



## ONEWORLD'S APPROACH TO ENERGY TRANSITIONS

OneWorld has been working in this field since the founding of the organisation in 2001. Against the backdrop of a changing climate and resource constraints, we have a vision of a just energy transition as a key entry point to ensuring sustainable development. This view is deeply rooted in our extensive work in energy security, renewable energy and energy efficiency.

Through our various projects, mostly carried out in Africa, we are continuously developing our knowledge base to understand approaches for implementing an inclusive low-carbon “green economy” agenda, in line with local, national and regional development priorities.

### — ONEWORLD SUSTAINABLE INVESTMENTS —

– a fully African-owned and -operated sustainable development consultancy, was established in South Africa in 2001. We focus on evidence-led adaptive development and resilience building, in the context of a changing climate and resource constraints. Facilitating and capacitating cooperative governance, while integrating the central strands of development and stakeholder partnerships, are central to our approach. OneWorld has cultivated strong relationships with the public and private sectors to build resilience and to accelerate the pace of change.

With our focus on the science-policy-finance interface, OneWorld has developed skills and experience in translating the overwhelming evidence base of climate change and impact into realistic policy and institutional arrangements across four programmes:

• Climate change • natural resources • Energy transitions • urban resilience.

**Our more recent work in this field includes various activities and outputs:**

- Analysing the socioeconomic co-benefits arising from green growth
- Scenario modelling of green growth and low-carbon transitions; and feasibility studies
- Designing and implementing consensus-building processes towards a just, equitable, and sustainable society
- Strengthening institutional capacity and cooperative governance arrangements
- Developing mechanisms and modalities for implementing and financing inclusive, decentralised energy solutions
- Mediating and catalysing the role of the private sector in inclusive green growth and renewable energy projects, such as wind energy, solar power and biomass.

**BALANCING A GREEN AGENDA WITH DEVELOPMENT PRIORITIES**

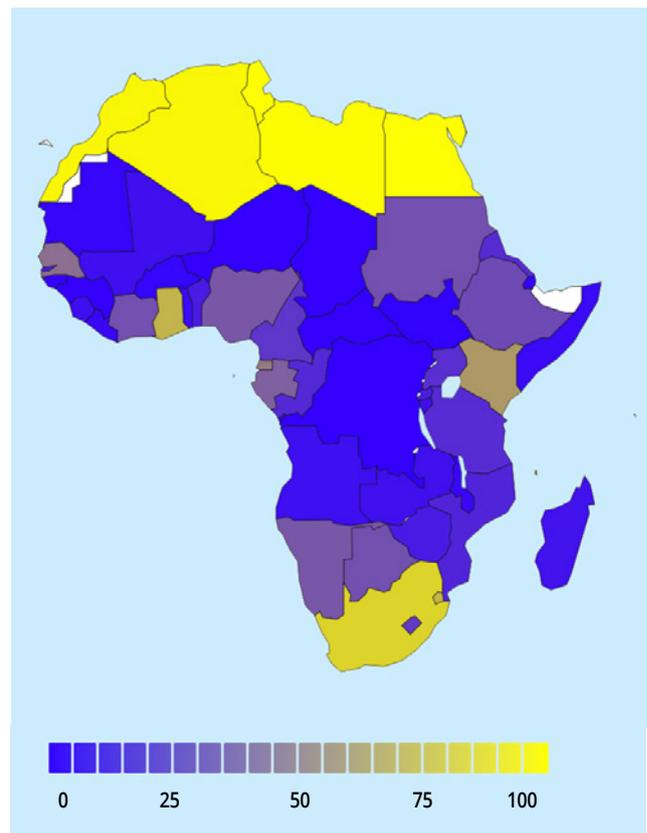
There is a growing global consensus on the need to reduce greenhouse gas (GHG) emissions in order to mitigate the devastating impacts of climate change. However, developing countries are in the difficult position of having to balance low-carbon strategies with pressing socioeconomic development priorities. This requires them to seek policies for achieving equitable, and sustainable growth trajectories without an associated increase in GHG emissions. Burning fossil fuels (such as coal) to produce energy is a key GHG contributor.

Global commitments to a low-carbon future in the 2015 Paris Agreement are increasingly making their way into national planning. However, to date, only a handful of African countries have developed comprehensive green economy policies to address this. Energy sector transformation is an opportunity for developing countries to stimulate inclusive low carbon economic growth.

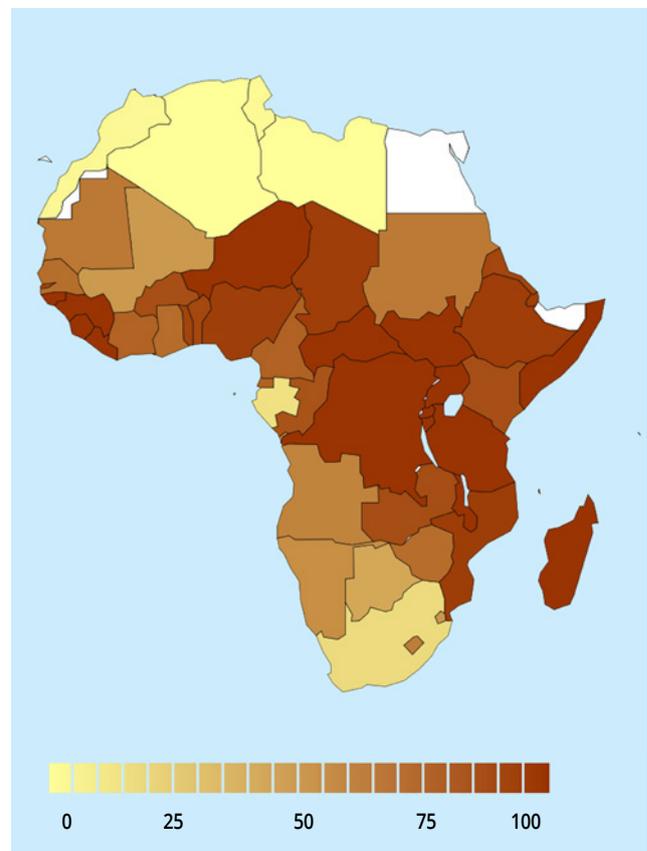
**THE POTENTIAL FOR TRANSFORMATION IN THE ENERGY SECTOR**

Globally, the transformation of energy sectors lies at the heart of strategies to reduce emissions. At the same time, in Africa more than 600 million people lack access to clean, affordable and reliable electricity and 82% of the population remains dependent on solid cooking fuels.

The continent has the lowest per capita energy consumption in the world. Africa is also the only region



**FIGURE 1:** Figure 1: Africa’s National Electrification Rate (percent), 2016.  
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**FIGURE 2:** Figure 2: Africa, showing share of population (percent) without access to clean cooking fuels, 2015.  
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where the number of people without access to electricity is increasing, because the rate of electrification is lagging far behind population growth rates.

In this context, the significant drop in the price of renewable energy technologies is creating opportunities for innovative decentralised solutions, which address both the green agenda and socioeconomic priorities.

**Until recently, energy sector transformation was contingent upon centralised decision-making processes and imperatives.** Today the disruptive potential of renewable technologies, is a result of their technical and economic viability at various scales. This disruption presents challenges, while also creating a

space for mobilising green economies that balance energy security, sustainable resource management and developmental priorities.

This makes it critical to understand the economy-wide implications and socioeconomic co-benefits of green growth transformations. Understanding the co-benefits will help towards achieving political consensus and unlocking coherent, comprehensive approaches to planning and implementation.

OneWorld's project for the UN Economic Commission for Africa (UNECA), on greening Africa's industrialisation, examined such aspects of the green economy in Africa. Key findings appear in the case study that follows.

### CASE STUDY: Unlocking opportunities for inclusive transformations in Africa

UNECA publishes an annual flagship report, the Economic Report for Africa. Its 2016 edition emphasised how a proactive green agenda in Africa could add value for Africa's efforts to industrialise. OneWorld developed Chapter 5 of the report (<https://www.uneca.org/publications/economic-report-africa-2016>), assessing the status of green growth on the continent, and using the International Futures (IFs) model for Africa to conduct scenario modelling for Business-as-usual (BAU) and a Green Agenda (GA).

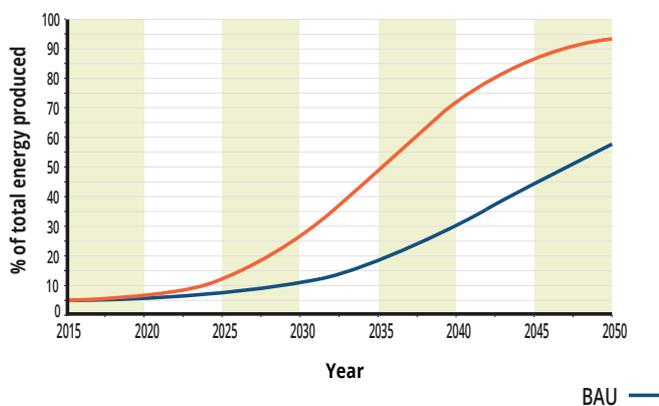
This visioning method revealed intervention options that would allow the continent to achieve development goals and economic growth, underpinned by sustainable use of resources. The process highlighted the benefits of 'greening Africa's industrialisation', outlining approaches and identifying entry points for green interventions.

Some of the study's findings were:

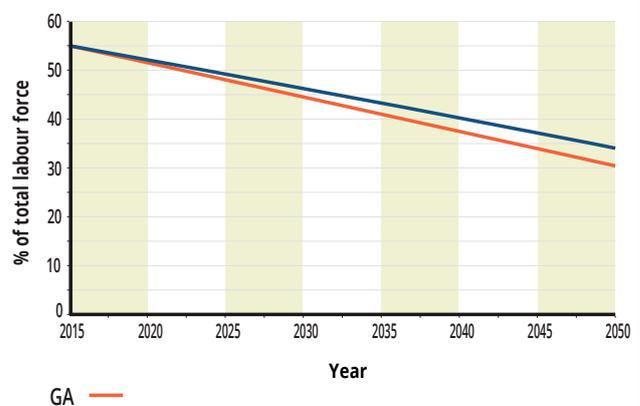
- Energy is a critical sector: it is a crucial resource for advancing industrialisation and also a key area

for greening, with potential to yield economy-wide co-benefits.

- Assuming a technological price decrease of 5% annually between 2015 and 2020, the GA scenario shows a significant increase in the adoption of renewable energy, as Africa aggressively taps into its renewable resources.
- This in turn leads to higher electricity production, improving overall access to electricity and reducing the continent's dependence on fossil fuels and energy imports.
- A combination of green economy interventions, such as accelerated renewable energy generation and increased productivity in the agricultural sector, leads to cumulative socioeconomic benefits, such as:
  - an enhanced transition from the informal to the formal labour sector
  - increased investment in green infrastructure and a broader base of economic growth.



**FIGURES 3:** Renewable energy production in 2050 is 58.4% of total energy production under BAU, but 92.8% of total energy production under a GA scenario.



**FIGURE 4:** A combination of interventions under a GA could decrease the share of informal labour from 35% under BAU to 30%.



## VISIONING A JUST TRANSITION TO SUSTAINABLE AND RESILIENT ECONOMIES

More than 20 years after South Africa's first democratic elections, the country is still facing the key development objective of eradicating the 'triple challenge' of poverty, inequality and unemployment. Unemployment levels stood at 26.7% in the first quarter of 2018, and 13.8 million people live in extreme poverty, unable to afford adequate food. At the same time, the wealthiest 20% receive 61% of the wealth, with expenditure of black households being four times lower than that of white households.

Chapter 5 of the country's National Development Plan 2030, however, also envisions South Africa's transformation into an equitable economy and society, built on environmental sustainability and resilience. A just transition process towards this vision requires systemic, economy-wide changes, involving stakeholders across the whole society (from government to business, labour and civil society).

The National Planning Commission is taking this vision forward, supported by a team that includes OneWorld. The project involves a series of dialogues with the various partners, addressing issues such as water, energy and land. The overall objective is to build consensus around a common vision for South Africa in 2050.

### Building the evidence base and strengthening capacity

To establish a strong evidence base and understand the transformative potential of green economy initiatives, we specialise in market, feasibility and socioeconomic studies. Our project work in this field includes:

- An assessment of the opportunities for renewable energy to stimulate the green economy within the sugar value chain in iLembe Municipality, South Africa.
- A study on sustainable energy access in rural areas, for improved livelihoods
- A study on the biomass sector in South Africa, and its viability

- A market analysis of enterprise and job creation opportunities for the Solar Water Heating industry in the Western Cape.

Capacity building and skills development are central to enabling the benefits from a green economy transformation, and central to our approach to project implementation. Some of our recent work includes:

- Providing business advisory and capacity building support to entrepreneurs in renewable energy in South Africa, Zambia, Botswana, and Namibia
- Assessing the enabling environment for developing green skills, jobs and enterprises in South Africa, for the International Labour Organisation.



## KEY INSIGHTS TO INCLUSIVE GREEN TRANSFORMATIONS

Unlike industrialised countries, most developing nations are not faced with the need to decarbonise their economies, through costly retrofitting. Their critical challenge is rather to create an enabling environment for developing new low-carbon productive capacity. Therefore, developing countries have the opportunity to leapfrog old, unsustainable and expensive technologies and avoid getting locked into high-carbon economies.

### Green growth strategies are the linkage between climate change mitigation and transformational, sustainable and inclusive development.

- **Renewable energy is a key entry point** for greening, with high potential for inclusive, equitable and just green growth on the continent.
- **Understanding the co-benefits of a green agenda** is critical to unlocking its potential.
- **Green industrialisation** has the capacity to enhance Africa's economic competitiveness, to unleash opportunities for skills enhancement, job creation and enterprise development, and provide for a sustainable developmental growth-path.