period. However, it is clear that the overwhelming majority of government spending in Africa is concentrated in Egypt and South Africa, and as such there is an urgent need to support those countries which are in greater need, particularly Least Developed Countries (LDCs), if SDG7 targets are to be met. In this respect, African development banks and financial institutions have a major role to play. While a comprehensive picture of

National governments and African development institutions are major actors in the funding of African energy, playing a vital and leading role in the continent's ambitions of achieving SDG7 by 2030. In 2019, some EUR 12.7 billion was identified in public spending on the energy sector in all its forms in the budgets of 43 African countries and six African development banks and finance institutions, however in the case of the latter the actual figure is likely to be higher. The extent to which the financial flows from national governments are SDG7-compliant cannot be calculated, but the sums are substantial: around EUR 10.1 billion of this energy sector expenditure was financed by government revenues and debt raised on domestic and international markets.

Significant progress has been made by African governments and institutions

The mandate to pursue SDG7 in Africa (‘Agenda 2030’) rests in the first instance with African institutions and African Union Member States. Their Agenda 2030 mandate is essential to meeting Agenda 2063, the continental development plan which aims to transform Africa into a global powerhouse. Agenda 2030 and Agenda 2063 are complementary, especially in the long-term plan's industrialisation, job creation, peace and prosperity dimensions.

Africa and Europe¹ agree that huge resources need to be mobilised to make the United Nations’ Sustainable Development Goal 7 (SDG7) target a reality. The funding gap to achieve SDG7 in Africa poses a daunting challenge, but it is a challenge that can be met. Analysis of macroeconomic data – including African and European gross domestic product (GDP) – and of critical factors such as the extent of economic losses caused by electricity outages and lack of stable energy supply, shows that financing SDG7 in Africa is indeed feasible but far from inevitable.

In 2019, African countries and development banks and finance institutions spent EUR 12.7 billion on the energy sector.

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¹ In this report Europe refers to the European Union and its Member States unless otherwise stated.
1. Executive Summary

European Financial Flows on SDG7 to Africa

- **Grant element**
  - Total EUR 24.4 billion
  - EU Institutions and Member States EUR 11.1 billion
  - Non-EU multilaterals EUR 8.4 billion
  - Non-African donors EUR 0.8 billion
  - Pacific sector EUR 2.1 billion
  - Africa, EUR 1.4 billion

**International ODA commitments to SDG7 in Africa, 2014-2019**

- Funding from regional institutions is not available, a picture is emerging that organisations such as the African Development Bank (AfDB) (whose Facility for Energy Inclusion in March 2020 reached its first USD 160 million close), Development Bank of Southern Africa (DBSA), Ecowas (Economic Community of West African States) Bank for Investment and Development (EBID), Trade and Development Bank of Eastern and Southern Africa (TDB) and other regional institutions are playing an increasingly important role. In some cases, they are working with the European Investment Bank (EIB) and other EU institutions.

- **EU Institutions and Member States** are world leaders in financing clean, sustainable energy

- The terms of contributions to SDG7 are necessarily of a certain qualitative standard. Agenda 2030 is about human well-being and the 17 SDGs are explicitly inter-dependent. This means contributions to SDG7 are not only investments that provide access to sustainable energy services, but they should simultaneously promote – or at least do not prejudice against – the achievement of other SDGs. Financial support is seen to be especially effective when it has an impact across a nexus of sectors – for example, providing clean energy that better promotes health and education services, and gender equity.

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<table>
<thead>
<tr>
<th>Country/Region</th>
<th>ODA Commitments (EUR billion)</th>
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<tbody>
<tr>
<td>Africa</td>
<td>2.1</td>
</tr>
<tr>
<td>Asia</td>
<td>1.4</td>
</tr>
<tr>
<td>Middle East</td>
<td>1.1</td>
</tr>
<tr>
<td>North America</td>
<td>0.8</td>
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<tr>
<td>Total</td>
<td>24.4</td>
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Graph shows commitments by non-African donors
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- **Equity of European finance: A commitment to LDCs**

Yet these headline figures tell only part of the story; while those countries with mature and strong regulatory frameworks, and higher levels of investor security, tend to attract greater levels of investment, these conditions are often lacking in LDCs – poorer economies that are in greater need of donor support. As such, European efforts are being increasingly targeted towards those areas in which it can have the greatest impact. Of the identified EI & MS grants committed over the period, some 55% of this total was directed to LDCs – which itself accounts for 54% of all grants extend- ed to these countries by the international community. These efforts are also reflected in the

- **55%** of the identified EI & MS grants were directed to LDCs.
- **54%** of all grants to LDCs extended by the international community came from EI & MS

- **Analysis of the flow of European contributions** shows that they are not just high in quantity, but also generous in conces-

sionality. Not only is this finance supported by robust environmental and governance safeguards, it also does not add to poorer countries macroeconomic stresses. The high proportion of grants (34%) has led to an enhanced impact of European financing, particularly in areas where it was found that EI & MS financing of energy projects has a spill-over effect, contributing towards meeting other SDG targets.

- **Deeper analysis of ODA loans reveals** the true efforts made by the EU and its Member States in partnering Africa. While not complete, sample data from 2016-2018 suggest that these loans have an average ‘grant element’ (the proportion of the value of the loan gifted via high levels of concessionality) of 50%. If this average is extrapolated to all loans issued, it can be surmised that the EU and its Member States may have granted some EUR 6.5 billion to SDG7 projects in Africa over the study period.

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<table>
<thead>
<tr>
<th>Country</th>
<th>ODA Loans (EUR billion)</th>
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<tr>
<td>LDCs</td>
<td>53%</td>
</tr>
<tr>
<td>LMI &amp; SMI</td>
<td>46%</td>
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<tr>
<td>UMICs</td>
<td>30%</td>
</tr>
<tr>
<td>Other</td>
<td>51%</td>
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</tbody>
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Based on average grant element of available sample of ODA loan disbursements to country income groups between 2015 and 2018. ‘Other’ is predominantly regional projects, but also includes Zimbabwe (Low Income Country) and Seychelles (More Advanced Developing Countries and Territories).

- **For the period 2014-2019 the EU Member States comprise the EU27 and the UK.**
- **A supplementary AEEP report titled ‘Inclusivity as a mark of successful energy policy’ is published separately.**

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2 For the period 2014-2019 the EU Member States comprise the EU27 and the UK.
3 A supplementary AEEP report titled ‘Inclusivity as a mark of successful energy policy’ is published separately.
greater levels of concessionality extended to LDCs overall. The available data show that not only did grants account for 61% of all EI & MS ODA disbursements to LDCs between 2014-2019, but that the grant element of ODA loans (which accounted for 38% of flows to LDCs) stood at 53%. The data further appears to show that grants account for a lesser proportion of overall funding to Lower Middle Income Countries (LMICs – 15%) and Upper Middle Income Countries (UMICs – 8%), while the grant element of these loans is shown to be on average 46% and 30% respectively.

Despite considerable hard work, many LDCs are falling further behind in efforts to meet SDG7, with energy sector investment having been attracted to LMIC and UMIC markets like Egypt, Morocco and South Africa, each of which has promoted successful renewable energy procurement rounds that have attracted large-scale private financing.

Support for LDC infrastructure financing by EI & MS sources is moving in the right direction. However, there is more to do, as underlined by EI & MS commitments to allocate at least 0.15% of gross national income in overseas development assistance to LDCs in the short term and 0.2% by the 2030 Agenda deadline.

EI & MS financiers are among the few worldwide to have made a credible commitment to allocating at least 50% of their bilateral ODA to LDCs while implementing the SDGs. This report shows that in 2014 some 19% of EI & MS financing commitments to SDG7 projects targeted LDCs; by 2019 this had increased to 36%.

A tailored approach to European funding

An examination of the subsectors at which EI & MS funding is directed sheds light on the ways in which European finance is being deployed to improve the energy sector as a whole. While LMICs and UMICs have benefitted from significant amounts of funding, in both grants and highly concessional loans, to their transmission and distribution infrastructure – a critical area in achieving electricity access for all in a continent where access rates stand at just 44.8% on average – Europe is also giving greater attention to capacity building and policy support in LDCs, with disbursements of grant funding to this end having risen from EUR 2.9 million in 2014 to EUR 22.9 million in 2019.

Encouraging private capital inflows

EI & MS support is playing a key role in leveraging private sector investment, taking a lead in the development of blended finance structures. ‘Blended finance’ may be defined as the strategic use of development finance and philanthropic funds to mobilise private capital flows to emerging markets and LDCs.

European funding is found to have substantial impacts when it comes to leveraging the private sector’s contribution to African SDG7 projects. Some EUR 1.9 billion-worth of blended and co-finance has been identified in 2014-2019, while the leveraging of other sources of finance is leading to the enabling and unlocking of further private financial investment.

Despite sparse data, EUR 3.4 billion in equity investments into the African renewable generation sector has been identified over the 2014-2019 period under assessment, while a further EUR 5.2 billion has been identified in the form of commercial loans.

This report provides an initial assessment of private sector contributions which will play an important role in meeting these goals. It lays the basis for the AEEP’s European Financial Flows 2021 report, which will investigate how blended finance and other private flows can be better leveraged in future.

**EU Institutions and Member States’ ODA commitments to LDCs, 2014-2019**

![Graph showing ODA commitments by year and type](image)

**Sectoral breakdown of EI & MS ODA commitments, by finance type and country income group, 2014-2019**

![Graph showing sectoral breakdown](image)
Other sources of donor support are emerging

The global sources of financing for African energy projects have changed markedly in the last couple of decades, reflecting the emergence of new actors beyond the traditional OECD players. This trend has clearly diversified the sources of funding, equipment and know-how coming into Africa.

Multilaterals and other funds have played a significant role in financing Africa’s energy sector, where it was found that some EUR 8.4 billion has been committed by various non-EU, non-African MDBs and their funds to SDG7 in Africa during 2014-2019. The report found that up to 53% of the funding of MDBs made by OECD members were provided by EU Member States.

The United States has increased its focus on Africa over the past decade; the Obama administration’s Power Africa initiative was launched in 2013 and the Prosper Africa initiative in 2019. While identified financial flows from the US may not match its status as the world’s largest economy, an increasing amount of grant funding has been committed. However, at 21% this still lags behind the Ei & MS support, which accounted for 54% of all grant funding of SDG7 projects in Africa from 2014-2019.

Other notable sources of identified funding are the Middle East and Asia, which account for 6% and 5% of all ODA funding to SDG7 projects since 2014, respectively. However, the overwhelming majority of this appears to have been extended in the forms of loans.

The People’s Republic of China has emerged as a major financier of African infrastructure in recent years, with as much as EUR 34.6 billion in financing flows identified since 2014. However, the contributions to SDG7 made by China and other emerging actors such as Brazil and India is quantifiable in the absence of official reporting and other issues. These actors are not members of the OECD (with the governance and reporting commitments that implies); its data is unreliable, with inadequate transparency around the levels of (or lack of) concessionality of this funding, and no indications as to what is being financed and SDG7 compliant. As such, it was not possible to identify any qualifying financing of SDG7 in Africa over the period under review.

The road ahead: large amounts have been mobilised but more work is needed

Estimations of the investment needed to reach SDG7 in Africa vary; figures provided by credible institutions range from EUR 35 billion to EUR 87 billion per year. Taking the International Energy Agency’s ‘Africa Case’ scenario (which assumes achieving 100% access to reliable, sustainable and affordable power by 2030 in line with the SDGs), this report suggests that, based on EUR 18 billion average annual investment into Africa for the years under consideration, 2014-2019, there may be a funding gap of approximately EUR 69 billion per year, requiring an over three and a half-fold increase.

While this presents a formidable challenge, it is not an insurmountable one when put into context; this gap is equal to 3.1% of Africa’s GDP and just 0.5% of the EU’s gross national income. Furthermore, the implications of Africa not achieving the SDG7 targets are clear, with power outages estimated to cost Sub-Saharan Africa (SSA) more than 2% of GDP per year and electricity inefficiencies as much as 4% of GDP. In 2019 this alone is equal to anywhere between EUR 31.6 billion and EUR 63.2 billion. This suggests that the economic losses from lack of electricity in the long term may be equal to or greater than the funding requirement, therefore the cost of inaction is potentially higher.

The energy transitions of Africa and Europe are intertwined, and look set to converge further along with the continents’ policy trajectories – and finance will play a critical role in this. In order to meet SDG7 and based on a scenario where African government spending rises to 1.9% of GDP (equal to China’s spend on power since 2000 but below India’s 2.9%), and with GDP itself growing by an average 6.1% per year over the decade as the effects of increased investment kicks in, donor and private financing of the continent’s energy sector will need to increase by 27.1% per year from 2020.

Private sector investment can scale up rapidly given the right conditions. Optimising regulatory frameworks to facilitate project finance can potentially make SDG7 considerably easier to achieve. Improved regulatory frameworks lower risk and ultimately bring into play the second enabler, commercial project finance. South Africa achieved this with the launch of the Renewable Energy Independent Power Producer Procurement (REIPPPP) framework in August 2011; in the following five years some EUR 15 billion was leveraged in private debt and equity, while the independent power producer (IPP) market grew to equal an estimated 30%-50% of the market value of national utility Eskom, which at the time was supplying about 85% of all the electricity consumed in the Southern African Development Community (SADC) region’s 16 countries.

These potentialities are replicable in at least some African countries, typically the larger ones, and will be further investigated in the 2021 edition of this report.

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6 Grants accounted for 17% of Asian ODA finance, and only 7% of Middle Eastern ODA finance.
7 This period covers the EU’s Multiannual Financial Framework (2014-2020) and the period since the SDGs came into force in 2015.
8 International Monetary Fund, data for 2019.
9 European Union, data for 2019.
10 Africa Infrastructure Knowledge Platform.
12 World Bank, data for 2019.
13 Based on the Africa Case scenario in the International Energy Agency’s African Economic Outlook, 2019.
1. Executive Summary European Financial Flows on SDG7 to Africa

EUR 97.3 billion (commitments)
EUR 26 billion (disbursements)
...of which: commitments to SDG7: EUR 32.4 billion
(with a further EUR 4 billion to policy support & capacity building)

EUR 8.6 billion

SDG7 commitments by sector (2014-2019)
- Renewable generation 19.1
- Transmission and distribution 10.8
- Clean cooking 2.1
- Energy efficiency 0.15
- Other 0.26

EUR 35 billion – EUR 87 billion

- EU Institutions & Member States: 11.1
- Multilateral*: 8.4
- North America: 2.1
- Middle East: 1.4
- Asia: 1.1
- Other donors: 0.24
- Private sector: 8.7

2019 EUR 19.9 billion

ODA commitments to SDG7: EUR 6.4 billion

African spending on energy EUR 12.7 billion

Private sector EUR 0.8 billion

2. Introduction

2.1. BACKGROUND

Energy financing is an increasingly prominent mechanism for international donors and development organisations, as well as private sector actors, given energy’s role as a prerequisite and enabler for other development objectives as well as the Sustainable Energy Goals (SDGs) – 17 interlinked goals designed as a “blueprint to achieve a better and more sustainable future for all”, agreed at the United Nations General Assembly in 2015.

This has become an ever more pressing issue given that Africa’s population is expected to grow by 42% from 2015-2030, at a time when financial flows are currently not meeting Africa’s investment needs: private finance is constrained by risk and return, public finance is scarce and needs to be deployed smartly, and the health crisis and economic downturn caused by the Covid-19 pandemic is compounding the difficulties faced by African governments as they look to alleviate energy poverty and expand access. On current trajectory, it is estimated that nine in ten people without access to electricity in 2030 will be located in Sub-Saharan Africa.

Furthermore, existing finance flows have been heavily directed towards environmentally damaging fossil fuels, rather than kickstarting wider deployment and the adoption of clean energy sources. The transformation of the African energy sector is possible, though it will require substantial and sustained investment.

The aim of Africa, Europe and the wider international community is to achieve the SDG objectives by 2030 – which would mean giving some 600 million Africans access to affordable and sustainable modern energy that doesn’t further stress environments that are badly affected by climate change. This is a longstanding aim of the Africa-EU Energy Partnership (AEEP), whose work to develop targets and data since 2007 made a contribution to SDG7’s emergence.

To be able to accurately measure progress made towards these targets, and to assess how this finance is being deployed, access to accurate data is more important than ever. Understanding gaps in energy financing is crucial to ensure development finance is reaching target populations, regions and goals, and to facilitate coordination between donors and other actors. It is also important for the leveraging of other sources of finance as well as for encouraging and enabling private sector involvement in the energy space.

To help fulfil this aim, this report investigates European and other financial flows to Africa in the years 2014-2019 that would contribute to meeting the globally agreed SDG7 goal to ensure “access to affordable, reliable, sustainable and modern energy for all”. It is based on analysis of the available data for African, European and wider global financial flows into sustainable energy. To meet SDG7 criteria, financing should be available on a transparent, concessional basis.

14 United Nations, 2015
15 International Energy Agency, 2019
2.2. STRUCTURE OF THE REPORT

The purpose of this report is to assess the quantity, quality and equitability of European contributions to SDG7. It has been commissioned by the AEEP Secretariat to also help guide the future focus of policy and funding flows. To achieve this, it triangulates multiple, credible sources – African governments, institutions and development banks; the DFIs of EU Member States and other European and non-European states; EU financial institutions; MDBs and international organisations including the Organisation for Economic Cooperation and Development (OECD), the International Energy Agency (IEA) and Sustainable Energy for All (SEforALL).

Acknowledging Africa’s role as the primary financier of the continent’s energy industries, the report in the first instance provides a picture of the contributions made by African governments, development and commercial banks and other institutions towards bringing large parts of its populations out of energy poverty.

Following on from this, the report then goes on to compile and analyse contributions made by the European Union and its Member States – which continues to be the largest international donor financing Africa’s energy sectors. With SDG7 finance requiring a certain qualitative standard, the levels of concessionality of European finance will be examined, as will the amount of grant funding extended. The report then provides a granular exploration of where European finance is being directed, with a particular focus on Least Developed Countries – the countries which have the highest need for resources to lift people out of poverty and where the EU has committed to invest 0.15% of its gross national income (GNI), rising to 0.2% by 2030. The report shows how European efforts are tailored towards a specific country’s needs, with financing flows aimed at LDCs being largely dominated by grant funding, whereas funding aimed at Lower Middle Income Countries and Upper Middle Income Countries are generally more likely to take the form of concessional loans. In addition, data is provided to highlight the particular sectors Europe is supporting in countries of differing income levels and the financial instruments used to support them.

European efforts go beyond investments committed and disbursed; they also play a key role in leveraging and encouraging private sector contributions to SDG7. The report examines total identified contributions (although this data is limited) and highlights European co-financing and leveraging. Analysis is then presented as to how additional private sector investment can be leveraged.

The report then goes on to consider non-European financial flows to SDG7 in Africa, including those made by China, the United States, Japan, members of the Gulf Cooperation Council and other emerging actors. Financial flows from multilaterals are explored, as well as the significant contribution to these flows made by Europe.

The OECD methodology for categorising ODA changed in 2019. Prior to this date, the face value of concessional finance which met certain criteria was classified as ODA, whereas from 2019 onwards only the ‘grant equivalent’ of this finance is classed as ODA. For comparability across the six-year study period, and due to the lack of grant equivalent data reported by donors, this report uses the previous definition of ODA for the entire study period.

The global picture of commitments made to Africa’s energy sector and SDG7 is presented alongside an assessment of the estimated investment needs for the continent to meet its target of access to affordable, reliable, sustainable and modern energy for all by 2030. The report then presents a ten-year investment scenario outlining financial flows required to fill the current investment gap.

The report concludes with a set of recommendations on improving the data and building a more comprehensive dataset for more rigorous analysis in European Financial Flows on SDG7 to Africa 2021.

Data and methodology

The research underpinning this report is based on the production of as comprehensive and robust a dataset as possible comprising commitments and disbursements to SDG7-compliant projects in Africa for the period 2014-2019 from public donors, African governments and development institutions and the private sector. However, it is important to note that this dataset is by no means complete, reflecting the dispersed and disparate nature of data on the African continent. All EU Member State and OECD member financing has been captured, but limited data is available for other actors, including African development banks and other multilateral organisations.

The dataset is built on project-level data to the greatest extent possible. This approach ensures double counting is avoided. In some cases, project-level information is unavailable, at which point aggregated data published by credible organisations is used if not already captured.

Given that contributions towards SDGs are of a certain qualitative standard, only public finance classified as ODA is included. Non-ODA finance (such as export credit) is omitted, as are public financial flows where the levels of concessionality are opaque.

ODA data for 2014-2018 is sourced from the OECD DAC’s Creditor Reporting System (CRS). Due to this, the report uses OECD defined categories, despite not precisely matching those used by the SDGs. Donor funding for 2019 was sourced from donors directly via completion of questionnaires.

The OECD methodology for categorising ODA changed in 2019. Prior to this date, the face value of concessional finance which met certain criteria was classified as ODA, whereas from 2019 onwards only the ‘grant equivalent’ of this finance is classed as ODA. For comparability across the six-year study period, and due to the lack of grant equivalent data reported by donors, this report uses the previous definition of ODA for the entire study period.

Data on non-ODA member financial flows is not always published and often lacking in detail. There is no confirmation as to whether these investments qualify as ODA (a precondition in determining contributions to the SDGs) or as SDG7 compliant. There is also no comprehensive dataset on private sector investment in energy, and as such data has been sought from a number of sources, including the World Bank’s Private Participation in Infrastructure database, a number of industry associations including GOGLA and the African Minigrid Developers Association, Bloomberg New Energy Finance’s ClimateScope, and African Energy Live Data, among others.

Very limited information is available in the OECD DAC CRS on which SDG (if any) an investment targets. This data has only been provided since 2017 and few donors submit this information.
2. Introduction

To remedy this, ODA and private data which is not specified as SDG7-compliant is assumed to be so if it is directed at the following sectors: Renewable energy; Transmission and distribution; Energy efficiency; Clean cooking; Clean transport.

While not directly contributing towards SDG7, ODA support for capacity building is reported due to it being an important enabler for additional investment into SDG7. This data is therefore included in the report, unless otherwise stated.

The report endeavours to obtain national government spending exclusive of recurrent expenditure, however in some countries only total departmental spending is available. Furthermore, while budget reporting has improved markedly in recent years, it is still not possible to identify SDG7-only spending. Therefore, the spending reported may include non-SDG7 investments.

Defining Official Development Assistance

Official development assistance flows are defined as those flows to countries and territories on the DAC List of ODA Recipients and to multilateral development institutions which are:

i) provided by official agencies, including state and local governments, or by their executive agencies; and

ii) each transaction of which:

- is administered with the promotion of the economic development and welfare of developing countries as its main objective; and
- is concessional in character. In DAC statistics, this implies a grant element of at least:
  - 45 per cent in the case of bilateral loans to the official sector of LDCs and other LICs (calculated at a rate of discount of 9 per cent).
  - 15 per cent in the case of bilateral loans to the official sector of LMICs (calculated at a rate of discount of 7 per cent).
  - 10 per cent in the case of bilateral loans to the official sector of UMICs (calculated at a rate of discount of 6 per cent).
  - 10 per cent in the case of loans to multilateral institutions (calculated at a rate of discount of 5 per cent for global institutions and multilateral development banks, and 6 per cent for other organisations, including sub-regional organisations).

Loans whose terms are not consistent with the IMF Debt Limits Policy and/or the World Bank’s Non-Concessional Borrowing Policy are not reportable as ODA.

3. African financing of the continent’s energy infrastructure

The mandate to pursue SDG7 in Africa (‘Agenda 2030’) rests in the first instance with African institutions and African Union Member States. Their Agenda 2030 mandate is essential to meeting Agenda 2063, the continental development plan which aims to transform Africa into a global powerhouse. Agenda 2030 and Agenda 2063 are complementary, especially in the long-term plan’s industrialisation, job creation, peace and prosperity dimensions.

National governments and African development institutions are major actors in the funding of African energy, playing a vital and leading role in the continent’s ambitions of achieving SDG7 by 2030. In 2019, some EUR 12.7 billion was identified in public spending on the energy sector in all its forms in the budgets of 43 African countries and six development banks and finance institutions (see Figure 1). This is slightly above the six-year average of EUR 12.5 billion, however it should be noted that the financial flows of several African development banks captured for the first five years of the period under review was not available for 2019.

While it has not been possible to identify SDG7-specific funding, meaning the figures presented below are somewhat overinflated for the reporting donors, it has also not been possible to identify all funding made by African development banks, regional economic communities and the various power pools, meaning the actual figure provided for these institutions is likely to be higher. Building a more complete picture of African public spending will form a key element for the 2021 edition of this report.

Figure 1: Energy funding by African governments and development institutions, 2014-2019

Source: OECD DAC

National governments and African development institutions are major actors in the funding of African energy.
3.1. NATIONAL GOVERNMENT SPENDING

National governments are major actors in the funding of African energy; they play a vital role in the continent’s ambitions of achieving SDG7 by 2030. In 2019, some EUR 11 billion of public spending targeting the energy sector as a whole was identified in analysis of the budgets of 43 African countries. The extent to which these financial flows are SDG7-compliant cannot be calculated. Of this amount, around EUR 10.1 billion was financed by internal spending (that is funding by government revenues and debt raising on domestic and international markets). This internal funding is equal to almost three-quarters of the global investment flowing into the continent’s energy sectors during 2019. Approximately EUR 898 million was provided via external budgetary support from actors including bilateral development finance institutions and multilateral development banks, official budget documents show.\(^\text{14}\)

Figure 2 shows identified spending over the period 2014-2019.\(^\text{15}\) However, any analysis of the data must take into account the disproportionate role played by Egypt and South Africa. Both countries consistently account for over half of all government spending in Africa; they are responsible for the dramatic fluctuations seen in the overall figures during the 2014-2019 period. This is most noticeable in 2017, when Egypt’s public investments in electricity rose to EUR 5.2 billion from EUR 1.3 billion in the previous year as the government rolled out its massive state-sponsored expansion of generation capacity. This resulted in the continental figures reaching a period high of EUR 14.1 billion.

Internal financing of energy sectors across the continent, excluding Egypt and South Africa, appears to have shown a steady rise, up from EUR 11.4 billion in 2016 to EUR 4.7 billion in 2018 – an increase of 39%. However, there was a notable decline in 2019, when internal financing fell by around 13% compared to the previous year.

On a country-by-country basis it is apparent that government spending has fluctuated quite dramatically, with many administrations reporting double-digit percentage increases or decreases in their spend (see Figure 3). Some of Africa’s poorest countries reported the greatest increases in their budget spending: government spending commitments rose by 544% in Niger, 479% in Central African Republic and 262% in Guinea.

Unsurprisingly, there appears to be a correlation between the level of public spending and a country’s income group as classified by the World Bank Group (WBG). Figure 4 shows the average annual spending on energy in LDCs over the period 2014-2019 was just EUR 4.8 per capita, compared to EUR 9.2 per capita in LMICs and EUR 28.6 per capita in UMICs. The average per capita spend in both UMICs and LMICs is inflated by South Africa (EUR 73 per capita) and Egypt (EUR 27.3 per capita). Excluding these countries, the per capita average is EUR 6.8 in LMICs and EUR 18.7 in UMICs. Despite this, a significant gap remains between Africa’s richest and poorest countries, which further reinforces the belief that LDCs are in the greatest need of donor support if SDG7 targets are to be met by 2030.

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\(^{14}\) To ensure avoidance of double counting, this external funding has been omitted from national government spending in global calculations of SDG7 financial flows throughout this report as it has been captured in the commitments and disbursements of donors.

\(^{15}\) It is important to note that while there has been a notable improvement by African governments in the reporting of public expenditure, a consistent and comparable breakdown of internal and external financing for the years 2014 and 2015 is not available. Publicly accessible budget statements on the whole distinguish between capital expenditure on energy projects and recurrent expenditure, the latter of which is excluded where possible. Other factors clouding the picture is the impossibility of determining what proportion of government spending is directed at achieving SDG7. Furthermore, certain countries, particularly hydro resource-rich states, report combined figures for spending on both energy and water.

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Figure 2: African national government spending on energy, 2014-2019

Figure 3: National government spending, 2019 (% change)\(^\text{16}\)

Figure 4: Average annual government spending per capita by income group, 2014-2019

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\(^{16}\) No data for 2019 was available for Benin, Burundi, Djibouti, Equatorial Guinea, Eritrea, Eswatini, Gambia, Guinea-Bissau, Liberia, Libya, Somalia, South Sudan, Sudan and Tunisia.
3. AFRICAN DEVELOPMENT BANKS AND FINANCIAL INSTITUTIONS

African development banks and institutions have come to play a growing role in the energy sector. This was underlined when in March 2020, the African Development Bank announced that its Facility for Energy Inclusion had reached its first close of USD 160 million, on the way to reaching an overall target of USD 400 million. In February 2019, DBSA announced the creation of its Embedded Generation Investment Programme, which will provide USD 200 million of funding for renewable projects, and is intended to boost private sector involvement in the sector. In addition, South African national DFI, the Industrial Development Corporation, has provided over ZAR 14 billion of investment in the REIPPP programme over the past decade.

Other African development banks are funding initiatives in support of SDG7 goals. In March 2020, West African regional institution the Ecowas Bank for Investment and Development (EBID) announced an EUR 18.6 million commitment to solar PV development in Benin. In December 2019, the Trade and Development Bank of Eastern and Southern Africa (TDB) announced the creation of a EUR 101 million credit line to support renewable energy projects for SMEs, in cooperation with the European Investment Bank.

Data collected from six African development banks show that at least EUR 8.6 billion has been committed over the six-year period, however the actual figure is likely to be much higher given the range of development banks, regional economic communities and power pools for which data was unavailable. In 2019 the AfDB reported commitments to SDG7 projects of EUR 2.6 billion, making this the largest annual financing recorded over the period (see Figure 5). Crucially, data for the remaining African development banks were unavailable for 2019, meaning the true financial flows for the year are almost certainly higher. With the exception of commitments made by the AfDB, it has not been possible to differentiate between SDG7-compliant and non-SDG7 commitments made by the institutions recorded.

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4. EU and Member States’ financial flows to SDG7 in Africa

International development and cooperation to bring sustainable energy to hundreds of millions of people in Africa is a key priority of European policy. EU efforts focus on promoting policy dialogue and investment with partner countries to aid what the EC calls the “transition towards modern, safe, and sustainable energy systems.”

The importance of the EU’s commitment to Africa is demonstrated by its financing commitments: EUR 2.7 billion of the EUR 3.7 billion allocated from EU development funds to sustainable energy in 2014-2020 was committed to Sub-Saharan Africa.33 The European Commission has described how the “biggest challenges in terms of transition to sustainable energy are concentrated in Africa”, and has created a “privileged partnership with Africa in the energy sector” to achieve that transition.34 In November 2017, the EU enhanced its partnership efforts in response to Africa’s Agenda 2063 by creating its ‘Energising Africa’ initiative, within which EU Institutions and Member States have embarked upon several important efforts. These include the Africa Renewable Energy Initiative, which aims to add 2.3GW of renewable generation capacity by 2030, and which has funded 24 projects already to the tune of EUR 488 million and is expected to leverage EUR 4.5 billion by the end of the decade.35 The EU Technical Assistance Facility programme, which focuses on assisting partner states improve regulatory frameworks, commenced in Sub-Saharan Africa in 2013, and has since “implemented more than 100 missions in 34 countries.”36 Lastly, the Africa-Europe Alliance for Sustainable Investment and Jobs has invested in projects related to tackling SDG7 goals and increasing energy access.37 Several other

<table>
<thead>
<tr>
<th>Promoting political ownership and partnerships for implementation</th>
<th>Improving governance and reforms of the energy sector</th>
<th>Boosting investment through innovative financial instruments</th>
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<tr>
<td>Our energy cooperation efforts are always aligned with and complementing our partner countries’ own energy strategies. They drive their own energy transition and are accountable for it. We are merely there for guidance and support. EU delegations facilitate a structured dialogue on energy with partner countries’ authorities and stakeholders.</td>
<td>Investing in the energy sector and new technologies is perceived by private investors as difficult and risky. To alleviate these risks and encourage investment, partner countries need to have clear rules, good governance, skilled and capable institutions, and a stable business environment. We support them in this aspect through policy dialogue and technical assistance.</td>
<td>Building or developing energy infrastructures is expensive and usually requires combining different sources of funding. Projects also need to be bankable to ensure sustainability. We help our partner countries attract investments in different ways. We are reducing investment risks for private companies through guarantee schemes as well as financial tools combining public and private funds.</td>
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Source: Empowering Development: Implementation of the new European Consensus on Development in Energy Cooperation

Table 1: The three main courses of action guiding EU policy towards meeting SDG7

34 EC, ‘Energising Africa’, ibid.

Proving sustainable energy to hundreds of millions of people in Africa is a key priority of European policy.
EU initiatives have a global focus, but pay particular attention to Africa:

- **GET.invest** – this programme, launched in early 2019, is aimed at mobilising investments in decentralised renewable energy projects by providing market information to entrepreneurs and targeted advisory services to match those seeking finance with financiers. While focused on Africa, GET.invest has recently expanded to have a global scope.

- **The EU External Investment Plan** – launched in 2017, the EIP is expected to leverage EUR 47 billion of investment through an EU input of EUR 4.6 billion, much of which will be committed to African energy projects.

- **The Electrification Financing Initiative** – a EUR 254 million impact investment facility funded by the European Union, initiated by the Netherlands’ FMO and managed by EDFI Management Company (a subsidiary of the Association of European Development Finance Institutions), ElectrFi has already invested over EUR 65 million to reduce financial risks in underserved or off-grid areas (many of which are in Africa), leveraging an additional EUR 265 million of investment from other financiers, including DFIs and private investors.

The EU has made commitments to other initiatives that meet its SDG7 and energy policy goals. Notable is a EUR 200 million commitment to the Facility for Energy Inclusion (FEI), which was launched in 2018 and runs through until 2033; it is principally sponsored by the African Development Bank. A debt financing facility for small scale energy access projects, FEI seeks to tackle the major barrier facing many small-scale (less than 25MW) IPPs, commercial and industrial projects, and mini-grids – namely “the limited access to debt financing.” The anticipated impact of the FEI’s on-grid finance is 750MW of additional capacity. FEI also incorporates an Off-Grid Energy Access Fund, which aims to mediate the foreign exchange risks faced by off-grid developers. It has thus far invested EUR 17 million in three Sub-Saharan African companies.

The EUR 700 million Climate Investor One (CI1), a blended finance facility supporting the development, construction and operations of renewable energy projects in emerging markets, has also received EUR 40 million in funding from the EU. Launched in 2015 by FMO and managed by Climate Fund Managers (which FMO jointly owns with South Africa’s Sanlam InfraWorks), the facility aims to develop 30 renewable energy projects with a total capacity of 1.7GW by 2037, leverage upwards of USD 2.5 billion in private investment and help reduce CO₂ emissions by 1.9 million tonnes per year as part of its high impact aim of supporting long-term sustainability and accelerating the green energy transition.

### 4.1. COMMITMENTS TO ENERGY AND SDG7 IN 2014-2019

Between 2014 and 2019, identified ODA commitments to energy-related projects in Africa made by EU Institutions and Member States totalled EUR 12.3 billion. Of this total, EUR 11.1 billion was directed towards the achievement of SDG7 in the form of support for SDG7-compliant projects and capacity building. The focus of attention given by EI & MS towards SDG7 is emphasised in their activities during 2019, when the financing of compliant projects reached EUR 2 billion – their largest total on record during the period under review and equal to approximately 91% of their total financing that year.

The increase in SDG7 financing has coincided with a decline in the financing of non-SDG7 compliant projects such as non-renewable generation, which has fallen significantly from EUR 412 million in 2015 to EUR 102 million in 2019, although a total of EUR 199 million was committed in 2017, primarily to gas and thermal power-related projects in Egypt and Tunisia (see Figure 6).

The increase in SDG7 financing has coincided with a decline in the financing of non-SDG7 compliant projects such as non-renewable generation, which has fallen significantly from EUR 412 million in 2015 to EUR 102 million in 2019, although a total of EUR 199 million was committed in 2017, primarily to gas and thermal power-related projects in Egypt and Tunisia (see Figure 6).

Analysis shows that the overall concessionality of EI & MS financing is generally higher than that provided by other countries: during the EU’s current Multiannual Financial Framework (2014-2020) they have been the largest provider of ODA financing of SDG7 projects in Africa, accounting for 46% of the approximately EUR 24.4 billion recorded and over half of all grant funding.

Furthermore, the purely developmental nature of EI & MS aid stands in contrast with many other regions, which tend to place...
more emphasis on exports and job creation within their own countries. By contrast, Europe prioritises impacts in target countries and generally does not tie its finance to exports. The OECD, which is considered the gold standard in the reporting of development finance, is introducing new levels of transparency in understanding ODA by focusing on efforts made by donors (via the grant equivalent of financial flows) rather than simply the face value of commitments and disbursements.

Figure 7: EU Institutions and Member States’ SDG7 commitments to Africa (EUR billion), 2014-2019

EI & MS commitments to policy support and capacity building – EUR 1.0 billion
SDG7 commitments by EU Institutions – EUR 2.2 billion
SDG7 commitments by EU Member States – EUR 8.0 billion

Funding by EU Institutions and Member States

Financing of SDG7 projects consistently makes up the majority of EI & MS energy-related ODA commitments during the study period – standing at 82% on average and rising to 91% in 2019. This average is significantly higher than that reported by Asia, the Middle East, North America, Oceania and non-EU member European states and further illustrates the commitment of EI & MS towards SDG7.

EI & MS activities reflect the priority given to supporting policy development and capacity-building, laying the foundations necessary for market development and for the private investment needed to help achieve SDG7. This is particularly the case and focus in LDCs. EI & MS made total commitments of around EUR 1 billion to this end in 2014-2019 – a higher sum than identified as being made by any other bilateral donor group. In this area, EI & MS have been outperformed only by multilateral organisations which between 2014-2019, made commitments totalling EUR 1.3 billion – a figure which includes a very substantial indirect contribution from EU Member States.

Figure 7 shows that EU Member States account for the majority of all EI & MS SDG7 financing, averaging of EUR 1.7 billion a year and EUR 8 billion in total over the six years. However, EU financial institutions play a substantial role, with commitments over the period totalling EUR 2.2 billion. Over the study period, EU Member States have directed a far larger proportion of their energy financing in Africa to SDG7 projects, standing consistently at around or above 90%. EU financial institutions have historically been more active in the financing of more capital-intensive non-renewable projects, but this changed in 2019 when the entirety of identified commitments made by the EU was extended to the sectors of renewable generation and transmission and distribution.

Table 2: EU Member States’ core contributions to multilaterals

<table>
<thead>
<tr>
<th>Year</th>
<th>2014</th>
<th>2015</th>
<th>2016</th>
<th>2017</th>
<th>2018</th>
<th>2019</th>
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<tbody>
<tr>
<td>Multilateral commitments to SDG7 in Africa (EUR billion)</td>
<td>0.695</td>
<td>1.542</td>
<td>1.256</td>
<td>2.277</td>
<td>3.324</td>
<td>3.322</td>
</tr>
<tr>
<td>Proportion of OECD member core contributions to multilaterals from EU Member States</td>
<td>54.62%</td>
<td>53.52%</td>
<td>50.77%</td>
<td>59.19%</td>
<td>50.41%</td>
<td>-</td>
</tr>
<tr>
<td>Implied EU Member States’ funding of SDG7 in Africa via multilaterals* (EUR billion)</td>
<td>0.369</td>
<td>0.718</td>
<td>0.486</td>
<td>1.109</td>
<td>1.542</td>
<td>-</td>
</tr>
</tbody>
</table>

Note: Breakdown of 2019 core contributions to multilaterals not available. *multilaterals with identified EI & MS funding.

EI & MS funding of multilaterals

Multilaterals play a major role in the funding of SDG7 in Africa. Between 2014 and 2019, some EUR 12.4 billion in commitments have been identified. The EU and its Member States contribute to this financing significantly. While complete data is unavailable, analysis of that provided by the OECD for 2014-2018 show that of its members, EU Member States have consistently accounted for between 50%-60% of the core contributions paid to multilateral organisations (see Table 2). For 2018, the latest data available, multilateral contributions to SDG7 in Africa totalled EUR 3.324 billion, with EU Member States accounting for 50.41% of OECD member contributions to their budgets. Applying this proportion to total multilateral spending for the year would imply that EU Member States contributed an additional EUR 1.676 billion to SDG7 in Africa via multilaterals, in addition to their own direct commitments to projects across Africa. This is a figure which would have risen from EUR 379 million in 2014.

However, these figures should be taken with care. The total core contributions analysed do not include funding provided non-OECD members, nor is any detail available on how this funding is disbursed. It should also be noted that total commitments made by multilateral are likely to be funded partly by financing raised outside of core contributions to budgets. More details on multilateral spending, and indirect EI & MS commitments via their contributions to multilaterals, is discussed later (see 6.1).
4.2. HOW EUROPEAN FINANCE IS DEPLOYED

Total identified EI & MS commitments in 2014-2019 include a large proportion of ODA: ODA loans and grants combined accounted for 92% of finance extended to SDG7 projects and a further 2% took the form of ODA equity investments. At 6%, the amount of finance committed which was non-ODA official flows was extremely low (see Figure 8). This emphasises the European commitment not only to developing sustainable energy, but also to providing finance on terms that are sustainable for Africa, and in particular the least well-off countries.

EU Institutions and Member States are the pre-eminent actors in the commitment of ODA grant funding to SDG7 projects in Africa. Over the six-year period, EI & MS as a whole have issued EUR 3.8 billion of the global total of EUR 7 billion in grants committed to SDG7-compliant projects and capacity building in the continent.

Figure 9 shows the EI & MS group has been increasing the amount of grants extended to SDG7 and capacity building projects in the African SDG7-compliant energy sector. Grant funding reached EUR 714 million in 2019, almost double the amount extended in 2014. ODA loans initially show the inverse, decreasing from a high of EUR 1.4 billion in 2014-2015 – following significant amounts of funding to South Africa’s successful REIPPPP programme and Morocco’s giant Noor solar park – to EUR 779 million by 2017. However, as with ODA grants, ODA loans have staged a recovery, to EUR 1.3 billion in 2019. It is notable that in 2016, it was reported that EU Institutions and Member States extended greater amounts of finance to SDG7 in the form of grants than in ODA loans.

Figure 9: EI & MS ODA financing of SDG7, grants vs loans, 2014-2019

Concessionality of European financial flows

ODA loans are, by nature, less concessional than pure grant funding. However, a limited analysis of ODA loan disbursements issued by EI & MS lenders to SDG7 over the period 2015-2019 shows that this finance, too, has a high ‘grant element’ – the quantifiable concessionality of such loans calculated based on their interest rates, grace periods and other preferential terms and conditions.

A comparison between the grant equivalents of ODA loan disbursements over this period as reported through the OECD DAC and the actual financial flows of these projects shows that, on average, EU Institutions’ and Members States’ ODA loans had a grant element rising from 47% in 2014 to 50% in 2018.44 However, preliminary data for 2019 shows that European institutions’ and Member States’ ODA loan disbursements have a grant element of 64% (see Figure 10).45 While the categorisation of what constitutes as ODA finance has changed since 201746, it is notable that EI & MS flows have comfortably met the conditions set out by the OECD in both regimes.

With the data showing an average grant element of 50% over the study period, if this were to be applied to the EUR 6.9 billion in ODA loans extended by EI & MS between 2014-2019, it would equal total ‘granted’ funding of EUR 6.5 billion when pure grant funding of EUR 3.8 billion is also included. This figure would represent 59% of total ODA financial flows to SDG7 projects over the six-year study period.

While this shows an impressive contribution to the achievement of SDG7 in Africa, it does not reveal the true scale of European efforts and how the concessionality of funding is tailored based on a country’s needs, as is explained in the following section.

Figure 10: Grant element of identified EI & MS ODA loan disbursements for SDG7, 2015-2019

### Footnotes

43 Data for 2015-2018 was based on 255 ODA loan disbursements made by Belgium, EIB, France, Germany, Portugal and Spain.
44 Data for 2019 was based on 34 ODA loan disbursements made by Belgium, France and Germany.
45 Prior to 2017, loans must have had a grant element of at least 25% to be classified as ODA according to the OECD. From 2017 onwards, loans must be administered with the promotion of the economic development and welfare of developing countries as its main objective, and have a grant element of 45% and a discount rate of 9% for LDCs and other LICs, 15% grant element of 7% discount rate for LMICs, 10% grant element and a discount rate of 6% for UMICs.
4. EU and Member States’ financial flows to SDG7 in Africa

4.3. FINANCING WHERE IT MATTERS: SUPPORT FOR LEAST DEVELOPED COUNTRIES

It is estimated that some 60% of the population of Least Developed Countries lack access to any kind of electricity – according to the UN, 33 of these 46 LDCs are located in Africa. These LDCs have around just 8% of the capacity of other developing economies to generate electricity per person, and barely 2% that of wealthier nations. This acts as a major hindrance to the economic development of these 33 countries, which between them constitute over 70% of Sub-Saharan Africa’s 46 nations. In 2017, the United Nations Conference on Trade and Development revealed that “More than 40% of businesses operating in these countries are held back by inadequate, unreliable and无效可用电力. On average, they suffer 10 power outages per month, each lasting around five hours, and this costs them 7% of the value of their sales.”

The European Union is committed to helping those in the greatest need, and this is reflected by its commitment to invest 0.15% of GNI in Least Developed Countries by 2020, rising to 0.2% by 2030. Between 2014-2019, EU Institutions and Member States have committed EUR 3.6 billion to SDG7 projects in LDCs on the continent, equivalent to 32% of all Africa SDG7-focused ODA funding over the period.

A breakdown of the data supports Europe's commitment to place an ever-greater focus on Africa's poorest countries; the proportion of EI & MS ODA funding for SDG7 projects in least developed countries doubled from 19% in 2014 to 39% in 2019. Europe also indirectly heavily finances LDCs via core contributions to multilateral budgets through which further activities are funded in LDCs.

A further EUR 1.6 billion in commitments has been extended to other LICs (low-income countries) and regional projects – the latter of which is largely focused on regional electricity interconnections, much of which benefits LDCs. Only LMICs, at EUR 4.6 billion, have received greater amounts of funding than LDCs over the period, although by 2019 as much aid was being directed to the continent’s poorest countries as it was LMICs.

The data show clear distinctions between the levels of concessionality of the funding extended to countries according to their income status. Some 58% of EI & MS ODA funding to LDCs took the form of grants, while conversely 82% of funding for LMICs was in the form of concessional loans. This is also true for UMICs (which at EUR 1.3 billion received far less finance than lesser developed countries) where 90% of commitments took the form of loans.

Not only do LDCs receive a much higher proportion of grant funding, the loans extended also benefit from generous levels of concessionality. Over the period 2015-2018 the grant element of ODA loans disbursed averaged 53%, although this figure increased to 58% for 2019 (albeit based on a smaller sample). This is higher than the 46% average recorded for ODA loans to LMICs, and significantly above the 30% grant element of loans to UMICs (see Figure 11).
4. EU and Member States’ financial flows to SDG7 in Africa

European Financial Flows on SDG7 to Africa

Figure 12 illustrates the geographical spread of EI & MS grant funding for SDG7 projects between 2014 and 2019. Large amounts were directed at countries such as Nigeria, Liberia and Senegal, while the largest sums were directed at Eastern and Southern Africa. Table 3 lists the five largest recipients.

Zambia received the largest amount of grant funding at EUR 376 million, which is largely due to the EU’s support for the Kariba Hydro Dam rehabilitation in 2014 and the roll-out of the country’s ElectriFI programme. This was followed by grant funding for SDG7 in Rwanda (EUR 276 million) and Mozambique (EUR 220 million). The single largest EI & MS grant of EUR 177 million was provided to Rwanda in 2016 for an energy sector reform programme.

The result of this focus on LDCs, and the heavy use of grant funding is that LDCs have consistently received the lion’s share of EI & MS grants, standing at 53% on average between 2014 and 2019. As Figure 13 shows, grants have consistently accounted for the majority of this finance and with the remainder in the form of loans.

The financing of hard infrastructure brings with it instant results, from job creation (both at the project and in the wider economy) to more reliable supplies of electricity. In many countries, the funding of renewable generation also helps diversify their energy mixes, many of which are reliant on dirty forms of generation such as coal and liquid fuels.

As Figure 15 shows, large amounts of European ODA support for renewable generation in LDCs has been aimed at programmes which support various renewable technologies (EUR 857 million). These include programmes such as ElectriFI, Global Energy Transfer Feed-in Tariff (Get FIT) and the Beyond the Grid Fund for Africa (BGFA). The BGFA, a multi-year funding facility initiated by the Government of Sweden in 2019 and which is also funded by the Ministry of Foreign Affairs of Denmark and Germany’s KfW and whose facility manager is Nordic Environment Finance Corporation, has programmes in Burkina Faso, Liberia, Mozambique, Uganda and Zambia and aims to build markets bringing access to clean, affordable off-grid energy to at least 5 million people by 2025.49 The BGFA follows the success of the Beyond the Grid Fund for Zambia. This fund, which at its core had a EUR 20 million results-based “social impact procurement” fund, has successfully brought modern energy services to over 180,000 households and 900,000 people in Zambia, created 1,376

Figure 11: EI & MS ODA commitments, by country income group, 2014-2019

Figure 12: EI & MS grant financing for SDG7, by country, 2014-2019

Table 3: Highest amounts of EI & MS SDG7-focused grant funding received by country, 2014-2019

<table>
<thead>
<tr>
<th>Recipient</th>
<th>Amount (EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Zambia</td>
<td>377 million</td>
</tr>
<tr>
<td>Rwanda</td>
<td>276 million</td>
</tr>
<tr>
<td>Mozambique</td>
<td>220 million</td>
</tr>
<tr>
<td>Tanzania</td>
<td>157 million</td>
</tr>
<tr>
<td>Liberia</td>
<td>147 million</td>
</tr>
</tbody>
</table>

49 Beyond the Grid Fund for Africa. Accessed at: https://beyondthegrid.africa/about-bgfa/
4. EU and Member States’ financial flows to SDG7 in Africa

jobs, displaced 2.6 million tonnes of CO2 annually, and leveraged USD 41 million of co-funding from energy service providers.\(^{30}\)

Other major beneficiaries of EI & MS ODA commitments in the renewables subsector include utility-scale solar power plants (EUR 426 million), which included loans from France’s Agence Française de Développement (AFD) for the 150MW Shinyanga solar PV project in Tanzania (EUR 130 million) and EUR 23 million for the 20MW Gorou Banda plant in Niger.

The construction and rehabilitation of hydroelectric power plants has also been a target area for European ODA support since 2014. In Zambia, the European Development Fund approved a EUR 63 million grant commitment in 2014 for the rehabilitation of the Kariba hydroelectric power (HEP) plant, while the EIB issued a EUR 50 million loan for the construction of the Itezhi Tezhi HEP plant. The European Commission extended a EUR 20.8 million grant for the 45MW Muzizi plant in Uganda, and in Guinea, France’s AFD in 2019 approved a EUR 35 million ODA loan for the 8.5MW Lokoua barrage.

Smaller, albeit still significant funding has been made available for off-grid solar projects (EUR 9 million), biofuel-fired plants (EUR 29 million) and renewable/non-renewable hybrid projects (EUR 90 million).
4.4. TAILORING SUPPORT TO COUNTRIES’ NEEDS

As has been shown, meeting the energy needs of Africa requires both public and private sector support and investment—and these often work in close complementarity to one another. Together they are greater than the sum of their parts, able to meet the different needs of countries, projects and markets. Recent innovations in European ODA have supported the blending of public and private capital, the leveraging of investments, and the provision of support to countries to help their energy markets develop.

This is also reflected in the differentiated approach taken by global actors in different countries, as they move from less to more mature markets. The country profiles below illustrate schematically this differentiated support, which targets ODA to those countries that need it the most and which lack private investment and enables other forms of financing to step in as opportunities arise and markets develop (see Figure 16). In this way it is possible to ensure that public finance is efficiently and effectively deployed, and can do more though targeted interventions.

Figure 16: EI & MS ODA commitments and private sector investments by country income group, 2014-2019

LDC case study: Liberia

With a GDP per capita of just EUR 1,371 Liberia is one of the world’s poorest countries, according to International Monetary Fund data. The country also suffers from low levels of installed generation capacity (155MW for a population of 4.8 million) and electricity access, which as of 2018 stood at only 26%. Liberia is also possessed of one of the most unconducive regulatory frameworks for pursuing SDG7 in Africa. According to the World Bank’s Regulatory Indicators for Sustainable Energy (RISE) programme, Liberia offers no incentives or regulatory support for renewable energy, no clear outline for network connection and use, and very high counterparty risk when entering into contracts with the uncredit worthy state utility. Furthermore, electricity access is stymied by a lack of a sound electrification plan or legal frameworks for both on- and off-grid electrification. As a result, the World Bank ranks Liberia as having the fourth-worst regulatory environment on the continent.

It is perhaps no surprise that Liberia has failed to attract significant private sector investment and has instead relied heavily...

Figure 17: European ODA financial flows to SDG7 projects in Liberia, 2014-2019
The transmission and distribution (T&D) sector has been a key focus of European support, having accounted for 69% (EUR 98 million) of its ODA funding over the period under review (Figure 17). This includes European Development Fund grants for projects to consolidate Monrovia’s transmission and distribution network. This financial support has helped Liberia to significantly increase its electricity access rates from just 9.4% in 2014 to 25.9% by 2018. Germany has provided grants for the Liberian component of the West African Power Pool’s under construction Côte d’Ivoire-Liberia-Sierra Leone-Guinea interconnection. This 1,350km line, which is expected to be energised in 2021, will not only allow Liberia to address its own increasing electricity demand by importing electricity from Côte d’Ivoire, but will also incentivise the development and export of the vast renewable resources (such as hydroelectric power) which are available in Liberia and Guinea. Between 2014 and 2019, EU institutions and Member States provided 52% of all ODA financing for Liberia’s transmission and distribution subsector. EI & MS have also provided commitments totalling EUR 48 million (31% of its total) in the form of grant funding to the renewable generation sector. Notable EI & MS financing of the renewable generation subsector includes the rehabilitation of the Mount Coffee hydroelectric power plant. ODA financing of this project included grants and loans from Germany’s KfW, Norway and the European Investment Bank. Norway and the EIB have offered concessional loans with a grant element of 54% and 57% respectively. As a result, renewables as a proportion of installed capacity has also risen significantly, from 15% in 2014 to 61% in 2019.52

Reflecting the truly global efforts made in the support of Liberia’s desperately underdeveloped electricity sector, the United States has also provided ODA financing, which included support for Liberia’s Rural Electrification Agency as well as financing for the Mount Coffee project.

Liberia is an example of the many LDCs across Africa which have a huge need for improvements to their electricity sectors – but have neither the capital available from local financial markets nor the enabling environment to attract foreign private investment. Donors play a key role in expanding generation, transmission and distribution capacity, and in providing policy support and capacity-building which should, if historical precedents set by other countries can be replicated across the continent, unlock the as-yet unavailable forms of finance necessary for achieving universal access to sustainable energy.

LMIC case study: Uganda

Uganda has one of the world’s lowest per capita consumption rates of electricity, and a low access level of 27%,53 a legacy of the country’s dire energy track record in past years. However, the situation is improving quickly – and with more power generation coming online Uganda has ambitions to link into the growing regional power grid to export electricity. In 2017 the World Bank’s RISE index ranked Uganda as having the 10th most favourable regulatory environment for sustainable energy out of 39 countries under review, while it topped the African Development Bank’s Electricity Regulatory Index for Africa 2020 list of 36 countries.54

As a Lower Middle Income Country and having an electricity supply industry with an ability to pull in commercial finance, a significant proportion of European ODA funding takes the forms of concessional loans which have an average grant element of 55%, while still being supplemented with a generous amount of purely grant funding, as Figure 18 outlines.

Figure 18: European ODA financial flows to SDG7 projects in Uganda, 2014-2019

<table>
<thead>
<tr>
<th>Commitments</th>
<th>Disbursements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grants</td>
<td>Loans</td>
</tr>
<tr>
<td>EUR million</td>
<td>EUR million</td>
</tr>
<tr>
<td>Capacity building</td>
<td>Renewable generation</td>
</tr>
<tr>
<td>Transmission and distribution</td>
<td>Energy efficiency</td>
</tr>
<tr>
<td>12</td>
<td>0</td>
</tr>
</tbody>
</table>

Source: African Energy Live Data

52 Source: African Energy Live Data


54 Electricity Regulatory Index for Africa 2020, African Development Bank.
The sectors supported by EU & MS ODA include renewable generation, for which 70% (EUR 164 million) of commitments between 2014-2019 took the form of concessional loans, and 30% (EUR 72 million) in grants. Projects include the 45MW run-of-river Muzi-zzi hydroelectric power plant which received loan commitments from France’s AFD and Germany’s KfW, worth EUR 45 million and EUR 40 million respectively, as well as a EUR 21 million grant from the European Commission. Another notable achievement is the roll out of the GET FIT programme, which was supported by an EUR 15 million grant from Germany’s BMZ in 2014. The programme aims to fast-track 20 small-scale renewable generation projects totalling 218MW, all of which are promoted by private developers, to add much-needed clean generation capacity, help to strengthen regional grids and result in emissions reductions of 11 million tons of CO₂. As of March 2021, 15 of the projects totalling 166MW are online.58

The transmission and distribution sector has also been the recipient of EUR 155 million in EU & MS commitments by way of ODA loans, this compared to EUR 11 million in grants reported by Austria, France, Germany, the UK, and the EU’s European Development Fund. Some EUR 12 million in grant funding has been committed to capacity building, while EUR 15 million of grants have been disbursed over the period.

Overall, investment into Uganda’s energy sector is increasing, with global ODA commitments and private sector investments growing fourfold from EUR 46 million in 2014 to EUR 191 million in 2019. Its encouraging regulatory environment and vast renewable energy potential – an estimated 5,300 MW59 – mean Uganda has a good chance of becoming an SDG7-compliant regional energy power.

Liberalisation and the recovery of Uganda’s electricity sector

Sector reforms were launched in 1999, and were accelerated after 2005, when the electricity supply industry plunged into crisis, with rolling blackouts after low water levels caused a precipitous decline in Uganda’s vital hydroelectric power (HEP) output. Shortfalls in generation were notably addressed with the construction of the Bujagali HEP dam, financed from debt and equity in an innovative IPP structure that mobilised considerable European and other international support. Other HEP projects have followed, both large-scale projects like the Karuma dam and also much smaller run-of-river schemes to support isolated communities. Installed generation capacity was 984MW in 2018 and increased to 1,253MW following the commissioning of 183MW Isimba HEP in March 2019 and new mini-hydrps. The 600MW Karuma HEP plant is due to achieve full commissioning by June 2022, increasing installed capacity to 1,852MW.

Also essential was addressing shortfalls in the transmission and distribution network, much of which was dilapidated, meaning that some 38% of the electricity generated was lost. An academic analysis commented that the state-owned “business had been plagued by a dismal safety record that included high rates of accidents among the general public and of serious injuries and fatalities among workers, as well as persistent financial distress”.59 Severe droughts in 2005/06 and 2011/12 constrained hydro power.

The government has since overseen a sea change in Uganda’s electricity supply industry. A major step came when the state monoply distribution company, Umeme, was privatised, with a new status as the operator of a 20-year electricity distribution concession effective from 1 March 2005. This made Umeme “the first significant private electricity distributor in Sub-Saharan Africa”.60 This was not without controversy; Umeme’s initial investors were widely criticised for reaping what critics called ‘excessive’ returns,61 but huge improvements were made.

In the first decade following privatisation, Umeme’s distribution network was replenished, with 120,000 poles replaced or repaired. Customer connections had more than doubled (from 355,000 in 2009 to 794,000 in 2015), and EBITDA had grown at a 15% compound annual growth rate between 2012 and 2015, and sales from 1,401GWh to 2,458GWh.62 These improvements represent considerable achievements in challenging market conditions.

Umeme’s early progress was slower than expected, and it was heavily criticised in the Parliament of Uganda, but it has since emerged as a success story. Following corrective reform implemented by the government in 2012, its performance showed a marked improvement. Relative to the starting point in 2005, collection rates climbed from 80% to almost 100%, while technical losses fell from 38% in 2005 to 17% in 2016. These figures place Umeme among SSA’s better performing utilities. The company has also shown rising profitability and – following its listing on the Ugandan Securities Exchange in 2012 – has been able to attract local and international investors.63 The Umeme shareholders’ register shows that even in supposedly ‘difficult’ industries like Sub-Saharan electricity distribution, well-structured investments in stable environments can be very attractive to major investors.

The sector’s stability is underpinned by the widely respected Electricity Regulatory Authority (ERA), whose mandate includes setting operating standards and appropriate end-user tariffs. ERA’s role reflects the government’s success at creating what Godinho and Eberhard called a “strong regulatory competence”, making Uganda one of only “a handful of countries in the region whose tariffs are close to being cost reflective”.64 This is reflected in the WBG’s RISE index – which scores highly for its national electrification plan (94/100), its framework for stand-alone systems (89/100) and its utility transparency and monitoring (100/100) – and the ADB’s Electricity Regulatory index, both of which see Uganda punching well above its weight, given its GDP per capita ranks only 39th in SSA, at EUR 654 in 2019.65

58 Private equity sparks revival at Ugandan utility Umeme`, Financial Times, 27 April 2017. Accessed at: https://www.ft.com/content/a275a47e-1557-11e7-b0c1-37e417ee6c76
60 EMPEA Institute, Case Study: Umeme Company Limited (2016). https://www.empeainstitute.org/app/up-
loads/2017/09/EMPEA-Institute_Impact-Case-Study_Umeme_WEB.pdf; Actis LLP ‘Refurbishing and reconnec-
ting’. https://www.act.is/about-actis/our-portfolio/umeme/
62 Godinho & Eberhard, ibid.
bank.org/indicator/NY.GDP.PCAP.PD?locations=UG
Morocco has a strong domestic financial market and a relatively strong regulatory framework, which makes the kingdom an attractive proposition for private sector investors. This is reflected in its World Bank RISE programme score of 73/100, placing it fourth in Africa behind Egypt, South Africa and Tunisia. According to RISE, Morocco offers a strong legal framework for renewable energy (RE) and a government that has undertaken thorough planning for RE expansion.

Morocco’s strong regulation and robust local economy is reflected in the type of finance extended to its energy sectors. Over the period 2014-2019, almost 18% of finance has been invested by the private sector, while some 77% came from ODA loans. Only 5% was extended via grant funding.

EU Institutions and EU Member States have played a central role in financing the Moroccan energy sector. Of the EUR 2.2 billion in ODA commitments extended to the North African country between 2014-2019, some 91% (EUR 2 billion) was extended by the EI & MS group. A breakdown of EI & MS ODA commitments shows the renewable generation subsector accounted for 89% (EUR 1.8 billion) of this development aid, while only 11% has been directed at the transmission and distribution networks; this low figure may reflect the country’s near 100% electricity access rate. As shown in Figure 19, the vast majority of this funding took the form of ODA loans.

Some EUR 1.4 billion of European ODA finance has been disbursed over the study period. According to data available, the average grant element of ODA loan disbursements to Morocco was 39%, significantly lower than the levels of concessionality of ODA lending to LDCs and UMICs.

A strong enabling environment has underpinned Morocco’s emergence as an African leader in renewable energy. The Moroccan Agency for Sustainable Energy (Masen) was created in 2010 to take a leading role in meeting the government’s then ambition of installing a minimum capacity of 2,000MW of solar generation capacity by 2020. Masen’s remit has since been broadened, as it has established a reputation for competence and imagination in developing RE projects. Much of its innovation has focused on the structuring of financing for projects such as the multiphase Noor solar park at Ouarzazate, which has attracted large-scale debt financing from institutions including the World Bank Group, European Investment Bank, European Commission, AfDB and Germany’s KfW. This, in turn, has attracted bidders offering record low tariffs, among which include Saudi Arabia’s ACWA Power. The Noor programme is mainly based on solar PV projects, but the complex also includes the world’s largest concentrated solar power plant.

Since Masen’s creation, Morocco has expanded its RE ambitions, looking to generate more than half its electricity from RE by 2030. Solar has a leading role to play in this, but other technologies are also making an important contribution, from wind to pumped storage solutions that optimise hydroelectric resources.

At Koudiat El Beïda, near Tangier, Moroccan utility ONDEE developed one of Africa’s first substantial wind farms – more recently upgraded, to even better exploit the high winds that pass through the Strait of Gibraltar, which separates Morocco from Spain only a short distance away. Bigger still is the 300MW Tarfaya wind project, developed by France’s Engie and the local Nareva Holdings. Highlighting the depth of local markets, the Tarfaya wind project obtained debt financing from local banks Attijariwafa Bank, Banque Centrale Populaire Morocco and BMCE Bank of Africa.

The extent of wind developments has allowed Morocco to drive industrial expansion in parallel. Major local cement plants are among industrial units that are harnessing wind power to drive factories. Even more directly, wind power has created its own industry, with a major manufacturing facility built by Siemens Gamesa in northern Morocco to produce turbine blades for use within the kingdom and for export.

Finding itself in RISE’s upper quartile of African states, Morocco is an example of how strong regulation and liquid local financial markets can help facilitate rapid progress in developing large-scale renewable energy projects and the pursuit of SDG7.
South Africa is the continent’s biggest economy and has enjoyed major success in promoting renewable energy to commercial investors through the Renewable Energy Independent Power Producer Procurement programme. The REIPPPP emerged as a world-leading example of solar and wind energy procurement, with the goal of producing 17.8GW of energy from renewable sources by 2030. The REIPPPP encourages IPPs to submit competitive bids “to design, develop and operate large-scale renewable energy power plants across South Africa”.64

However, the South African picture has been clouded by major financial and governance problems for the state utility Eskom, and especially the procurement of huge new coal-fired power plants. Eskom provides some 95% of South Africa’s electricity supply. As of 2020, it owed EUR 26.1 billion in debt,65 which it cannot service. Eskom has been responsible for the so-called ‘energy crisis’ that began in 2007 and which has seen South Africa experience widespread rolling blackouts. Eskom has instituted regular periods of ‘load shedding’ (i.e. the interruption of electricity supply to avoid excessive load on the generating plant), ranging from Stage 1 (where 1GW is removed from the grid) to Stage 8 (8GW), whereupon half of South African consumers lose power. In 2019, a series of breakdowns at its coal plants meant almost one-third of Eskom’s 44GW capacity was offline.66 These problems have deep roots that are being addressed, including poor planning dating back to the apartheid regime in the 1960s, excessive debt, corruption, inadequate billing procedures and mismanagement.67

President Cyril Ramaphosa has announced that Eskom will be broken up into three new state-owned enterprises, responsible for generation, transmission, and distribution.70 Eskom’s breakup is intended not only to ensure its viable components have the best chance of surviving, but that its ageing coal-fired power plants can be replaced using private finance.71

Despite these problems, South Africa has many strengths reflected in its RISE indicators which make it a leader in Africa. This is also illustrated by the very large flows of private investment the country has been able to attract. South Africa benefits significantly from its strong domestic financial markets and banking sector. Private finance commitments constitute the majority (79%) of SDG7-compliant investment recorded over the period 2014-2019, at EUR 5.7 billion, followed by ODA commitments by EU Institutions and Member States of EUR 1.2 billion (16%) and a further EUR 283 million (4%) by non-African multilateral institutions.

While large amounts of ODA loans, and to a much lesser extent grants, have been extended to the renewables generation subsector by EU Institutions and Member States, far larger amounts have been directed towards transmission and distribution – a sector which does not traditionally attract private capital. Unlike most LDCs and LMICs, the overwhelming majority of EI & MS funding for the T&D subsector has taken the form of concessional loans rather than grants, perhaps reflecting South Africa’s position as the most advanced economy in Sub-Saharan Africa (see Figure 20). Also reflecting this economic status is the concessionality of European ODA lending. While only limited data is available, the grant element of EI & MS ODA loans disbursed over the 2014-2019 period was 31%,72 which is significantly lower than the levels recorded for LDCs (53%) and LMICs (50%).

The results of European support for the renewables generation subsector are clear. Thus far, 6,329MW of solar and wind power has been procured via the REIPPPP, of which 3,876MW is grid-connected. The REIPPPP has been deemed the “the most successful public-private partnership in Africa in

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**Note:**

70 According to data for EIB, France and Germany reported by the OECD DAC CRS.
the last 20 years,” and has received EUR 11.4 billion of private investment commitments. Its success owes much to its well-structured bidding processes, which have become increasingly competitive in each of the four rounds of bidding so far. As a result of these processes, efficiency improvements and falling procurement costs, South Africa now boasts some of the world’s lowest renewable energy tariffs. Further reforms to the energy market are expected to build upon the REIPPPP’s success, with the ‘unbundling’ of Eskom’s vertically integrated monopoly likely to emphasise competitive bids from IPPs. As some 13GW of coal-fired capacity is due to be decommissioned by 2030, it is imperative that South Africa’s reforms pick up speed.

4.5. SUPPORTING THE SECTORS THAT HELP ACHIEVE SDG7

EI & MS ODA financing of SDG7 in Africa has focused heavily on investments in renewable generation (with commitments totalling EUR 6.5 billion over the study period) and transmission and distribution (T&D - EUR 3.3 billion). A further EUR 1 billion was directed to policy support and capacity building. Of the EUR 11.1 billion extended over the period, only EUR 89 million and EUR 70 million was identified as extending to energy efficiency and clean cooking respectively, while no commitments were identified as being made to the immature clean transport market (see Figure 21).

Renewable generation projects attracted more than double that of other SDG7 sectors, receiving on average EUR 6.5 billion between 2014-2019 compared to EUR 3.3 billion for T&D projects. EI & MS ODA financing of the renewables generation sector had ranged from between EUR 0.7-1.2 billion, before rising to a high of EUR 1.6 billion in 2019.

Furthermore, some EUR 1 billion in ODA was extended for policy support and capacity-building, lending credence to the EI & MS group’s continued support for African government energy planning and sector management, and paving the way towards the further development and financing of countries’ energy markets.

Renewable energy generation

Hybrid solutions and utility-scale solar received significantly more funding than other renewable generation sub-sectors with EUR 3.1 billion and EUR 2.7 billion respectively over the six years under review. This is considerably more than the EUR 439 million committed for the more capital-intensive hydroelectric power projects, which often have far longer construction periods. According to the data, EI & MS ODA commitments to hybrid and utility-scale solar projects reached a six-year high of EUR 1.5 billion in 2019, despite the falling capital expenditure costs of solar PV. According to the IEA the capital cost of utility-scale solar PV in South Africa fell by 36% between 2015 and 2019 from USD 2,066.5 per kW to USD 1,321 per kW. Such data show that the EI & MS group are providing significant amounts of support for more modern, faster to deploy renewable technologies, as well as solutions for solving ‘Last Mile’ challenges.

The four largest individual commitments in the study period from EI & MS were given to grid-connected solar projects in Morocco (in 2014 and 2018), in the form of ODA loans totalling EUR 1.3 billion. This accounted for some 20% of European ODA commitments to the renewables sector over the six-year period. Overall, some EUR 580 million of ODA commitments in this sector was directed at UMICs and EUR 3 billion at LMICs, which between them account for 55% of all EI & MS ODA commitments to the renewable generation subsector. This highlights that despite Europe’s world-leading efforts in the support of LDCs, more can be done, and a larger focus can be placed on those countries in greater need.

Table 4 shows those countries which received the largest amount of ODA commitments from EI & MS donors to the renewable generation sector between 2014 and 2019. Morocco received the largest amount with EUR 1.7 billion, while South Africa and Egypt received significant amounts, in part due to large-scale government-led procurement of renewable capacity through the REIPPPP in South Africa and the Benban solar park in Egypt. Investment in Zambia was primarily directed at HEP projects, with some EUR 63 million committed to rehabilitating the Kariba dam and

<table>
<thead>
<tr>
<th>Country</th>
<th>Commitments (EUR)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Morocco</td>
<td>1.71 billion</td>
</tr>
<tr>
<td>Africa, regional</td>
<td>914 million</td>
</tr>
<tr>
<td>South Africa</td>
<td>486 million</td>
</tr>
<tr>
<td>Egypt</td>
<td>362 million</td>
</tr>
<tr>
<td>Zambia</td>
<td>354 million</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>277 million</td>
</tr>
</tbody>
</table>

Note: Other includes commitments which were unallocated and to SDG7-compliant non-renewable generation.

74 Nompanya, ibid
EUR 49 million for the 120MW Itezhi-Tezhi HEP plant. A large part of the investments made in Côte d’Ivoire was used to finance a EUR 135 million bio-fuel plant in 2019. Significant funding was also classified at a regional level in Africa, reflecting the need to address energy challenges not just in but across countries. Supporting efforts to build viable regional power pools and markets, with the necessary cross-border transmission and distribution infrastructure, and strong regional cooperation can help to address a number of energy challenges more effectively and quickly than stand alone or one-country solutions.

ODA loans were the primary instrument for EI & MS investment in renewable generation, at EUR 4.7 billion in 2014-2019. ODA grants were a lesser used instrument with EUR 1.9 billion given primarily to government-led energy access programmes rather than project finance.

Renewable energy projects in LDCs and LMICs received EUR 1.8 billion and EUR 3 billion respectively, in 2014-2019. Of the EUR 1.8 billion for LDCs, Figure 22 shows that 58% (EUR 1 billion) was extended in the form of ODA grants, further reinforcing the EU’s commitment to supporting SDG7 for those countries in most need and on more concessional terms.

Transmission and distribution

The largely publicly owned and managed T&D sector has historically not attracted as much private sector investment as the renewable generation sector, and as such have received large amounts of EI & MS ODA investment during the study period. Between 2014 and 2019, the EI & MS group committed EUR 3.3 billion towards the development of centralised grids. Of this, EUR 1 billion took the form of ODA grants and the remaining EUR 2.3 billion in ODA loans (see Figure 23).

South Africa received the highest total amount of EI & MS transmission and distribution finance of EUR 653 million, followed by Rwanda (EUR 265 million) and Morocco (EUR 235 million). Some EUR 299 million was provided to South African utility Eskom to strengthen its high-voltage transmission network to integrate renewable power either planned or under construction. Yet despite South Africa being the largest recipient, LDCs received around half of all EI & MS ODA commitments to the T&D sector over the study period, of which 57% were grants. By contrast, LMICs and UMICs – which tend to have more developed transmission and distribution infrastructure as well as higher access rates – had almost the entirety of their commitments in the form of ODA loans.
Figure 24: Financial instruments used by EI & MS in energy efficiency projects, by country income group, 2014-2019

Energy efficiency

Meeting SDG7 targets are to be achieved not only by increasing electricity access rates through grid expansion and developing additional generation capacity, but also by improving levels of energy efficiency across the continent. The majority of international efforts at achieving SDG7 have been targeted at the former, yet EU Institutions and Member States have made important contributions in the field of energy efficiency, having committed EUR 89 million over the study period. This includes EUR 60 million to LMICs, of which EUR 29 million were grants and the remaining EUR 31 million loans. Only EUR 9 million has been committed to the less energy intensive LDCs, however the entirety of this finance took the form of ODA grants.

Clean cooking

According to SEforALL’s 2019 Tracking SDG7 Report, current efforts to deliver clean cooking access in Africa are extremely inadequate. In its Africa Energy Outlook 2019, the IEA projects that in 2030, based on existing stated policies, the number of people without clean cooking access across Africa is expected to grow to just under 1 billion. While specific data for Africa is unavailable, the investment needed to address inadequacies in the clean cooking sector globally is USD 4 billion. The data collected for this report suggest that EI & MS invested only EUR 70.2 million into the clean cooking sector in Africa between 2014-2019. Of this amount, the vast majority (EUR 70 million) took the form of an ODA loan in 2015 extended by France’s AFD for retail gas distribution, EUR 22 million of which was reportedly disbursed to the energy efficiency (EUR 42 million) and clean cooking (EUR 62 million) sectors.

4.6. DISBURSEMENTS: LETTING THE FINANCE FLOW

Over the study period, a total of EUR 7.1 billion of ODA funding has been disbursed by EI & MS to SDG7 projects and capacity building across Africa. It is evident, based on the available data, that after starting from a relatively low base in 2014 at EUR 534 million, annual disbursements have ranged from between EUR 1 billion and EUR 1.3 billion over the remainder of the six-year study period. The exception was 2016 when EUR 1.9 billion was disbursed — including EUR 572 million to projects in Morocco – outrunning commitments in that year (see Figure 25).

It should be noted that disbursements tend to lag behind their associated commitment; the full release of these funds potentially may not happen for months or years after the initial commitment. This lag time between disbursement and commitment can be seen in Figure 25, where an upwards trajectory in commitments early on in the six-year study period is followed by a gentle decline and this is replicated in the release of disbursements some years later (although the extent is far more pronounced).

Figure 25: EI & MS ODA disbursements vs commitments for SDG7, 2014-2018

Despite such correlations, there can be no direct comparison between commitments and disbursements in a specific year.

The data show that SDG7-compliant disbursements accounted for 78% of all EI & MS ODA disbursements made between 2014 to 2019, while non-SDG7 accounted for 12%. A further 9% of the total was directed at policy support and capacity-building. Perhaps unsurprisingly, a similar trend to commitments emerges when disbursements are examined by sector: renewable generation received the majority (57%), followed by transmission and distribution (30%) and policy and capacity-building (11%). Smaller amounts have been disbursed to the energy efficiency (EUR 42 million) and clean cooking (EUR 62 million) sectors (see Figure 26).

Although it should be noted here that SDG7 commitments far outweigh those for non-SDG7.
European Financial Flows on SDG7 to Africa

4. EU and Member States’ financial flows to SDG7 in Africa

EI & MS disbursements to SDG7 projects and capacity-building in LDCs and other lower income countries has been relatively consistent since 2015. It only recorded a notable decline in 2019, when disbursements fell from EUR 387 million to EUR 310 million. However, this still represented some 25% of all disbursements in that year (see Figure 27). Disbursements to LMICs are dominated by Morocco, and those to UMICs to South Africa, reflecting the substantial commitments made to energy projects in these countries over the past decade.

4.7. THE VALUE OF THE ‘TEAM EUROPE’ APPROACH

The outbreak of the Covid-19 pandemic has had damaging effects on economies worldwide, the GDP of the European Union fell by 6.4% in 2020 and growth in Sub-Saharan Africa is projected to have fallen by 3.3%. In response to this global emergency, the EU in April 2020 launched the ‘Team Europe’ package – a combined approach to support partner countries with more than EUR 20 billion by combining resources from the EU and financial institutions, in particular the European Investment Bank and the European Bank for Reconstruction and Development. EU Member States have since joined the initiative, and whose contribution has resulted in the package doubling to EUR 40.5 billion – with some 65% having been disbursed – by April 2021. Through the programme, the EU and its Member States and institutions will help the most vulnerable countries in Africa by responding to the immediate health crisis, strengthening health, water and sanitation systems, and mitigating the immediate social and economic consequences of the pandemic.

By working together, the EU and Member States can achieve greater scale than a bilateral donor can unilaterally. By pulling together resources and better coordination, the Team Europe approach ensures that collectively the EU is able to achieve the greatest sustainable impact and transformational change.

The EU has shown that this joined-up approach can reap large benefits, particularly in the areas of electricity access in Africa, where many projects require large amounts of financing, sometimes at the level beyond that which a bilateral donor will finance itself.

One such example of the success of the collaborative European approach is in Zambia, a Least Developed Country with a GDP of only USD 1,305 per capita in 2019 and where only 22% of the 14 million population had electricity access in 2010 (falling to 2.2% in rural areas). EU Institutions and Member States have committed EUR 536 million to help develop Zambia’s renewable energy and transmission and distribution sectors, often through co-financing. A number of these projects, which may have not succeeded had there not been a collaborative European approach, have had immediate impacts in terms of increasing access to electricity, creating jobs, and offsetting harmful greenhouse gas emissions. The following case studies help to illustrate what is achieved when the EU and Member States work closely together, and early indication of the potential for the ‘Team Europe’ approach.

82 World Bank, 2019.
83 SEforALL.
5. The private sector investment picture

Energy cooperation portfolio in Zambia

Under the National Indicative Programme (NIP) of the 11th European Development Fund (EDF), covering the programming period 2014-2020, the European Union has earmarked an envelope of EUR 244 million in grant funding for programmes to support the Zambian energy sector.

To date, financial and technical assistance under the 11th EDF have been almost equally distributed among power generation, transmission and distribution as well as renewable energy and energy efficiency to improve access to clean, reliable and affordable energy for all.

Generation

To support large power generation projects, EDF grants act as a catalyst for the increased financing of strategic energy security infrastructure such as the Kariba Dam Rehabilitation Project (of which the EDF grant accounted for EUR 74 million of the total EUR 250 million cost). The associated hydropower plant provides 40% of Zambia’s total power generation capacity. The owners of the Kariba Dam are the Governments of the Republics of Zambia and Zimbabwe. The Dam is owned by the governments of Zambia and Zimbabwe and is operated and maintained by the Zambezi River Authority (ZRA), on behalf of the two states.

Transmission

EDF grants also contribute to large power transmission projects, such as the high voltage transmission line from the newly built Itezhi Tezhi hydroelectric power plant to the national grid (an investment grant of EUR 18.2 million out of a total investment of EUR 255 million). Other priority projects include the Zambia – Tanzania power interconnector that will link the Eastern African Power Pool with the Southern African Power Pool and for which the European Union financially supported technical design, feasibility studies and coordination activities.

Distribution

Under the 11th EDF, the European Union contributed to the upgrading and extension of the electricity distribution network in Lusaka under the (grant of EUR 65 million out of a total investment of EUR 255 million). Other priority projects include the Zambia – Tanzania power interconnector that will link the Eastern African Power Pool with the Southern African Power Pool and for which the European Union financially supported technical design, feasibility studies and coordination activities.

Electricity access

For access-to-electricity programmes, the European Union has committed to supporting small scale, private sector-led renewable energy projects through innovative business models and financing modalities, particularly in rural areas far from the main grid. These are crucial for enabling broader, inclusive economic and social development as well as to facilitate uptake of a green economy. In particular, the Increased Access to Electricity and Renewable Energy Production (IAEREP) project focuses on removing policy and regulatory barriers and to build capacities in the public and private sectors. The November 2020 signing of the agreement for the EUR 625.5 million IAEREP demonstration projects, which are located in 250 villages and will have more than 200,000 beneficiaries, is expected to have a significant impact. The projects, which utilise an EPC approach and will contribute to the Zambia Vision 2030 target of 4 million rural beneficiaries, received a EUR 23 million grant from the EU. In addition to the IAEREP, a dedicated Zambia window of the global EU Electrification Financing Initiative (www.electrif.eu), officially launched in May 2019, offers attractive financing mechanisms to counteract financial barriers for project development.

Zambian Energy Efficiency and Sustainable Transformation (ZE2ST)

With the ZE2ST programme, the EU has committed the last tranche of the EUR 244 million envelope of the NIP of the 11th EDF. ZE2ST aims at mobilising energy savings, energy services and demand side management to make energy efficiency count in Zambia through policy work, promotion of sustainable investments and job creation, and strengthening state, societal and community resilience. This is in line with SDGs 7 and 13, the SEForALL objectives, the Paris Climate Change Agreement, and development policy engagement with Zambia based on the European Consensus for Development. The present contract will be funded in direct management under the ZE2ST Financing Decision.

EIB, KfW and AFD to connect 60,000 Zambians to the grid

In 2016, when only 22% of Zambia’s population had access to reliable electricity, the European Investment Bank stepped in with a grant of EUR 10.4 million towards sustainably rehabilitating and reinforcing distribution networks in the country’s southern, central, eastern and western provinces. These provinces had largely been neglected in the national electrification policy, with access rates ranging between 4% and 17%.

To tackle the regional inequality of energy access, a key aspect of the ‘Sustainable Electricity Supply Southern Division’ project – which continues its work with a steady flow of sub-projects – has been to extend the supply and transmission infrastructure to end-users to connect some 12,200 households and 62,200 people to the grid; these new consumers include micro-, small- and medium-sized enterprises.

The project has a specific access component, with the introduction of a connection subsidy and the supply of prepaid meters for new connections. The programme looks to reduce technical losses across the grid by replacing obsolete distribution equipment; this will include building an estimated 509km of new distribution lines and substations, to add 175MVA of new capacity to the grid.

The programme will provide cheaper and less polluting alternatives to the traditional biomass and oil fuels that are most widely used across these regions. By reducing the use of more polluting fuels, the programme is expected to save an estimated 400,000 tons of CO₂ per year.

Through the EU-Africa Infrastructure Fund, the grant from EIB financed the programme’s access component to ensure poorer end-users directly benefitted from rehabilitation work. Additional financing came from Germany’s KfW and France’s Agence Française de Développement, which provided a EUR 40 million non-concessional loan facility.
5. The private sector investment picture

5.1. EUROPEAN LEVERAGING OF PRIVATE SECTOR FINANCE

Europe is playing an increasingly prominent role in leveraging and facilitating private sector finance for purposes that will help Africa to achieve SDG7. According to the International Finance Corporation some EUR 4.3 billion of private capital was mobilised either directly or indirectly by the EIB and EDFI for projects in Africa in 2019, however no breakdown by sector is given.

Comprehensive project-level data on private financing for SDG7 projects in Africa is not available, and therefore the following data does not provide an exhaustive picture of private investment. The World Bank’s Private Participation in Infrastructure (PPI) dataset and other sources including industry associations show that between 2014 and 2019, the European Union and its Member States have provided financial support to co-finance a number of privately-backed projects throughout Africa, which attracted a total of EUR 1.9 billion in commercial debt and private equity commitments at financial close. This was comprised of EUR 1.3 billion in private equity investments and EUR 657 million in commercial debt. Figure 28 shows the debt and equity breakdown for EIB & MS leveraged and co-financed projects for the period 2014-2019.

The proportion of total private finance for SDG7-compliant projects\(^{85}\) in Africa which has been supported by financing extended by the EIB & MS reached 61% in 2019.

Large amounts of this finance (EUR 582 million, 30%) has been directed at renewable generation projects in South Africa. This included the 251.4MW Redstone concentrated solar power plant which received a EUR 33 million loan from the Netherlands’ FMO, while the 111MW Gibson Bay, 140MW Loriesfontein 2, and 160MW Noupoort wind farms benefitted from export credit provided by Denmark’s EKF. It is notable that in South Africa, a country with a highly liquid domestic financial market, some EUR 2.9 billion in private debt and equity was invested in projects which did not receive any identified public funding.

Lower Middle Income Countries benefitted from the majority (64%) of private capital investment in SDG7-compliant projects part-financed by EIB & MS DFIs, namely Morocco, Egypt, Kenya and Senegal, as well as the Nachtigal hydropower plant in Cameroon – although this project was not financed by ODA for the most part (see Figure 30).

![Figure 28: Private capital for SDG7 leveraged or co-financed by EIB & MS, 2014-2019](image)

![Figure 29: Proportion of private finance leveraged or co-financed by EIB & MS for SDG7 projects in Africa, 2014-2019](chart)

![Figure 30: EIB & MS leveraged or co-financed private capital, by country income group, 2014-2019](chart)

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84 According to the OECD, EU Institutions and Member States mobilised EUR 7.4 billion in private capital in 2017/18. Of the EUR 43.6 billion mobilised globally by all DFIs and MDBs, 21% was directed at Africa and 28% to the energy sector.

85 SDG7 compliance in this instance is deemed to be projects within the renewable energy, transmission and distribution, clean cooking, clean transport and energy efficiency subsectors.
5.2. PRIVATE INVESTMENT FLOWS INTO ENERGY IN AFRICA

There have been some positive steps towards attracting higher flows of private investment, which is seen as critical to achieving SDG7 in Africa by 2030. An analysis of data gathered for this report appears to show that private finance is turning away from non-SDG7 projects within the energy sector, and is increasingly being directed towards subsectors such as renewable energy (see Figure 31). However, it is also noticeable that private investment into SDG7 projects peaks and troughs. According to the WBG’s Private Participation in Infrastructure database, total debt and equity investments were recorded at just EUR 783 million in 2019, EUR 525 million more than in 2014, although below the EUR 3.5 billion reported in 2018.

According to an analysis of the World Bank Group’s PPI database, private capital favours solar and wind projects, which accounted for some 93% of the total private investments recorded over the period 2014-2019. By comparison, private finance for hydroelectric power plants was minimal, according to the PPI database. HEPs are traditionally large-scale infrastructure projects with long construction times; they therefore tend to attract the bulk of their finance from public sector actors such as national governments, international donors and Chinese export finance.

Financial flows are not necessarily comparable across years due to the falling capital costs of renewable technology. According to the WBG PPI database, some EUR 788 million in public and private funds was invested in solar PV and wind projects across Africa in 2014 totalling 438.5MW, equal to approximately EUR 1.8 million per megawatt installed. This compares to EUR 852 million invested in 686MW during 2019, at a much lower rate of EUR 1.2 million per megawatt (see Table 5). Yet these project costs are not only influenced by technology cost alone, but also the markets where projects are developed. In South Africa and UMICs – those markets where private banks take the leading role in debt finance – the cost of renewable IPP projects averages EUR 1.63 million per megawatt, which is above the average EUR 1.38 million/MW and EUR 1.49 million/MW in LMICs and low-income countries respectively where the majority of finance is provided by DFIs and multilaterals on a largely concessional basis.

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This data does not show the full picture, as information on purely commercially financed projects is often not disclosed due to commercial confidentiality, or has not been compiled. Therefore, the data presented in this report is not comprehensive and should be used merely as an indication in the trends observable. For example, while some EUR 5.7 billion of private investment into South Africa’s REIPP programme has been identified, according to South Africa’s IPP Office total investments into the 90 projects selected (the majority of which were financed purely by private finance) stood at EUR 15 billion. Investments in subsectors such as off-grid energy can comprise of several small-scale projects which are often captured as investments in companies rather than projects;

**Table 5: Total investment amounts and installed capacity for solar PV and wind IPPs in Africa, 2014-2019**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total investment (EUR million)</th>
<th>Capacity (MW)</th>
<th>EUR per MW</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>788</td>
<td>438.5</td>
<td>1.80</td>
</tr>
<tr>
<td>2015</td>
<td>2,130</td>
<td>1,279.9</td>
<td>1.66</td>
</tr>
<tr>
<td>2016</td>
<td>189</td>
<td>134.0</td>
<td>1.41</td>
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<tr>
<td>2017</td>
<td>2,669</td>
<td>2,152.1</td>
<td>1.24</td>
</tr>
<tr>
<td>2018</td>
<td>4,654</td>
<td>2,791.6</td>
<td>1.67</td>
</tr>
<tr>
<td>2019</td>
<td>852</td>
<td>686.2</td>
<td>1.24</td>
</tr>
</tbody>
</table>

banks take the leading role in debt finance – the cost of renewable IPP projects averages EUR 1.63 million per megawatt, which is above the average EUR 1.38 million/MW and EUR 1.49 million/MW in LMICs and low-income countries respectively where the majority of finance is provided by DFIs and multilaterals on a largely concessional basis.

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these companies sometimes operate globally and therefore the proportion destined for Africa cannot be determined.

An example of this is investment data has been captured by solar off-grid industry association GOGLA, which revealed that some EUR 627 million in private debt, equity and grants was extended directly to the African off-grid solar sector between 2014 and 2019 – while a further EUR 416 million was invested directly into companies with a global focus, some of which may have been destined for Africa.

The African Minigrid Developers Association has also reported promising statistics, with grant and debt funding extended by the private sector increasing from below USD 2 million in 2015 to USD 10 million in 2016. Other industry associations were approached during the research of this report, but efforts at collecting private data are at an early stage, and therefore limited information is available.

Despite the lack of publicly available data, it is widely believed that private investment in infrastructure in Africa lags behind the rest of the world. According to the WBG, Africa accounted for just EUR 6.25 billion of the EUR 86.7 billion invested worldwide in 2019. A senior WBG official has recently predicted that Covid-19 will very likely result in a further “precipitous decline” in investment, especially foreign direct investment, meaning it is imperative that African governments act quickly to safeguard continued FDI flows.

The energy sector conforms to this trend. According to the International Energy Agency, public funds financed two-thirds of power investment in Sub-Saharan Africa in 2014-2019. Of utility-scale financing, just 25% originated from international private capital and 14% from local private capital.

The picture is radically different in African LIMCs, where 39 of 50 projects recorded developments received EUR 561 million in private equity, of which 26% originated from international private capital and 14% from local private capital. Among LIMCs, the situation is slightly better: 17 of a total of 51 SDG7-compliant developments received EUR 561 million in private debt between 2014 and 2019. These were in the mature economies of Egypt (11), Morocco (three), Kenya and Cameroon (one each). The remaining 35 attracted EUR 951 million in private equity, of which the majority were again in Egypt, Morocco and Kenya, as well as Côte d’Ivoire, Nigeria, Senegal and Zambia.

The situation is slightly better in LDCs. According to the WBG PPI Database, just three of a total 37 energy developments received EUR 561 million in private debt between 2014 and 2019. These were in the mature economies of Egypt (11), Morocco (three), Kenya and Cameroon (one each). The remaining 35 attracted EUR 951 million in private equity, of which the majority were again in Egypt, Morocco and Kenya, as well as Côte d’Ivoire, Nigeria, Senegal and Zambia.

Very little private investment in SDG7 finds its way to LDCs. According to the WBG PPI Database, just three of a total 37 energy developments received EUR 561 million in private debt between 2014 and 2019. These were in the mature economies of Egypt (11), Morocco (three), Kenya and Cameroon (one each). The remaining 35 attracted EUR 951 million in private equity, of which the majority were again in Egypt, Morocco and Kenya, as well as Côte d’Ivoire, Nigeria, Senegal and Zambia.

At present almost all investment in ‘clean cooking’ solutions originates from development agencies, with the private sector barely involved. However, recent private investment initiatives – such as Circle Gas – suggest this could change.

Of note when analysing the data is that the ratio between public and private finance can vary dramatically from year to year. This indicator is heavily influenced by the several large-scale electricity generation procurement rounds in South Africa, which accounted for 80%-90% of total private debt and equity investments in 2015, 2016 and 2018, dropping to just 45% in 2019 (see Figure 33). UMICs (including South Africa) and LIMCs received the vast bulk of this.

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The picture is radically different in African LIMCs, where 39 of 50 projects recorded in the PPI database received commercial finance. All were located in South Africa, aside from Namibia (three) and a 30MW wind project in Mauritius which reached financial close in 2014. The extent that these fields (some 100 trillion cubic feet in size, Africa’s third largest) were only discovered by exploratory drilling in 2010. No private commercial debt was identified as having been provided for SDG7 projects, while EUR 163 million in private equity was invested.

Figure 33: Private debt and equity investments in SDG7, by country income group, 2014-2019

![Figure 33: Private debt and equity investments in SDG7, by country income group, 2014-2019](source: World Bank Group Private Participation in Africa database)

91 World Bank, Private Participation in Infrastructure (PPI) Database. https://ppi.worldbank.org
97 African Energy Outlook 2019

5. The private sector investment picture

5.1. Private debt versus private equity for SDG7 projects by income group, 2014-2019

Figure 34: Private debt versus private equity for SDG7 projects by income group, 2014-2019

According to the IEA, a key enabling difference in South Africa is the high proportion of local private capital drawn upon to finance its projects, equivalent to 59% of all its financing, compared to just 26% across the rest of Sub-Saharan Africa. This figure rises to 75% over the period 2014-2019 according to analysis of projects contained within the PPI database. South Africa’s success is not simply explicable to its relatively high level of income – it may be more attributable to a strong enabling environment, well-developed domestic financial market and the clarity of its policies and regulations. Its well-designed structure means the world leading REIPPP programme has achieved “more investment via independent power producers in four years than in the rest of Sub-Saharan Africa over the past 25”. Despite problems related to South Africa’s continued dependence on coal and governance issues that have undermined state utility Eskom, the success of the REIPPP has placed South African energy investment in a situation most other leading African economies have yet to achieve. The REIPPP’s leveraging of a favourable enabling environment shows what is possible, with South Africa’s IPP Office reporting that total investments in REIPPP assets stood at EUR 15 billion, to equal 30%-50% of the value of national utility Eskom, which at the time was supplying about 85% of all the electricity consumed in the SADC region’s 16 countries. This hugely successful programme took place against the backdrop of governance failings in South Africa’s thermal generation sector which highlight the problems when standards fall.

**Key structural obstacles are holding back progress towards drawing private investment into Africa’s poorest countries, which account for 68% of the global electricity access deficit.** LDCs receive the majority of support from bilateral and multilateral sources (58% of total commitments in 2019), but receive much less private sector investment than LMI and UMICs. Critical efforts to ensure that universal access to affordable, reliable and modern energy services are provided by 2030, far higher levels of private investment are required in almost every SSA country, particularly the poorest.

5.3. HELPING ENABLE FURTHER PRIVATE SECTOR INVESTMENT

National budgets may sustain power sectors through the provision of extensive subsidies. These are not only a drain on scarce government budget resources, but subsidies also distort energy markets by encouraging the setting of tariffs that are not cost-reflective. The lack of cost-reflective tariffs (CRTs) constrains revenue flows to the off-taker, which is still most often a state-owned utility. In turn, this revenue shortfall undermines adequate levels of capital investment in transmission and distribution infrastructure, and reduces the funds available for routine maintenance and training. This, inevitably, results in inadequate, unreliable, and very expensive power.

The introduction of CRTs and other market-friendly reforms – supported by measures that protect the most vulnerable consumers from undue financial pressure – is essential if projects led by private investors are to significantly increase across the continent, and especially in the most energy-poor countries.

DFIs still have an important role to play

This is not to argue that private investment alone can function as the panacea for making up shortfalls in SSA’s ability to meet SDG7. In these contexts, it remains more appropriate for governments or DFIs to act as investors as they can bear certain country or political risks at a lower cost than private investors. DFIs have played an important stabilising role in many of Africa’s independent power projects that have been successful to date. Not only do DFIs provide a crucial source of complementary investment, but their involvement also provides a significant degree of risk mitigation.

DFIs can further augment the power of private capital by helping to supply adequate levels of early capital expenditure, by lobbying governments to remove market-distorting subsidies and tariffs that are inimical to commercial viability. DFIs can also make an important contribution by partnering with local companies to facilitate their expansion into new markets and technologies, and also by working with qualified international companies who are new to African markets, where the sort of risk mitigation that DFIs excel in can help to structure successful projects that otherwise wouldn’t have happened. However, for all these positive aspects, the future is likely to see governments and DFIs progressively withdrawing from dominating investment provision in a majority of African markets, as much of this investment could be financed more cost-effectively and on a larger scale by private capital.

**Steps towards attracting more commercial investment**

How to achieve higher levels of commercial investment? Research into successful independent power projects points to several key factors which explain why private capital invests in certain projects and avoids others. Critical among these, countries must engage in strategic power sector planning that clearly identifies their needs and allocates each stakeholders’ responsibilities in delivering policy and projects.  

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Sound planning means that countries are able to project future electricity demand correctly. Investors seeking project opportunities. Such processes are particularly vital where high capital costs are required, such as installing renewable energy. In these cases, the cost of finance often plays a pivotal role in investment decisions. However, a quality auction process alone will not assure investment. Bidders must be assured that their investment will generate returns. At present, given the parlous financial state of many African off-takers, governments have frequently formulated power purchase agreements (PPAs) that seek to protect their sometimes-insolvent state-owned enterprises, rather than PPAs that incentivise efficient energy production responsive to market demand.

Critical to changing this situation is making off-takers financially viable in their own right, as state utilities and other buyers of power become able to generate reliable and long-term revenue streams. Stakeholders tend to agree that this will make African power markets far more attractive to commercial finance – and without financially secure off-takers it is likely the dearth of private investment in African electricity supply will continue to be a critical issue. As researchers have observed, those countries which “have attracted the most finance have a wide range of sector policies, structures, and regulatory arrangements”.

The Ugandan examples

The Ugandan case study is instructive (see Liberalisation and the recovery of Uganda’s electricity sector, p.48), as the privatised distribution company Umeme’s register of shareholders shows that even in supposedly “difficult” industries like Sub-Saharan electricity distribution, well-structured investments in stable environments can be very attractive to major investors. UK government-backed private equity came in to put Umeme on a stable footing – creating a model that has been closely observed across to private equity the company’s depressed customers, reduced losses to 17%, and increased sales from 1,401GWh to 2,458GWh.

This commercial solution to answering the state-controlled Ugandan industry’s huge distribution problems of 20 years ago is a direct product of regulatory reform, and a shift towards cost-reflective tariffs. It is this viability that has enabled and attracted considerable levels of investment from local and international capital; Uganda’s National Social Security Fund now owns 23.2% of Umeme, with 36% owned by other private investors via the Uganda Securities Exchange and its cross-listing on the Nairobi Stock Exchange.

The lessons learned from Uganda are not simply about distribution network performance improvement, but also about how crucial it is to ensure that off-takers are financially viable to encourage investment.

Umeme’s successes were only possible as the political will existed to guarantee effective regulation, which meant “Uganda was able to create a strong regulatory competence” in addition to other reforms that “proved critical” to Umeme’s success.

Effective regulation is key, so is a greater focus on T&D

Processes of reform must extend to providing strong and properly resourced regulators who can mediate impartially between different stakeholders. Uganda’s well-structured Energy Regulator is but one example of this. It is vital that regulators have the freedom to operate without political pressure. In turn, regulators must abide by transparent and consistent licensing, while ensuring that tariff practices are well understood by all stakeholders. Outdated and ineffective regulatory frameworks are one of the main barriers for would-be investors in African energy.

Further, generation capacity alone cannot meet SDG7’s goals. A commensurate improvement in transmission and distribution capacity is equally vital. Policy solutions that facilitate greater regional integration of transmission networks by strengthening and expanding the continent’s regional...
power pools and other cross-border solutions are gaining momentum across the continent. Some argued that private sector participation in the T&D sector should be further promoted. The advantages of improvements in T&D are manifold, including improved reliability of supply, greater economies of scale, a reduction in investment costs of up to 30% and a reduction in the levelised cost of power (of 6% in Southern Africa and 10% in East Africa). Private investors will increasingly be invited to participate in power pools and other cross-border projects.

Successful IPPs have demonstrated that a welcoming environment for commercial investment generates cost-effective capital from foreign and local markets that develops vital infrastructure. As yet, the full potential of private investment for electrifying Africa and improving its citizens lives has not been realised, particularly in LMICs and LDCs. If the constraints holding back private investment are addressed – a process that has gained ever greater urgency – a surge of essential investment could be unleashed.

Empowering local banks and other financial institutions

Adding to this momentum would be greater participation in IPPs and many other energy projects by local banks and local institutional investors. Europe is foursquare behind this development. An important document, Scaling-up energy investments in Africa for inclusive and sustainable growth: Report of the Africa–Europe High–Level Platform for Sustainable Energy Investments in Africa, comments that local institutions must be supported to invest in the sustainable energy transition.115

“Capacity building programmes can give local commercial banks templates on due diligence and risk assessment methods for sustainable energy projects. Specified credits should be allocated to local banks for funding small and medium sustainable energy enterprises or projects. Current investors, notably development finance institutions, can accelerate these capacity building processes through co-investing alongside local institutions to transfer due diligence and risk assessment skills,” the report observed.

6. Non-European financial flows

6.1. GROWING MULTILATERAL SUPPORT FOR ENERGY IN AFRICA

ODA funding to SDG7 and capacity building in Africa from non-EU, non-African multilateral development banks – international institutions that provide financial assistance (most often as loans or grants) to developing countries to promote economic and social development – has shown a consistent and sustained increase in recent years. Identified commitments have risen from EUR 414 million in 2014 to EUR 3 billion in 2018, although fell back to EUR 1.6 billion in 2019. This is broadly in line with the wider increases in funding directed at the continent and reflects the fact that these multilaterals have generally accounted for around 34% of global ODA funding to SDG7.

The proportion of multilateral’s overall ODA energy funding which is directed towards SDG7-focused projects and programmes has increased over the period, rising from 55% in 2014 to 76% in 2019. Non-SDG7 projects by contrast have fallen from 20% to 11% over the same period.

Almost half of this finance has been directed towards eight countries: Nigeria, Tanzania, Ethiopia, Niger, Rwanda, Kenya, Burkina Faso, and Côte d’Ivoire. Table 6 shows the amounts extended to these countries.

Between 2014-2019 some EUR 1.3 billion of ODA funding has been committed to policy support and capacity building from non-EU, non-African multilaterals, accounting for 7.6% of all energy commitments.

As Figure 35 shows, LDCs have been the major focus of multilateral efforts in the financing of SDG7 projects and capacity building in Africa. In these countries, the proportion of multilateral commitments with an SDG7 focus has ranged from 60% to 91%. In monetary terms, this has grown 3.5-fold, from EUR 376 million in 2014 to EUR 1 billion in 2019.

Table 6: Top 10 recipient countries of multilateral ODA commitments to SDG7, 2014-2019

<table>
<thead>
<tr>
<th>Country</th>
<th>Commitments</th>
<th>Proportion of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nigeria</td>
<td>EUR 767 million</td>
<td>9.13%</td>
</tr>
<tr>
<td>Tanzania</td>
<td>EUR 658 million</td>
<td>7.82%</td>
</tr>
<tr>
<td>Ethiopia</td>
<td>EUR 614 million</td>
<td>7.30%</td>
</tr>
<tr>
<td>Niger</td>
<td>EUR 531 million</td>
<td>6.31%</td>
</tr>
<tr>
<td>Rwanda</td>
<td>EUR 443 million</td>
<td>5.27%</td>
</tr>
<tr>
<td>Kenya</td>
<td>EUR 353 million</td>
<td>4.19%</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>EUR 350 million</td>
<td>4.16%</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>EUR 347 million</td>
<td>4.13%</td>
</tr>
</tbody>
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115 This report can be accessed at: https://africa-eu-partnership.org/en/stay-informed/publications/report-africa-europe-high-level-platform-sustainable-energy-investments
Financing of SDG7 projects in LDCs is heavily focused on investments into transmission and distribution (41%). Along with renewable generation, these two sectors have been the primary target of multilateral ODA commitments in each year since 2014. There was an exception in 2018, when significant investments were made into the clean cooking sector, as well as a near threefold increase in the funding of policy support and capacity building – an area seen by many as vital to unlocking increased financial flows from the private sector.

The level of concessionality offered by these MDBs appears to not be as generous as that extended by EU Institutions or Member States; loans account for 87% of all ODA funding to SDG7 over the study period, with 88% of this amount extended to LDCs.

Adding to the picture: European contributions to multilaterals

It has been established that MDBs account for a significant proportion of total donor funding for Africa’s energy sectors. Yet these organisations themselves are funded by their member government shareholders. Non-EU multilaterals which are part-funded by EU Member States dominated multilateral financial flows to SDG7 in Africa in 2014-2019 (see Figure 36).116

Comprehensive data on the core contributions to multilateral institutions are unavailable, but an examination of data published by the OECD showing contributions made by its Member States in the period 2014-2018 shows that EU Member States consistently account for over half of all core contributions reported, within this subset at least (Figure 37).117 In 2019, this figure was 55% more than that contributed by Asian OECD members and almost 375% more than that extended by North America.118 This shows that the EU region indirectly finances energy projects in Africa far beyond the bilateral support extended by its financial institutions and Member States’ bilateral agencies and funds.
6. Non-European financial flows

As outlined in section 4.1, by applying the proportions of EU Member State core contributions\(^{119}\) to the financing of SDG7 in Africa by multilaterals (excluding EU Institutions) which are identified as being the recipient of EU funding, it can be implied that between 2014-2019, EU Member States have contributed as much as EUR 4.2 billion via funding of multilaterals in addition to their direct commitments to projects. However, this figure does not take into account the core contributions made to multilaterals by non-OECD members, nor the finance raised by multilaterals through other fund-raising windows/envelopes beyond their core contributions.

### 6.2. NORTH AMERICA

Identified ODA commitments to SDG7 provided by North American sources amounted to EUR 2.1 billion in 2014-2019, equal to 8% of all ODA investment in Africa. Almost all of this was extended by the United States, primarily through the Millennium Challenge Corporation and the recently created United States Development Finance Corporation (the successor to the Overseas Private Investment Corporation). The US' identified commitments are equivalent to less than one quarter of the EU Institutions and Member States' EUR 11.1 billion. The remaining EUR 161 million was committed by Canada.

The focus of North American donors appears to be LDCs, which attracted almost half of all funding over the period. However, significant amounts were committed to LMICs (EUR 698 million) and regional projects (EUR 426 million). Little in the way of ODA was issued to UMICs.

The significant grant component of US commitments reflects its emphasis on the ‘Power Africa’ initiative, which seeks to add “cleaner, more-efficient electricity generation capacity” and “provides critical early-stage planning to spur new power generation, and transmission and distribution infrastructure”\(^{120}\). Substantial amounts of North American funding have been directed at transmission and distribution (50%) and renewable generation (24%). The US has consistently committed large sums to policy support and capacity building, totalling some EUR 532 million and accounting for 25% of all North American commitments in 2014-2019.

US ODA provision has so far fallen well short of Power Africa’s initially announced commitment to provide USD 7 billion of American aid.\(^{121}\) Power Africa’s donor support has drawn on European and other sources. Furthermore, by explicitly seeking to support US jobs and exports, Power Africa projects may be considered a form of US domestic subsidy.

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119 Proportion of OECD members’ core contributions to non-EU multilaterals.


6. Non-European financial flows

6.3. ASIA AND OCEANIA

Japan is the most active Asian donor providing concessional support to SDG7 (a group which, due to considerations discussed elsewhere, does not include China). This reflects the scale of Japan’s economy, its geostrategic interests in Africa and policy orientations. Japan provided EUR 944 million of commitments over the 2014-2019 period, of which EUR 300 million comprised ODA grants and the rest as ODA loans. However, this achievement is tempered by a lack of SDG7 adherence, with a further EUR 812 million of Japanese investment recorded in 2014-2019 committed to non-SDG7-compliant projects, predominantly in LMICs. While most of Japan’s SDG7 grant funding is for LDCs, around double was committed via ODA loans (EUR 382 million). However, this is less than the sum of ODA loans extended to LMICs over the six years (the case for many donors).

Figure 40: Asia and Oceania ODA funding of SDG7 in Africa, 2014-2019

Other active donors in the Asia and Oceania region are South Korea (EUR 172 million) and Australia (EUR 119 million). Unlike most other donors, the bulk of Asian ODA commitments has been invested into building transmission and distribution infrastructure (68%), while a further 18% has been used to support policy and capacity-building projects. Some EUR 153 million, representing 14% of all ODA funding, has been used to finance renewable generation projects, including two loans totalling EUR 93 million extended by Japan for the Hurghada solar PV project in Egypt and a EUR 43 million grant to finance the Tedzani HEP project’s expansion in Malawi.

Some EUR 31 million in ODA commitments were made by South Korea between 2015 and 2018, to support energy efficiency projects in Cameroon, Egypt, Ethiopia, Ghana and Tanzania.

Figure 41: Middle East ODA funding of SDG7 in Africa, 2014-2019

6.4. MIDDLE EAST

The Gulf region has become a particularly active player in the African energy sector, with some EUR 2.6 billion of identified ODA commitments. Only EUR 1.2 billion of this was aimed at SDG7-compliant projects, and a further EUR 220 million at policy support and capacity building. These commitments have been made by the DFIs of Gulf Cooperation Council Member States, including the Abu Dhabi Fund for Development, Arab Bank for Economic Development in Africa (Badea), Arab Fund for Economic and Social Development, Kuwait Fund for Arab Economic Development and the Saudi Development Fund. Some EUR 105 million has also been committed by Abu Dhabi’s Department of Finance.

North Africa has been the dominant focus of Middle East ODA support to SDG7, accounting for almost four-fifths of the total. Of this, some EUR 702 million was extended to projects in the transmission and distribution sector, and a further EUR 310 million to renewable generation projects.

6.5. OTHER DONORS AND EMERGING ACTORS

Non-EU member European states made contributions totalling EUR 241 million in 2014-2019. The largest commitment was made by Norway, which accounted for EUR 212 million of this funding. ODA commitments have also been identified from Switzerland, Iceland and Turkey. Funding from the UK, which was an EU Member State until 31 January 2020, is included within EU financial flows for the study period under review (2014-2019). However, British commitments and disbursements from 2020 onwards will be considered as non-EU flows in the 2021 edition of this report.

Other players in the financing of Africa’s energy sectors have emerged over the past decade, including countries such as Brazil, China, and emerging institutions such as the BRICS’ New Development Bank. However, there are significant challenges in both collecting and compiling the data on many of these emerging countries – which are not members of the OECD and therefore do not report, or in many cases reveal, their commitments, let alone reveal the terms.
6. Non-European financial flows

It may be that what is often termed as Chinese development finance is not always straightforward. It is thus difficult for third parties to accurately understand Chinese development finance. In addition to the secrecy around the concessionality of Chinese finance, a number of academic and other studies have shown that it doesn’t usually carry stringent conditionalities – most notably in seeking to ensure acceptable standards of governance – nor that international environmental, social and other norms are followed. It may be that what is often termed as Chinese ‘development finance’ should simply be re-categorised as ‘commercial finance’, given the prevalence that state-owned and parastatal commercial banks play in Chinese finance for projects in Africa (which may also be linked to the acquisition of mineral rights and other lucrative resources deals).

There are also questions about the developmental impact of Chinese finance. Traditional perceptions of Chinese development cooperation and finance have focused on lower quality and effectiveness. However, recent research shows a more nuanced picture. Using data of official financing from China to 138 countries between 2000 and 2014, AidData researchers found that one additional Chinese ODA-type project produces a 0.7 percentage point increase in economic growth two years after the project is committed.

With the requirement that financing of SDG7 must itself be sustainable – and not only be directed towards qualifying sectors – and taking into account that the SDGs are explicitly interdependent (as such, they cannot prejudice one another), this makes the accounting of financial flows from emerging donors particularly problematic. Therefore, for many of these emerging actors it cannot be assumed that their finance is sustainable and SDG7-compliant unless and until such a time that the terms and conditions of these financial flows are made public.

7. The global picture of financing for SDG7 in Africa

African governments and development institutions across the continent have borne the primary responsibility and initiative for achieving the SDG7 targets by 2030. Development banks such as the AfDB and Development Bank of Southern Africa have been the most active over the past decade, but important contributions have been made by others, including Badea, Ecowas Bank for Investment and Development, Trade and Development Bank of Eastern and Southern Africa, Banque Ouest Africaine de Développement and East African Development Bank. Regional economic communities are also playing a vital role in developing the continent’s infrastructure, as are regional power pools which have been created to foster cross-border electricity trade. While sovereign governments and African institutions have led the way in financing the continent’s energy industries, for various reasons this has gone slower than SDG7 envisaged.

The international community has mobilised to assist Africa in meeting the SDG7 targets, with the region being a particular priority for the EU and its Member States. The industrialised economies of the OECD and multilaterals, led by the World Bank Group and EU Institutions, have traditionally been the main international sources of financing for SDG7 in Africa. However, in the past two decades important new actors have emerged to complement the traditional OECD players. They include Turkey, the United Arab Emirates and other Gulf states, among an ever-increasing number of actors who are playing a role in Africa’s energy industries.

This enlargement of the number of international financiers has done much to diversify the sources of funding, equipment and know-how coming into Africa. However, important questions remain for those concerned with meeting the SDG7 goal of developing sustainable, responsibly financed industries and markets. Among those questions is whether the financing flows on offer genuinely add value to recipients’ development strategies, or, rather, if they merely add to what might become unsustainable debts. This is as much a question of the ‘quality’ and concesionality of financing as the ‘quantity’ made available.

7.1. THE OVERALL PICTURE

Identified investments into Africa’s energy sector totalled EUR 108 billion between 2014 and 2019.

Identified investments into Africa’s energy sector totalled EUR 108 billion between 2014 and 2019, of which African governments and African development banks accounted for EUR 74.8 billion, a further EUR 24.4 billion was committed by international donors in the form of ODA support for SDG7-compliant projects while identified private sector investments totalled EUR 8.7 billion. However, the SDG7 compliance of government finances cannot be easily gauged. Figure 42 shows how this total financing fluctuated between EUR 15 billion per annum in 2014 and a high of EUR 22 billion per annum in 2018. However, unlike EIB & MS funding, which in 2019 reached a six-year high, the global financing of SDG7 declined somewhat dramatically to EUR 17.4 billion in the same year. This is explained by a consistent decline in African government
spending recorded since 2017, as well as a marked fall in private investment.

It is encouraging that international ODA support and private sector investment in projects that are SDG7-compliant have remained consistently higher than those to non-SDG7-compliant projects since 2015. Some 54% of this spending in 2014 was directed towards projects and programmes that did not contribute towards the achievement of SDG7, but this proportion has declined to just 9% in 2019. However, funding for SDG7 by international donors and the private sector has recorded a steady decline since 2015, falling from EUR 6.4 billion to EUR 4.7 billion in 2019 – with the exception of 2018 when a record EUR 9 billion was invested. This trend is partly explained by the level of private debt and equity invested into South Africa’s successful REIPPPP programme, but the trend is also visible in ODA finance (none of which was reported as having funded the fourth round of the REIPPPP programme in 2018). This trend is a cause for some concern if the goal of affordable, reliable and sustainable energy for all is to be met by 2030.

It is clear that a considerable gulf remains between what Africa needs to meet the SDG7 goals and the finance it actually receives (see Section 9).

The data available for analysis shows that EU Institutions and Member States have played a central role in the international community’s efforts to assist Africa with achieving SDG7. From 2014 to 2019, EI & MS accounted for almost half (EUR 11.1 billion) of the EUR 24.4 billion total international ODA commitments made to SDG7 on the continent. Non-EU multilaterals were also significant funders (EUR 8.4 billion) – although, as noted elsewhere, EU Member States are significant financiers of these institutions – while the rest of the world accounted for the remaining 20%, equal to less than half the amount committed over the period by the EI & MS group (see Figure 43).

2. FINANCIAL INSTRUMENTS USED IN SDG7 FINANCING

Beyond the headline aggregate figures, it is important to distinguish between the different modes used to extend this finance. When examining international donor aid it is clear that ODA loans have consistently accounted for the majority of investment. ODA loans, provided by state agencies, meet the ‘concessionality threshold’, which is, broadly speaking, a 45% grant element when provided to LDCs and other LICs, 15% to LMICs and 10% to UMICs. Figure 44 shows a growing upwards trend in this form of finance, at least until 2019 when it fell from EUR 4.4 billion down to EUR 2.4 billion.

Investment in electricity supply is often a good fit for ODA loans; many projects require a lengthy construction period and significant capital, meaning it can be a long wait before a return on investment materi-

als. Such long timescales can make investment in some types of large-scale power project less appealing to private sector finance. This is less of an issue for sovereign and development finance institution lenders, who may be able to take a more long-term view. Consequently, ODA loan commitments have proven popular among energy project developers.

It is notable how the trend in ODA finance broadly follows the levels of private sector investment recorded, reflecting how concessional loans are used to support private sector-led projects, and in some cases to leverage private sector finance. However, there is an element of coincidence to these observed patterns, as large amounts of private debt and equity invested was directed towards renewable energy generation projects in South Africa (particularly in 2018), many of which received little if any ODA donor support.

126 LICs have maximum $1,045 per capita gross national income.
The global picture of financing for SDG7 in Africa

7. European Financial Flows on SDG7 to Africa

7.1. European Financial Flows to SDG7

The use of grants has risen steadily from EUR 849 million in 2014 to EUR 1.4 billion in 2019, representing a 68% increase over the six-year period. EU Institutions and Member States have proven themselves to be world leaders in the provision of concessional lending. The EI & MS group accounted for 54% of the total EUR 7 billion in grants committed to SDG7 in 2014-2019. EI & MS was also responsible for 41% of ODA loans extended over the same period. Unlike other forms of development aid, ODA equity investments – which tend to be concessional direct equity investments into projects or into funds that make equity investments in projects – have remained low in comparison to other forms of ODA support. However, equity investments are gaining some traction, with some EUR 277 million committed during the study period. Indeed, the annual figures increased more than three-fold between 2014 (EUR 26 million) and 2019 (EUR 80 million). Again, the EI & MS group is leading the way in this form of development aid, accounting for 92% of all ODA equity committed.

Despite an impressive 2016 peak of EUR 3.5 billion, or just over 16% of total financing (including African spending), it is clear that private investment has not kept pace with the increases in ODA finance (see Figure 46). Private flows hit a study period low of EUR 783 million in 2019. It is very important that private investment increases rapidly if SDG7 is to be met, as discussed in detail earlier.

7.3. GLOBAL INVESTMENTS BY SECTOR

The supply of electricity from renewable sources has attracted the most global investment by far over the last six years. This growth spurt peaked at a massive EUR 4.9 billion in 2018, and the sector recorded an average annual investment of EUR 3.1 billion over the study period. Conversely, investment into non-renewable power generation has declined, from EUR 2.9 billion in 2014 to EUR 448 million in 2019.

Encouragingly, it is clear that commitments to renewable generation (50%) far exceed those made to non-renewable projects, which comprised just 19% over the six-year period. Of the finance committed to renewables, EUR 3.5 billion was earmarked for LDCs and EUR 5.7 billion for LMICs – which is of importance when meeting SDG7’s pledge of making clean energy available for all. However, UMICs recorded the largest amount of financial inflows in 2014-2019, at EUR 6.8 billion, due to the substantial amounts of private investment in South Africa’s renewables programme. While private finance still provided large sums towards non-renewable energy (EUR 3.9 billion) in 2014-2019, this amount was dwarfed by the sector’s commitment to renewables, which weighed in at some EUR 8.9 billion.

Figure 47 shows how the renewable generation sector attracts the most varied types of financial flows, with the private sector very much leading and with support from international donors in the form of ODA loans and, to a lesser extent, grant funding. Due to the estimated EUR 9 billion of additional, non-ODA co-financed private investment into South Africa over the past decade (identified but unaccounted for in the figure), the proportion of private debt and equity invested into this sector almost certainly dwarfs ODA commitments to a much greater extent than shown.

Analysis of commitments to the vital transmission and distribution sector shows a clear lack of private sector involvement. This is largely a reflection of T&D infrastructure being publicly owned; in most cases it is still under public management, although...
there are a few exceptions where the operational management of networks has been concessioned out to private companies. Other examples of private involvement in the T&D sector include South Africa, where some renewable power developers in the REIPPPP programme were invited to finance the construction of transmission substations to connect their projects to the grid (although this infrastructure was required to be handed over to state utility Eskom once built).

T&D offers a clear opportunity for private investment to be leveraged to support an expansion of energy access. However, the regulatory frameworks for this is severely limited in many jurisdictions, as discussed later.

Figure 47 further shows how the energy efficiency and clean cooking sector have not attracted any identified private finance. While this is perhaps understandable for advancing energy efficiency – where some 80% of commitments comprised of ODA grants – the private sector can (and already does) contribute to clean cooking. Germany’s KfW DEG in 2014 provided early financial support for Kenyan clean cooking technology firm KopaGas. UK-based private company Circle Gas in 2020 acquired KopaGas’ pay-as-you-go technology for USD 25 million – thought to be the largest-ever pure private equity investment in the clean cooking technology sector – to launch its liquefied petroleum gas, clean cooking services in Nairobi, in association with local mobile telecommunications firm Safaricom.

7.4. ENABLING ACTION: DISBURSEMENTS OF OFFICIAL FLOWS

It is important to differentiate between ODA commitments (defined as a signed financing document by development finance institutions or multilateral development banks) from identified disbursements (the financial flows). Disbursements could take longer than initially announced to materialise, may eventually manifest in a different form, or be cancelled outright.

Figure 48 suggests that, at the macro level, a trend applicable to commitments and disbursements to SDG7 projects can be observed between 2014 and 2018: there was a significant jump in 2015 (coinciding with the launch of the SDGs), followed by a gradual slowdown after 2016 before settling back into a more consistent pattern.

Data on disbursements is less readily available than for commitments due to a number of reasons – not least that the disbursement of finance, and the terms applied, often remain commercially confidential in the case of private investors, whereas their commitments are more often publicised. This is also true for non-OECD member DFIs and MDBs.

The traditional large multilateral and official sources of development finance do provide such data. From analysis of OECD DAC data for the period 2014-2018 it is clear that the EU Institutions and Member States led in terms of global financial disbursements of ODA for SDG7 projects, with 50% of the total. It was followed closely by non-EU, non-African multilaterals (24%). These EI & MS disbursements, of EUR 7.1 billion, dwarf the combined total of identified disbursements made by Middle Eastern, Asian, and North American states combined.

The EI & MS group has disbursed significant amounts to LDCs (EUR 1.9 billion). At EUR 2.4 billion, only multilaterals have disbursed larger sums to LDCs over the period, while the combined total for the rest of the world stood at EUR 1.5 billion (see Figure 49).

128 As this report was compiled there was insufficient data for 2019 from non-EU Institutions and Member States, making a comparison for this year unreliable.
8. Financing needs to meet SDG7 in Africa by 2030

Analysis of the data for ODA disbursements in LDCs between 2014 and 2018 shows that of the SDG7-compliant projects, the T&D subsector has been the primary beneficiary of disbursements, receiving 44% of the financial flows. Some 59% of this sum was comprised of concessional loans and 41% was grant funding. Renewable generation received almost one-third of disbursements, with 65% coming from grant funding and 35% from ODA loans.

Support for policy and other capacity-building efforts enjoyed significant funding from donors; some 20% of funds disbursed were to help build the soft infrastructure that is needed to build up LDCs’ financial and regulatory strength, and to improve their enabling environments, making their markets more conducive to private capital. Some 5% of all disbursements were aimed at the clean cooking sector, while only 0.2% targeted energy efficiency. The loan-to-grant ratio was 55%-45% in LDC disbursements.

![Figure 49: ODA disbursements to SDG7 projects by country income group, 2014-2018](image)

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United Nations data show that of the 789 million people around the globe who are still without access to electricity, some 548 million (or 69%) live in Sub-Saharan Africa. Excluding South Africa, per capita energy consumption in Africa is just 180kWh per annum, compared to 6,500kWh in the European Union.

Such stark figures show the extent of the challenge facing Africa and its partners, given that energy is a prerequisite for development and essential to all economic activity, whether micro or macro in scale. As on e influential study observed, in Africa, “energy plays a fundamental part in economic growth”, meaning that “insufficient and unreliable access to power is a major obstacle to business”. The impacts of this are well reported; power outages are estimated to cost Sub-Saharan Africa more than 2% of GDP per year, while the cost of electricity inefficiency is estimated at as much as 4% of GDP. In 2019 this alone was equal to anywhere between EUR 31.6 billion and EUR 63.2 billion.

![Figure 50: Proportion of population with access to electricity, 2020 (%)](image)

Source: Sustainable Energy for All (SE4ALL) database from the SE4ALL Global Tracking Framework.

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132 Africa Infrastructure Knowledge Platform.
134 World Bank, data for 2019.
Africa's development has been hampered by a lack of energy provision and there is still a severe shortfall in many countries – even though great progress has been made across the continent in the past decade, and especially in many previously poorly provisioned Sub-Saharan African economies. A lack of capacity to produce energy still constrains growth, even in the continent's most advanced economies.\footnote{135} Of course, the need to have access to sustainable energy supplies is not only a question of pure economics. As the UN has observed: "Without electricity, women and girls have to spend hours fetching water, clinics cannot store vaccines for children, many schoolchildren cannot do homework at night, and people cannot run competitive businesses."\footnote{136} This is particularly important in the context of tackling the Covid-19 pandemic, with vaccines requiring storage in refrigerators.

A further imperative for investment in Africa’s diverse energy needs is to supplant the high usage rate of ‘dirty’ fuels for heating and cooking. Some 890 million people still use traditional fuels for cooking in SSA,\footnote{137} given the lack of a stable electricity supply and access to clean solutions. Cooking with biomass has significant health consequences, largely among women and girls; transitioning to clean cooking “could unlock human productivity, cut human health costs, improve well-being and save the lives of hundreds of thousands of people, particularly women and children”\footnote{138}. The use of dirty fuels for cooking also has environmental consequences; their carbon emissions are a contributor to climate change while the sourcing of unsustainable biomass leads to deforestation or forest degradation. Thus far, investment to encourage a switch to ‘clean cooking’ has been sorely lacking: of the EUR 4.2 billion of investment needed annually, just EUR 70.2 million in flows recorded by this report went to clean cooking projects.\footnote{139}

Clearly, it is imperative that access to energy in Africa is improved. As the IEA observes, it took Asian giants China and India “35 and 16 years respectively to reach a 95% access level and to connect as many people as now need to be connected in Sub-Saharan Africa”.\footnote{140} The good news is that technological advances – including innovations in off-grid and decentralised solutions – are decreasing the costs of rolling out power to sparsely populated and rural regions and will assist in meeting this challenge in the shortest possible time.

Africa is emerging as a world leader in applying renewable off-grid technologies. The continent leads the global distributed renewable energy (DRE) sector (defined as the supply of electricity, generated from renewable sources, at or near the point of consumption). Developmentwise, South Africa’s energy access was accounted for EUR 436 million of investment in 2018, 80% of the global total.\footnote{141} Likewise, the continent is foremost in the global off-grid solar (OGS) sector, with SSA alone receiving EUR 672 million of investment in 2014-2019. For the period from 2012, SSA is reported to have accounted for 75% of the global total.\footnote{142} While still relatively small, these amounts have grown rapidly over the past decade, aided by an increased amount of private capital being channelled into the sector.

Thus, while the pace of investment is growing, it is from a very low base level. Although countries in Africa may not take as long as other developing countries did in previous decades to reach 95%-100% access, this transition will not occur overnight. Meeting this challenge requires increased levels of investment, and in particular investment that takes a long-term approach. A complicating factor is that, aside from DRE and OGS, investments will often require considerable capital for infrastructure construction, as Africa is “by all measures the least endowed region of the developing world in infrastructure.”\footnote{143}

Capacity is sorely needed in the continent’s often under-resourced transmission and distribution industries, alongside generation, which has so far attracted the majority of international lending and investment. Investment continues to lag behind needs by a considerable margin. Estimates of the continent’s annual financing needs differ widely – but all are on a grand scale. In its ‘low carbon scenario’, the African Development Bank’s New Deal on Energy for Africa envisages average annual investments of EUR 35 billion to achieve universal access by 2030.\footnote{144} In its Africa Energy Outlook 2019 ‘Africa case’ scenario – which is focused on meeting the SDG7 targets – the IEA suggests a far bigger challenge, putting the annual average investment requirement at EUR 86.6 billion. Whatever the actual numbers, mobilising this level of investment presents a formidable challenge. However, it is not insurmountable when put into context. The uppermost estimation – the IEA’s EUR 86.6 billion per year – is equal to 3.9% of Africa’s GDP\footnote{145} and just 0.6% of the European Union’s gross national income,\footnote{146} while the lower estimate is 1.6% and 0.25% respectively.

But if financing needs are not met in the near future, the burden during later years will increase exponentially. It is imperative that a substantial increase in support for projects and policies that help Africa to meet the SDG7 goal is placed firmly on the international agenda.

And even with substantially more finance flowing into sustainable energy in SSA, the access gap will persist – even if investment grows in line with the best-case projections. Africa’s population is projected to double by 2050,\footnote{147} with a commensurate impact upon energy demand. Even omitting South Africa, SSA’s energy demand will reach 770TWh by 2040. This is equivalent to four times its present level.\footnote{148} According to consultants McKinsey & Company, an additional 292GW of installed capacity is required by 2040 to meet that demand.\footnote{149}

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\footnote{890 million people still use traditional fuels for cooking in SSA.}

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137 https://www.iea.org/reports/world-energy-outlook-2018


139 Coffer-Morlot, Parks, Ogungbe and Ayeni, ibid.


143 Unaffordable and Clean-Energy: Why It Matters’.

144 African Development Bank, ‘Estimating Investment Needs for the Power Sector in Africa 2016-2025’. Accessed at: \url{https://www.adb.org/en/documents/estimating-investment-needs-power-sector-africa-2016-2025#:~:text=The%20answer%20is%20%0A%0Ato%20this%20question%20is%20for%20the%20period%202026%2D2030%0A%0A}


147 UN Department of Economic and Social Affairs, ‘Growing at a slower pace, world population is expected to stabilise at 9.7 billion in 2050 and could peak at nearly 11 billion around 2100’. \url{https://www.un.org/development/desa/en/news/population/world-population-prospects-2019.html}


The extent of necessary capacity increases differs considerably by region. While 99% of North Africa already has electricity access, big parts of SSA are falling short – even though many countries are enacting policies that “will allow around 20 million people to gain access to electricity each year by 2030”\textsuperscript{114} As the IEA observes, this rate of improvement is still “less than a third of what would be needed to reach full access by 2030”.\textsuperscript{131} Some countries have seen surging demand, whereas the increase on others has occurred at a more moderate pace. As will be discussed later, regional variations must be properly accounted for by all stakeholders: governments, DFIs, investors and utilities.

At present, much of SSA’s installed capacity is misallocated: it is not uncommon to see new power plants have proved all but useless without adequate transmission grid projects. Solutions such as power pooling – which already exist in Africa but outside of the Southern African Power Pool require significant strengthening – may offer manifold advantages in terms of efficiency, investment costs and opening up new markets.\textsuperscript{115} Such reforms will facilitate the entry of much-needed private capital.

To meet national electricity supply industries’ variable requirements a flexible approach is required to investment across Africa. This should involve not only DFIs, but also a much larger role for private sector actors. Markets vary markedly across a diverse continent, often with very different requirements. The consensus of opinion is that some countries, for example Nigeria and South Africa, require utility-scale developments to serve large population centres. Other markets (in regions beyond the existing national grid, for example) may find it more appropriate to prioritise off-grid developments that leverage the falling cost of solar PV cells and other technologies to provide access to underserved rural or sparsely populated areas.\textsuperscript{112}

A holistic approach to installing infrastructure is essential. There are too many examples of past failures, where increased generation capacity from the construction of new power plants has proved all but useless without adequate transmission grid projects. Solutions such as power pooling – which already exist in Africa but outside of the Southern African Power Pool require significant strengthening – may offer manifold advantages in terms of efficiency, investment costs and opening up new markets.\textsuperscript{115} Such reforms will facilitate the entry of much-needed private capital.

9. Measuring global progress towards SDG7 in Africa

9.1. ADDRESSING THE SDG7 FINANCING GAP

A comparison of estimated investment needs and historical financial flows towards the African energy sector reveals a significant funding gap. The average identified financial flows in 2014-2019 from all public and private sources (including national government spending) of EUR 18 billion is only just above half of the EUR 35 billion of annual investments required to meet SDG7 by 2030, according to the AfDB’s New Deal on Energy for Africa, and just over one-fifth of that required under the IEA’s African Economic Outlook 2019’s ‘Africa Case’. This implies an annual financing gap of between EUR 17 billion and EUR 69 billion. As discussed previously, this is not an insurmountable challenge. The identified financing gap is equal to 0.7%-3.12% of Africa’s GDP and 0.12%-0.49% of the EU’s GNI.

Figure 51 sets out the financing gap based on the average level of investment over the six years compared to the financing needs as estimated by the AfDB and the IEA. However, it should also be noted that total commitments include African national government spending, of which an undeterminable amount will contribute towards the attainment of SDG7. Furthermore, government spending on energy has fallen over the past three years; over half of this occurred in Egypt and South Africa, and not in the countries where investment is most desperately needed.

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Figure 51: Annual financing requirements to meet SDG7 in Africa, six-year (2014-2019) average

<table>
<thead>
<tr>
<th>Requirement</th>
<th>IEA ‘Africa Case’</th>
<th>AfDB ‘New Deal on Energy’</th>
</tr>
</thead>
<tbody>
<tr>
<td>EUR billion</td>
<td>Financial gap</td>
<td>EUR 69 billion</td>
</tr>
<tr>
<td></td>
<td>EUR 16 billion</td>
<td></td>
</tr>
</tbody>
</table>

Note: Commitments include national government capital expenditure on energy, not all of which may contribute towards SDG7.
In order to close this gap, financial flows must increase dramatically, for every year in which the EUR 35 billion to EUR 87 billion is not met, additional funds must be committed in the following years. Based on an assessment of funding between 2014 and 2019, the prospect of shortfalls may seem inevitable. However, as the success of South Africa’s REIPP programme in 2011-2016 suggests, what seem like daunting funding gaps can be filled when markets respond to concerted government action.

The IEA’s ‘Africa Case’ assumes that should universal access to electricity be achieved by 2030, the African economy would grow at an average annual rate of 6.1% through to 2030. If SDG 7 is to be achieved, the onus will lie on African governments. There are encouraging precedents: since 2000, China has invested 1.9% of GDP into its energy sector and in India the rate was 2.9%. Were African governments to commit 1.9% of GDP to SDG 7, and assuming an annual growth rate of 6.1%, commitments from donors and private sector sources would need to increase by 27.1% per year to meet the IEA’s estimate of EUR 870 billion in investment being required by the end of the decade (see Figure 52).

Were a more modest GDP growth rate of 4.3%\(^{14}\) to be recorded, ODA and private sector investment would need to increase by 16.6% per year to reach the AfDB’s EUR 35 billion annual investment needs.

Under either scenario it is clear that achieving SDG 7 in Africa will be extremely challenging if African governments do not significantly increase their spending from its current 0.6% GDP level.

It is essential that to close this financial gap, other sources of capital, beyond donor support, should be accessed. Facilitating an urgent upturn in private sector investment must be a priority if the SDG 7 goals are to be achieved by 2030. The South African experience shows that this is possible, with some EUR 15 billion invested into the country’s renewable generation subsector in under a decade and where the levelised cost of electricity for these renewable projects has fallen below the costs of coal new-builds. While the presence of strong financial markets and an investment grade sovereign rating (until 2020) was crucial for raising commercial debt – the latter being perhaps more important in the programme’s early round – this success story was also due to the creation of a strong regulatory framework as well as strong and well communicated political will. While South Africa’s experience may not be entirely replicable across the continent, it does serve as an important case study in how private capital can be mobilised.

The bankability of many projects is hindered by a number of factors, which industry practitioners and policymakers most often identify as unsatisfactory regulatory environments, uncreditworthy (often insolvent) off-takers for on-grid generation, and a lack of a track record in successful private investment, not to mention levels of extreme poverty in some areas not connected to the grid.

Closing this financing gap will not only require additional public investment, but also the further mobilisation and leveraging of other forms of capital. The primary source of these funds must come from the private sector (discussed in more detail in section 5.3).

Contrary to a widespread perception, very thorough soundings by AEEP’s consultants of a wide range of DFI, bank, private equity, private office, sovereign wealth funds and other actual and potential stakeholders suggest there may be no shortage of private capital looking to invest in African projects – and many are especially interested in renewable energy and, gas, when it is viewed as a ‘transition’ fuel. These sources agree that access to ‘bankable’ projects is critical to funds flowing into the renewable generation sector, where financing structures that meet the standards expected by credit committees, as well as technical experts, are put in place and activated so projects can be implemented.

Increasing the bankability of projects – which in the African electricity context is to ensure that the returns adequately reflect an acceptable level of risk – is a key to unlocking additional financial flows into the African energy sector, and thus meeting SDG 7 on the continent by 2030. Other sectors can be opened up by host governments to greater private sector participation (as discussed elsewhere in this report).

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Risk mitigation instruments provided by official and development finance institutions can help to overcome these problems. Analysis of recent deal flows by platforms such as African Energy Live Data\(^ {15}\) shows that a number of contracts have been enter

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154 The estimated 4.3% annual increase in African national government capital expenditure on energy is based on economic growth projected across the continent for 2020, as per the African Development Bank’s African Economic Outlook 2020.

155 https://www.africa-energy.com/live-data
vital for creating a welcoming investment environment that will more routinely draw in private finance.

**The needs for improved regulatory environments**

Public donors also provide funding for regulatory improvements, vital for facilitating the development of Africa’s growing off-grid subsector and for connecting the vast numbers who at present do not enjoy access to clean and sustainable electricity.

Figure 53: Correlation between enabling environments and proportion of debt financing provided by public sources

![Graph showing correlation](image)

Table 7: Public debt as a proportion of total debt vs RISE score

<table>
<thead>
<tr>
<th>Country</th>
<th>Average public debt as a % of total debt finance</th>
<th>RISE score</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>90%</td>
<td>75</td>
</tr>
<tr>
<td>South Africa</td>
<td>17%</td>
<td>75</td>
</tr>
<tr>
<td>Morocco</td>
<td>48%</td>
<td>73</td>
</tr>
<tr>
<td>Ghana</td>
<td>60%</td>
<td>63</td>
</tr>
<tr>
<td>Kenya</td>
<td>99%</td>
<td>61</td>
</tr>
<tr>
<td>Côte d’Ivoire</td>
<td>100%</td>
<td>55</td>
</tr>
<tr>
<td>Cameroon</td>
<td>73%</td>
<td>53</td>
</tr>
<tr>
<td>Uganda</td>
<td>100%</td>
<td>52</td>
</tr>
<tr>
<td>Rwanda</td>
<td>100%</td>
<td>49</td>
</tr>
<tr>
<td>Tanzania</td>
<td>100%</td>
<td>44</td>
</tr>
<tr>
<td>Burkina Faso</td>
<td>100%</td>
<td>42</td>
</tr>
<tr>
<td>Zambia</td>
<td>76%</td>
<td>42</td>
</tr>
<tr>
<td>Senegal</td>
<td>100%</td>
<td>39</td>
</tr>
<tr>
<td>Guinea</td>
<td>100%</td>
<td>35</td>
</tr>
<tr>
<td>Nigeria</td>
<td>38%</td>
<td>30</td>
</tr>
<tr>
<td>Sierra Leone</td>
<td>100%</td>
<td>30</td>
</tr>
<tr>
<td>Mali</td>
<td>100%</td>
<td>21</td>
</tr>
<tr>
<td>Mozambique</td>
<td>69%</td>
<td>18</td>
</tr>
<tr>
<td>Chad</td>
<td>100%</td>
<td>13</td>
</tr>
</tbody>
</table>

Note: Public vs private debt ratio based on WBG PPI database

156 Investment data is based on private generation projects which reached financial close between 2014 and 2019, as per the World Bank’s Private Participation in Infrastructure database.

The size and liquidity of local financial markets undoubtedly play a role in the relatively high volumes of commercial finance extended in South Africa and throughout North Africa. Elsewhere in SSA, local liquidity is smaller/more limited, but there is evidence that shows such lenders can still play a vital role.

Only six countries across SSA have a RISE score above 50/100: South Africa, Ghana, Kenya, Côte d’Ivoire, Cameroon and Uganda. All of these countries have accessed commercial debt financing, with the exception of Uganda. There are also correlations to be observed between a country’s sovereign rating and the strength of its financial markets compared to private investment in the electricity sector. South Africa, which held an investment grade sovereign rating until early 2020, has seen vast amounts of local commercial debt invested into power generation projects, as has Egypt to a lesser extent. Despite its non-investment grade credit rating, a substantial amount of local debt finance was also accessed in Nigeria.
10. Conclusion: Progress amid the challenges

For the USD 1 billion Azura-Edo power plant in 2015.

According to the trend shown in Figure 53, an improvement in a country’s RISE score to 50 increases the likelihood of increased equity investments and commercial lending from the private sector and could reduce the need for donor funding in generation projects by 30%. However, donors will remain key in establishing the first wave of IPPs in these countries, as well as in supporting the development of the off-grid solutions which will play a vital role in rural electrification through to 2030.

It is imperative that private capital is unlocked to free up donor finance to be disbursed more broadly – for example in supporting such vital work as the further strengthening of regulatory environments, improvements in public sector energy actors’ financial performance and harnessing blended financial instruments to help establish credible track records of private sector involvement in an ever-wider number of markets. This should, in turn, open up additional markets to commercial investment and set Africa on course for meeting SDG7 by 2030.

Data included in this report shows the extent that progress has been made in delivering sustainable energy and increasing access in Africa during the past decade. It shows that the supply of electricity from renewable sources has attracted the most investment over the last six years, with an average annual investment of EUR 3.1 billion in 2014-2019. Conversely, investment into non-renewable power generation has stagnated and declined, with average annual investment at EUR 1.3 billion.

These are encouraging trends, but it is imperative that the pace of investment, project implementation and stakeholder engagement is further accelerated, if the goals of SDG7 are to be achieved in Africa by 2030. Data presented in this report shows the considerable progress in mobilising different classes of finance and risk mitigation instruments for electricity generation from renewable sources – albeit with significant scope for future improvement – but also that Official Development Assistance financing still dominates the transmission and distribution, policy and clean cooking sectors.

Data compiled for this report show that African sovereign governments and development institutions are the continent’s primary financier of energy and will continue to play the leading role if SDG7 is to be achieved by 2030. The international community is, and will need to continue, playing a role in assisting Africa towards meeting these ambitious yet achievable targets.

EU Institutions and Member States are the largest contributors of ODA for SDG7-compliant projects in Africa. These flows are complemented by significant amounts of finance by multilateral development banks and the ramping up of private sector participation since 2015, when the Sustainable Development Goals were launched. Emerging actors such as China are investing ever-increasing amounts into the continent’s energy and extractive industries – although the terms and sustainability of these loans remain shrouded in secrecy and as such their SDG7-adherence is yet to be revealed.

The overall growth of financing flows, and signs of significantly increased interest in African domestic energy markets by local and international private sector investors, is positive news. However, this cannot detract from the huge challenges that remain: ODA spending and private investments may need to increase by 27% per year throughout the course of this decade (and by an even greater margin for every year this target is not met). This would be alongside a substantial increase in national government spending. This only serves to highlight the need for greater cooperation and coordination.

European Financial Flows on SDG7 to Africa
11. Data challenges and recommendations

As the longest-running international partnership dedicated to achieving such goals, the Africa-EU Energy Partnership can continue to play an important role, not least in further developing data sources so that an ever-growing number of stakeholders can better understand trends that impact on energy access and making SDG7 a reality.

How private sector participation is measured is crucial to the successful monitoring of SDG7 support and the size of the financing gap that must be closed in the coming years. Industry associations and industry data providers are working to capture investments made by private companies, yet they still face challenges in overcoming issues of commercial confidentiality. The nature of smaller, off-grid projects – which tend to be funded via corporate rather than project finance – adds to the complexity of this task. Dialogue and cooperation must continue between the public and private sector to ensure enhanced reporting as well as the complementarity and comparability of data. Greater focus should be placed on obtaining data on private investments to SDG7 in Africa for the 2021 edition of this report, including greater cooperation with industry associations and other organisations which report such data.

Multilateral organisations are playing a significant role in the financing of a wide range of African energy sectors and activities. It would be useful if EU Member States were able to disaggregate their contributions to key institutions, including the WBG and AfDB, to obtain a better understanding of how the totality of their efforts aligns with policy priorities.

Building an empirical understanding of the evolution of African energy industries, and the quality and quantity of their financing, requires greater transparency from other stakeholders. China’s huge volume of financing for projects is not accompanied by the transparency required for stakeholders to understand its implications in terms of LDC and other borrowers’ indebtedness and its contribution to meeting the SDG7 targets.

African data sources have been improving at pace, but major gaps remain. The time available to produce this report has been insufficient to make up for data shortfalls from many African development banks and finance institutions, regional economic communities and regional power pools. Yet closer cooperation on data-sharing with these important stakeholders is much to be welcomed – and not just for the purposes of this report, but also to help showcase and steer the significant efforts and investments made by African governments towards SDG7. Further efforts should be made in obtaining data on commitments and disbursements to SDG7 by African actors for the 2021 edition of this report.

As a group, African national governments’ reporting of their spending has improved dramatically over the past decade, yet there remain challenges to the collection and analysis of this data. It would be helpful if governments, where possible, attempted to disaggregate spending between different subsectors of the energy industry (and in particular between water and energy), as well as providing greater clarity over which elements of spending are directed towards the attainment of SDG7, including its sub-indicators. Given the size of national government spending, the ability to accurately capture this information is vital to understanding the true extent of SDG7 financing and the size of the gap to be closed.

It is also clear that information surrounding the concessionality of finance should be made more transparent. To this end, the OECD and its members are making inroads in reporting the concessionality of ODA finance. Since 2016, the grant equivalence of ODA disbursements has been reported to the OECD; as of 2019, the equivalence of commitments is also reported. However, not all members report this information. Fuller participation is required so that more robust and complete data can be produced, which will allow more meaningful analysis.

In order to accurately measure progress towards SDG7, actors involved in the financing of Africa’s energy sector, from public lenders to organisations which record such financial flows, should make greater efforts at harmonising the categorisation of financial flows with the Sustainable Development Goals. Organisations such as the OECD have introduced SDG indicators to their reporting methodology, yet it’s use by reporting donors is not widespread.

The AEEP’s mandate charges the partnership with promoting knowledge facilitation and political dialogue. This report is intended as a tool to help African, European and other policymakers focus their efforts – to deploy financial flows more efficiently into the countries and sectors that most need support, and where this will have the greatest impact in achieving SDG7. It was compiled in the understanding that further improvements are needed in the quality of data reporting, and that data should be collected and monitored on an ongoing basis over the course of the next decade, to record progress made and keep outstanding needs under constant review, informing global policymaking in the attainment of SDG7 in Africa.
12. Methodology

Official Development Assistance

With the exception of African national government spending and investments made by Africa-based development banks, only public funding that is classified as ‘Official Development Assistance’, as defined by the OECD, was included. To ensure consistency and comparability across the study period, the face-value of ODA commitments or disbursements was reported. This is despite a change to the OECD methodology whereby only the ‘grant element’ of an ODA grant, loan or equity investment are considered as ODA from 2019 onwards.

ODA data collection

A robust and verified dataset based on project-level information was compiled for this report. The use of project-level data allows disaggregation and minimises the risk of double counting.

ODA from bilateral and multilateral international financial institutions for the years 2014 to 2018 was sourced from the OECD DAC Creditor Reporting System (CRS). This data – which includes both commitments and disbursements – was provided by donors and verified by the OECD DAC. Private development finance from private sector charities, foundations and philanthropic organisations which was classified as ODA was also obtained from the OECD DAC CRS.

Data from non-OECD members (such as China, Brazil, Turkey etc) was obtained from various open sources, including development agency websites and monitoring of news flow and official reports. None of the data collected from these sources was proven to be ODA-compliant and was therefore not used in the analysis of SDG7 financing.

Export credit

Export credit issued by China, India and South Korea was obtained, but was excluded as it is not ODA compliant and therefore not considered as SDG7-compliant. Export credit from the Export-Import Bank of the United States was unavailable, while export credit from EU institutions and Member States has also not been captured.

Private sector data

Data on private sector operations is limited. Information was obtained from the World Bank’s Private Participation in Infrastructure database, which reports on private and public investments into energy projects which reached financial close during the period 2014-2019. This information was cross-referenced using the OECD DAC CRS, the African Energy Live Data platform and Bloomberg New Energy Finance’s Climatescope.

Further data on private finance was obtained from industry associations, where possible. However, this often did not include private equity investments; nor was it possible to allocate investments made directly into globally-focused companies which were active in Africa.

In all cases, the financing of private sector projects was disaggregated so that only private sector contributions were counted, thereby avoiding double counting where public support was already included within the OECD DAC CRS.

A complete dataset on 2019 ODA funding was unavailable via the OECD DAC CRS during the research and production of this report. Data from four donors was obtained via the OECD DAC CRS, while the remainder was sourced from donors directly; they were asked to complete a questionnaire.

Donor categorisation


EI & MS: European Union financial institutions (including European Commission and associated funds and the European Investment Bank), and ministries/development agencies/development banks of its Member States as of 31 December 2019 (Austria, Belgium, Bulgaria, Croatia, Cyprus, Czechia, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Ireland, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, United Kingdom).

Private sector: Any finance from private sector organisations (excluding state-backed commercial banks or state-owned organisation in China).

Multilaterals: Multilateral development finance institutions or development banks which are funded by multiple countries, regardless of geography. This category includes organisations such as the World Bank, Islamic Development Bank and the Arab Bank for Economic Development in Africa, but excludes multilateral institutions based in Africa.

Sector categorisation

The sectors, and subsectors, by which financing was aggregated was based on those used by the OECD DAC in order to ensure comparability and consistency.

SDG7 compliance

Data was obtained from official documents, including official gazettes, budget reports and speeches. Where possible, only capital expenditure for energy was counted. In some cases, it is impossible to disaggregate spending between energy and water where a country has a joint ministry. It is also not possible to identify capital expenditure which is SDG7 compliant. As a result, all capital expenditure for energy is included within this report.

Other Europe (non-EU Member States): Countries geographically located within the European Union.

Middle East: Countries within the Middle East and the Levant.

Asia: Countries located geographically within Asia.

Oceania: Countries located geographically within the continent of Oceania.

North America: Canada, Mexico and The United States of America.

South America: Countries located geographically within the continent of South America.

African national government spending

Data from multilateral institutions (including the World Bank, Islamic Development Bank and the Arab Bank for Economic Development in Africa), and development banks of the World Bank Group, as well as information from bilateral donors which are not funded by the OECD DAC, was reported. This is despite a possible change to the OECD methodology whereby all capital expenditure is counted, and the reporting of SDG7 compliance was extremely limited within the OECD DAC CRS. Therefore, only projects in the sectors of renewable generation, transmission and distribution, energy efficiency, clean cooking and clean transport were considered as
SDG7-compliant. Non-renewable generation was excluded from the SDG7 category unless indicated as SDG7-compliant by the reporting donor. Commitments and disbursements to policy support and capacity building are directly related to the achievement of SDG7, albeit the portion attributed to SDG7 is unknown. Despite this, policy support and capacity building is included as SDG7-compliant unless stated.

Country classification
Countries are grouped into regions as per African Union categorisation, and by income group as per World Bank categorisation.

Currency and exchange rate
All amounts contained within this report are expressed in current prices.

Annual exchange rates were calculated based on the average of the exchange rate for the first day of each month of that year.

Grant equivalent
Data on grant equivalents (the monetary value of a grant or loan which is ‘granted’ via the level of concessionality) was limited, and where available was obtained from the OECD DAC CRS for the years 2015 to 2018. For 2019 data was obtained for EU Institutions and EU Member States only. The grant element (the percentage of a grant or loan which is ‘granted’) was calculated on a project level basis, with an average then taken on all grant elements for a donor category.

A complete methodology is published separately.