





# UNEP DTU PARTNERSHIP

# 2018

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# A YEAR OF CHANGE

In 2018 the changes we are causing to our climate became more and more apparent. Extreme weather events, including droughts, flooding and hurricanes, caused death and destruction all over the world, and enhanced variability is causing a number of long-term and largely irreversible changes to the regular weather patterns in most regions.

The mission of the UNEP DTU Partnership is as important as ever. For our partners in developing countries around the world, and indeed for all countries, the focus is on enhancing climate ambitions and implementing the NDCs and SDGs.

In 2018 the UNEP DTU Partnership again coordinated the publication of UN Environment's annual flagship Emissions Gap Report. The Report showed us, in no uncertain terms, that we are further from achieving the goals of the Paris Agreement than we thought. The gap between what we need to do and what we are actually doing is widening, while greenhouse gas emissions continue to rise. As in previous years, the 2018 Emissions Gap Report informed both delegates and decisions at the annual COP meetings.

2018 was also the year when the world's leading scientist in the IPCC Special Report on 1.5 degrees warming warned us all that unless we reduce greenhouse gas emissions quickly and comprehensively, a future of uncontrollable changes lies ahead. Even the difference between the impacts of 1.5 and 2 degrees of warming is dramatic and in many cases irreversible.

Given this gloomy outlook, what are we doing about it?

Support to countries on technology planning is continuing with the aid of the GEF, and in

2018 another 23 countries became involved in a new round of the Technology Needs Assessments (TNA) program, joining the almost sixty countries that have already been supported through this well-tried program over the last nine years. The work and impacts of the program and the Technology Action Plans (TAPs) it has led to are specifically mentioned in the Paris Agreement, and became a component of the new Technology Framework adopted at COP24 in Katowice. The first round of TAPs provided key input into the INDCs, and the later ones are helping countries develop their NDCs into concrete actions.

In 2019 UN Environment and the UNEP DTU Partnership will extend this support to NDC implementation to a number of countries through a major grant from the German government. This support will aim to create a dynamic process in which implementation leads to upscaling and increased ambition.

Transparency is key to the credibility of the common climate effort, given its potential to both build trust and facilitate agreement on increased ambitions. At the UNEP DTU Partnership, we stepped up our work on transparency in 2018 through both individual projects and our participation in major multilateral initiatives such as the GEF Capacity Building Initiative for Transparency (CBIT) and the major global Initiative for Climate Action Transparency (ICAT). We are providing technical and financial support to over thirty countries on their implementation of national transparency frameworks.

With the adoption of the so-called rulebook for the Paris Agreement at COP24 in Katowice, the common rules for the work on national transparency are in place, and the UNEP DTU Partnership is already integrating these into the on-going country support.



It is important to underline that in all our NDC, transparency and technology programs there is focus on both adaptation and mitigation priorities. Especially worth highlighting is a new major program on guidance for monitoring and evaluating adaptation policies and actions, an area where the current 'toolbox' is quite empty. Given increasing actions and investments on adaptation, there is an urgent need for better approaches to prioritising decisions and documenting impacts.

In the area of energy efficiency, in 2018 the UNEP DTU Partnership increased its focus on building lasting partnerships with both public- and private-sector actors. For example, through our Copenhagen Centre on Energy Efficiency (CCEE), we are working closely with a number of cities around the world in support of green change and sustainable solutions for energy efficiency.

One of the major areas of work for the CCEE is the promotion of district energy systems in very close collaboration with the UN Environment-led global DES Partnership. This Partnership has a presence in more than ten countries, being directly involved with a larger number of cities in supporting the assessment and implementation of efficient district cooling and heating solutions. The DES Initiative was recognised as the best energy partnership at the Danish P4G event in 2018.

A completely different partnership was formed with the US Alliance to Save Energy on hosting the EE Global in May 2018. This major global event is regularly organised and held in Washington DC, but last year the CCEE teamed up with the Alliance to host the Conference in Copenhagen, drawing a global attendance of more than four hundred energy policy-makers and energy-efficiency experts. The Conference was one of the major events

during the Nordic Clean Energy week, which also included the annual meeting of the Clean Energy Ministerial. The Week was opened with a reception in the UN City hosted by the CCEE.

In a more positive version of change, during 2018 the UNEP DTU Partnership implemented a major reorganisation to reflect the focus areas of the Paris Agreement and to be ready to continue to provide leading international advisory services based on the needs and demands of our partner countries.

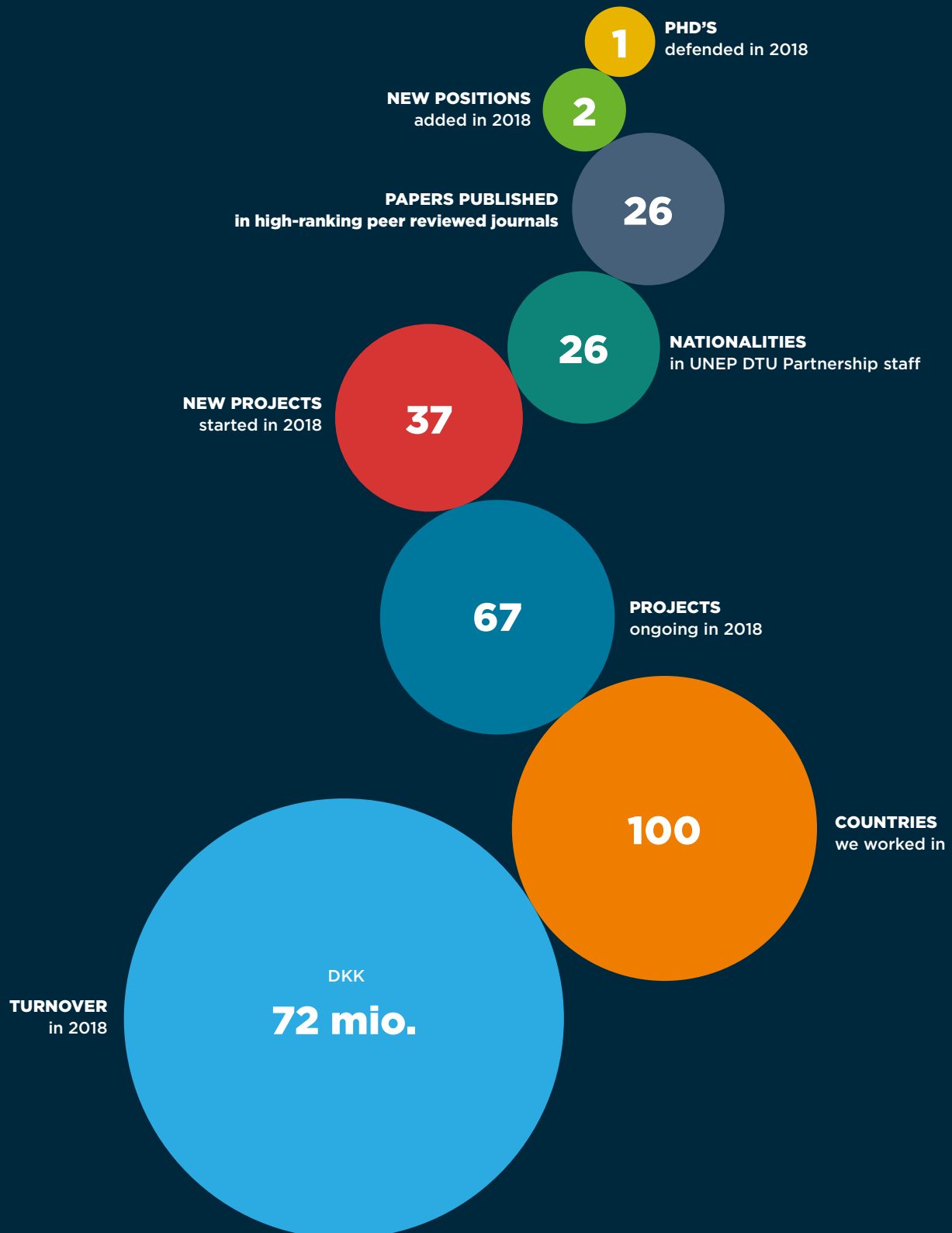


A handwritten signature in blue ink, appearing to read 'John Christensen'.

**John Christensen**  
Director

# 2018 IN NUMBERS

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# HIGHLIGHTS OF 2018



## SENDING A CLEAR MESSAGE FOR POLICY-MAKING

The gap between the climate action and ambition needed and what is happening on the ground is widening. This was the main message of the 2018 Emissions Gap Report, coordinated by UNEP DTU Partnership. The report was not only featured in headlines around the world, but its message of the need to triple our climate ambitions played an important role during the COP24 meetings and negotiations, and was directly referenced by the UN Secretary General in his opening remarks.

## RENEWED FUNDING

The Danish Foreign Ministry renewed its funding of the UNEP DTU Partnership's core activities for another four years. The Ministry is one of three founding partners of the Partnership, along with the Technical University of Denmark (DTU) and UN Environment.



## PARTNERSHIP WITH KENYAN GOVERNMENT

In December the Kenyan Ministry of Energy and the UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency signed a five-year agreement on developing and implementing an energy-efficiency strategy to assist Kenya in achieving its ambitious targets for energy efficiency.



## HOSTING ENERGY EFFICIENCY LEADERS

In May, UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency hosted the Energy Efficiency Global Forum with the Alliance to Save Energy. The event drew together business executives, government leaders and advocates from across sectors and continents for actionable dialogues on advancing energy efficiency.

# HIGHLIGHTS OF 2018

## AWARDS



### **BEST YOUNG ENERGY EFFICIENCY RESEARCHER, MARCH 2018**

Senior advisor Ksenia Petrichenko was awarded Best Young Energy Efficiency Researcher at World Sustainable Energy Days for her research into the potential synergies between energy access, energy efficiency and renewable energy.

### **A STATE-OF-THE-ART PARTNERSHIP, OCTOBER 2018**

UN Environment's District Energy in Cities Initiative was named the best State-of-the-Art partnership in the energy sector at the P4G summit in Copenhagen. The Initiative is one of six accelerators of the SEforALL Energy Efficiency Hub, hosted by the UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency.

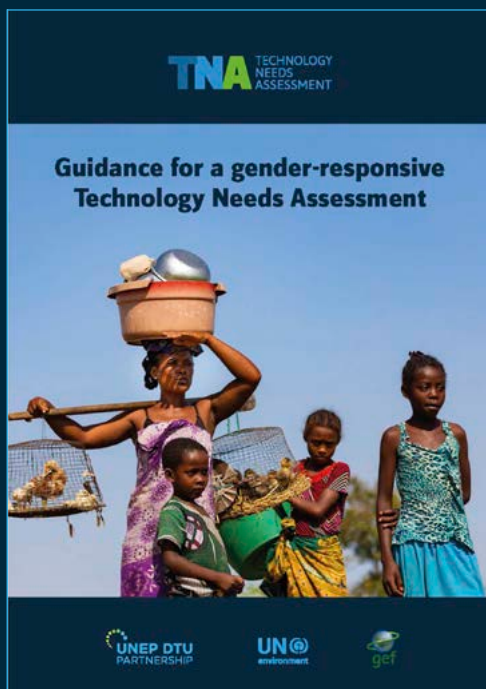


### **GLOBAL SMART ENERGY ELITES 2019**

### **PART OF THE GLOBAL SMART ENERGY ELITE, OCTOBER 2018**

Senior advisor for energy Romanas Savickas was recognised by Smart Energy International as part of the Global Smart Energy Elite, a selection of leaders and projects at the helm of the global smart energy revolution.

# HIGHLIGHTS OF 2018



## FOCUS ON GENDER AND TECHNOLOGY

The UNEP DTU Partnership finished a one-year COP mandate on technology and gender during COP24 in December 2018. During the gender day at COP24 the Partnership published a guidebook for gender-responsive Technology Needs Assessments.



## BUILDING TRANSPARENCY CAPACITY WORLDWIDE

In 2018 39 countries were active on the Capacity Building Initiative for Transparency (CBIT) platform, facilitating coordination and peer-learning. The platform is managed by UNEP DTU Partnership, and we worked directly to assist 13 countries in obtaining CBIT funding.



## CO<sub>2</sub> REDUCTIONS AND INVESTMENTS THROUGH TECHNOLOGY NEEDS ASSESSMENTS

In 2018 the Green Climate Fund reported that it had so far supported thirteen projects based on the UNEP DTU Partnership's Technology Needs Assessments, four as full-scale projects, directly reducing emissions by 4.4 million tons of CO<sub>2</sub> throughout their life span. The four full-scale projects alone account for more than USD 217 million of investments in climate technology, with positive impacts on job creation, pollution levels, climate resilience and several other SDGs.



## THIRD ROUND OF TECHNOLOGY NEEDS ASSESSMENTS

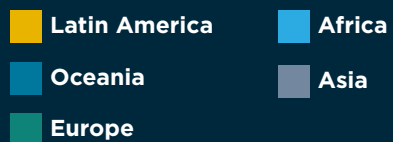
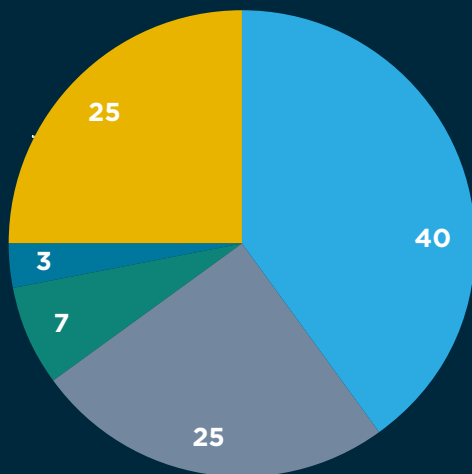
The third round of the Technology Needs Assessment Project was started in October 2018. 23 of the world's Least Developed Countries and Small Island Developing States will determine how technology can best help them achieve climate mitigation and adaptation. So far more than 85 countries have determined their technology priorities through this project, which is being implemented by UN Environment and the UNEP DTU Partnership.

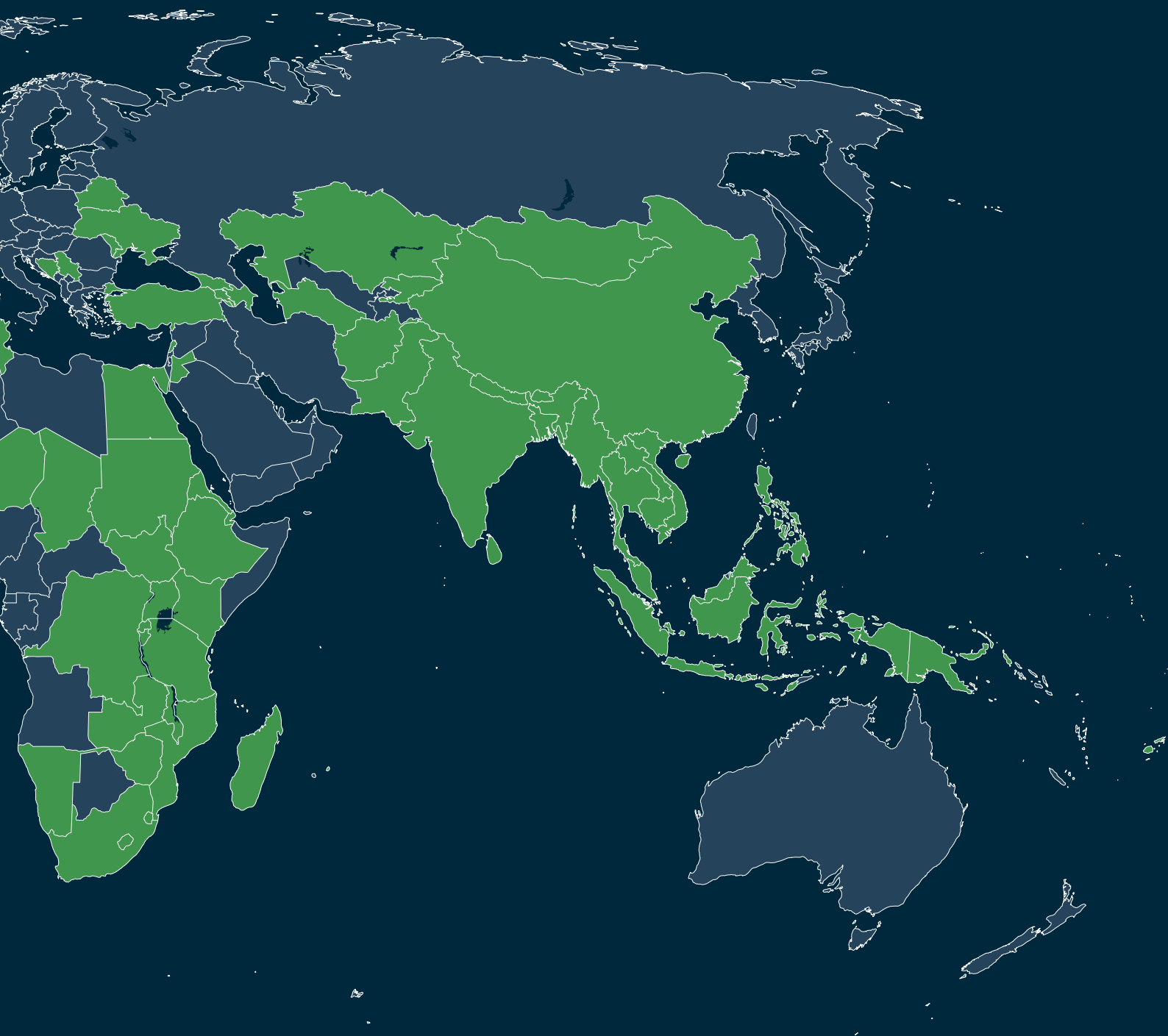
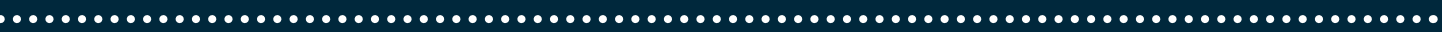


# WHERE WE WORK

In 2018 UDP was working in 100 countries around the world.

Geographical representation of projects



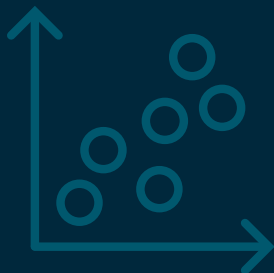


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# RESEARCH

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**The UNEP DTU Partnership is a leading research institution within the fields of climate change and sustainability transitions in developing countries. Throughout 2018 the partnership worked to support the achievement of SDGs 7 and 13, and enhance developing countries' access to scientifically based solutions.**







As an integral part of the Technical University of Denmark (DTU), the Partnership's is aligned with DTU's vision to create value to benefit society.

Most of the Partnership's research draws upon observations and data collected in relation to our development and implementation activities, a unique model that works to convert research outputs into practical solutions in our partner countries. To achieve this, we collaborate with other DTU departments and

leading international research institutions to enhance developing countries' access to scientifically based solutions.

Partnership staff cover a number of research disciplines, such as economics, political science, development studies, geography, environmental sciences and engineering. This means that the Partnership is able to draw on a wide range of scientific expertise and to collaborate with world-leading partners in the scientific community.



# RESEARCH

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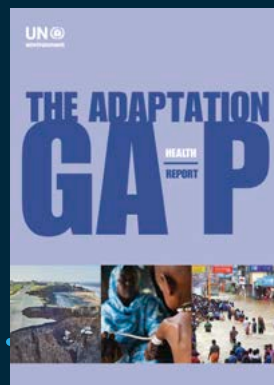
## **UNLOCKING SUSTAINABLE DEVELOPMENT**

In recent years, the price of renewable energy in South Africa has dropped significantly. This is in part due to changes in the public procurement of renewable energy, changes that are also aimed at making sure that the production of solar and wind energy contributes to the development of local industry and local communities.

In 2018 researchers from the UNEP DTU Partnership embarked on a new research project to investigate the various effects of the procurement policy in South Africa, with a special focus on its impacts on community development and local industrial development.

## RESEARCH HIGHLIGHTS OF 2018

- Three UNEP DTU Partnership researchers were selected as lead authors of the IPCC Sixth Assessment Reports for the chapters on: i) transport and food, ii) fibre and other services from managed ecosystems, and iii) accelerating the transition in the context of sustainable development. Besides this, two researchers contributed as reviewers of two IPCC Special Reports, on Global Warming of 1.5 °C and on Climate Change and Land Use.
- In 2018 the UNEP DTU Partnership again coordinated UN Environment's flagship report, the Emissions Gap Report, and the related Adaptation Gap Report. Several UNEP DTU Partnership researchers were also among the reports' main authors. The Emissions Gap Report assesses the gap between 1) emissions reductions needed and 2) reductions promised and taking place, compared to the global climate goals. The Adaptation Gap Report assesses the gap between current adaptation actions and future needs, with a special focus on health impacts in the 2018 edition. Both reports present some of the most important options for reaching the goals in the Paris Agreement.
- UNEP DTU Partnership researchers edited two special issues of leading international journals, Environmental Science and Policy and Energy Research and Social Science. The first issue took stock of sustainability transition research in developing countries and drew up a new research agenda. The second focused on the socio-cultural and political effects of the rapidly increasing uptake and diffusion of solar power in Africa. Both special issues were co-edited with leading international researchers, which was influential in setting the research agenda on sustainability transition studies in developing countries.
- 26 papers containing UNEP DTU Partnership research were published in high-ranking peer-reviewed journals (WoS indexed) such as Climate Policy, Energy Policy, Energy Research and Social Science, Environmental Science and Policy, and Climate and Development.
- The UNEP DTU Partnership hosted and supervised five PhD students in 2018. Besides internal PhDs, Partnership researchers co-supervised three PhDs at University College London, Imperial College London and the Copenhagen Business School.
- To increase the Partnership's reach, it organises and hosts a number of webinars disseminating research and results to a broader audience. In 2018, fifteen webinars were conducted with more than 1500 registered participants.



# RESEARCH

## TENTRANS

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: **2·3·9·10·11·12**

The project, entitled ‘Tendering energy transitions’ (TENTRANS), is funded by the Danida fund for development research (FFU) and will be looking at the market-based transition towards renewable energy in South Africa from a community and industrial development perspective.

In recent years, large-scale solar PV and wind projects have spread rapidly across the African continent. In South Africa, the policy for procuring renewable energy has been a game-changer in stimulating the deployment of large-scale renewable energy while at the same time attempting to unlock possible pathways to more sustainable economic, industrial, environmental and social development.

While the contribution of the policy on procurement to limiting the use of coal in the energy supply in South Africa is well documented, the development outcomes of new interactions between investors, industries, communities and the government are still poorly understood. The new TENTRANS project will examine how these developmental impacts are prioritized and ensured and thus contribute to an emerging body of research on the barriers to and policy-drivers of this development and its impact. It will be carried out by the UNEP DTU Partnership in collaboration with the University of Cape Town and the University of Stellenbosch in South Africa, and with the Danish Institute of International Studies (DIIS) and DTU Wind Energy in Denmark.

## NEW PERSPECTIVES

Since 2008, the UNEP DTU Partnership has invited leading researchers to shed light on typically under-researched areas and areas with sparse empirical evidence in its ‘Perspectives’ series. This is a series of publications produced by the Partnership to share experts’ and practitioners’ opinions and experiences on emerging topics related to the mitigation and adaptation of climate change. These publications share diverse and original perspectives, insights and reflections from a wide range of experts.

In 2018, the Partnership published two new volumes in the ‘Perspectives’ series to provide momentum in creating dialogue and in generating innovative ideas and tangible actions.

## ADAPTATION METRICS: PERSPECTIVES ON MEASURING, AGGREGATING AND COMPARING ADAPTATION RESULTS

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: **2·7·9·13·14**

Each year, large amounts of resources, both public and private, are directed towards enhancing adaptive capacity, strengthening resilience and reducing vulnerability around the world. But how are we actually doing? Are we succeeding in making our societies and economies less vulnerable and more resilient to the impacts of climate change? And are we getting the most ‘adaptation’ or resilience out of our investments?





These questions have become increasingly urgent in recent years, but answering them has so far been hindered by the lack of a universally accepted definition of what counts as adaptation in practice. To address these important questions, the UNEP DTU Partnership dedicated an edition of the 'Perspectives' series to the metrics of adaptation. The publication's main interest is in how to measure and track progress in adaptation in terms of both outcomes and processes, essentially looking at the metrics, indicators and units that could be used to measure, aggregate and compare adaptation results.

The publication addressed the need to prioritize and direct limited adaptation funding to the most vulnerable countries and population groups in the most cost-effective way. Its popularity showed that the answers it provided were much needed.

## PRIVATE-SECTOR ACTION IN ADAPTATION: PERSPECTIVES ON THE ROLE OF MICRO-, SMALL AND MEDIUM-SIZE ENTERPRISES

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: **2·6·7**

Smaller businesses are the backbone of the economy in developing countries, but they

are also hit the hardest by climate change. To address this issue, the second 'Perspectives' volume of 2018 looked at how micro-, small and medium-size enterprises (MSMEs) can adapt and create climate resilience.

The Paris Agreement set ambitious targets for international climate action, giving rise to a need to identify mechanisms through which private-sector actors can be engaged, especially in developing countries. At the same time, climate change and the occurrence of more and more extreme weather events means that adaptation and resilience are playing ever-increasing roles. However, for MSMEs, one of the most important sectors in developing countries, there are problematic knowledge and capacity gaps.

Although many efforts are being made to improve understanding of how to adapt to climate change in practice, there are still limited understanding and experience, with many remaining uncertainties. This volume in the UNEP DTU Partnership 'Perspectives' series therefore focused on the unique potential of MSME's to develop locally relevant and effective adaptation solutions for the situations in which they find themselves. They play crucial roles in increasing the resilience of businesses and societies while ensuring economic development.

This issue of the 'Perspectives' series complements several existing UNEP DTU Partnership projects on business cases for climate adaptation.

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# 2018

## AT A GLANCE

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As a research-based advisory organization, the UNEP DTU Partnership's expertise lies in its long-standing experience in facilitating developing countries in reaching their energy, climate and sustainable development goals.

Since 2015, the year of both the Paris Agreement and the worldwide adoption of the Sustainable Development Goals, the Partnership's mission and work have been intrinsically linked to these global objectives.



The Partnership is focusing on three areas of action: **Climate Planning and Policy**, **Climate Transparency and Accountability**, and **Business Models and Markets**.

Each area represents critical aspects of implementing the Paris Agreement and achieving Sustainable Development Goals 7 and 13, with a strong emphasis on creating partnerships to reach these goals, as highlighted in SDG 17.

In 2018 the UNEP DTU Partnership worked towards these goals by applying its expertise and specialised knowledge and research in a hundred developing countries around the world.

In the following pages, we present a selection of some of our projects and impacts from last year in order to demonstrate the broad scope of our work in providing cutting-edge research and analysis and in creating partnerships around the world.



**THE UNEP DTU PARTNERSHIP'S WORK IS TAILORED TO SUPPORT DEVELOPING COUNTRIES IN THEIR EFFORTS TO PROGRESS TOWARDS A CLIMATE-RESILIENT, LOW-CARBON FUTURE.**

Support developing countries in their efforts to progress towards climate resilient low carbon societies

**UN Environment Programme of Work**



**CLIMATE PLANNING AND POLICY**

Better National Planning



**CLIMATE TRANSPARENCY AND ACCOUNTABILITY**

Higher Accountability



**BUSINESS MODELS AND MARKETS**

Stronger Market Models

**Capacity Building**

**Research and Analysis**



# CLIMATE PLANNING AND POLICY

**This work is directly impacting the following SDGs:**



**And relates directly to the following articles in the Paris Agreement: 2·3·4·6·7·10·11·14**

With its focus on planning and policy, the UNEP DTU Partnership is a leading international partner for developing countries, providing decision-making support and technical assistance to the process of integrating mitigation and adaptation priorities into national development plans. The goal is to help countries develop and implement tangible and measurable climate actions so that they can achieve their NDCs and integrate their climate actions and priorities into national development planning and policies, thus building stronger national frameworks for National Development Contributions (NDC) planning and implementation. This is done through technical assistance, capacity-building support and the development of the relevant guidance and tools.

At the global level, the Partnership delivers annual assessments of progress and gaps in relation to both mitigation and adaptation action and long-term goals.

The Partnership's efforts focus on:

- Governance structures supported by conducive legal and financial frameworks
- Capacity-building and readiness frameworks for climate-compatible policy development and implementation, including linking NDCs with other SDG priorities
- Accelerated implementation of technology actions and their links to NDCs through the Technology Needs Assessment program
- Sectoral analysis, guidance, tools and recommendations of technology and policy options and long-term strategies
- Global assessments of status, progress and gaps in mitigation and adaptation to inform the UNFCCC process.





## IMPLEMENTATION OF CLIMATE TECHNOLOGY

**TNA's cover technology in many different climate actions and are often referred to in NDC's. In this way TNA's affect all 17 SDGs**



**And relates directly to the following articles in the Paris Agreement: 9-10-11**

Technology is key to achieving the goals set out in the Paris Agreement and in SDG 13: lowering emissions of CO<sub>2</sub>, halting the rise of global temperatures, and increasing resilience to climate change.

However, for many developing countries, creating policies and projects that can attract international finance is a major barrier to the implementation of technology. Through the Technology Needs Assessment (TNA) program, the UNEP DTU Partnership is not only helping countries determine their technology priorities for national policy and planning, it is also leveraging significant investments.

In September 2018, 26 developing countries completed their TNAs, and a month later, in October 2018, the TNA project officially kicked off with another 23 developing countries, mainly least developed countries and small island developing states, joining the process.

The TNA project has never been a means in and of itself, but is a tool for countries

to establish enabling policies and mobilize investments for the technologies they need to combat and adapt to climate change and to live up to their NDCs. In fact more than 70% of countries participating in the TNA project refer directly to their TNAs in their NDCs. As the intended centrepiece in efforts to raise climate finance to implement the Paris Agreement, the Green Climate Fund (GCF) recommends that countries use TNAs as one of the building blocks in their applications for funding.

In 2018 the Fund reported that it had so far supported thirteen TNA-based activities, four of them full-scale projects, directly reducing emissions by **4.4 million tonnes** of CO<sub>2</sub> throughout their life span. The four full-scale projects alone account for more than **USD 217 million** of investments in climate technology. These investments are benefiting several million people and positively impacting job creation, pollution levels, climate resilience and several other SDGs.

## TNA TECHNOLOGY NEEDS ASSESSMENT

### TECHNOLOGY NEEDS ASSESSMENTS

The Technology Needs Assessment project assists developing country parties to the UNFCCC in determining their technology priorities for the mitigation of greenhouse gas emissions and adaptation to climate change. The project is being implemented by the United Nations Environment Programme and the UNEP DTU Partnership on behalf of the Global Environment Facility. So far more than 85 countries have taken part of the first three rounds of TNAs, and a fourth round is in the making.



## CLIMATE PLANNING AND POLICY

Below we present two examples of GCF funding based on TNA results.

### **Energy-efficient buildings**

In Armenia, the GCF has funded a project to improve energy efficiency by constructing retrofits, thus addressing the high levels of energy poverty and the high use of imported fossil fuels for heating. The project constitutes an investment of almost 30 million USD, of which GCF funding covers two thirds.

The project will lead to sizeable energy savings and up to 1.4 million tonnes of CO<sub>2</sub> in direct and more than 4 million tonnes in indirect emissions savings, green job creation and energy poverty reduction. It will directly benefit over 200,000 people and will catalyse private- and public-sector investment of approximately USD 100 million.



In addition to the country work of the TNA project, the UNEP DTU Partnership is also a member of a UN Environment-established technical expert group working to develop a methodology to measure the funding of environmentally sound technologies. This is directly related to SDG indicator 17.7.1 on approved funding for developing countries to promote the development, transfer, dissemination and diffusion of environmentally sound technologies.

### **Removing financial barriers**

In Mongolia, XacBank, the first private-sector entity to be accredited by the GCF, received funding for a business loan programme. The programme seeks to address the problem of financial barriers directly by lowering interest rates through co-financing to the tune of USD 19.5 million from the GCF to extend its existing USD 40 million business loan programme, which is helping local companies to cut their greenhouse gas emissions.

The project is expected to reduce greenhouse gas emissions by almost 150,000 tonnes of CO<sub>2</sub> each year, resulting in cleaner air and reduced related health impacts from fossil-fuel pollution. It will reduce total national energy consumption with the aim of lowering energy prices for consumers.

In addition, the GCF has approved another XacBank proposal, again building on Mongolia's TNA, to a value of almost USD 9 million to finance a 10MW solar power plant.

## SUPPORTING COUNTRIES TO DEVELOP AND IMPLEMENT NATIONALLY DETERMINED CONTRIBUTIONS

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: **2·4·6·11**

Nationally Determined Contributions (NDCs) are now the main national climate policy frameworks for controlling climate change trends. As such, they are generic documents that are caught in the crossfire between policy, science, finance and capacity needs.

In 2018, phase one of the iNDC Support project ended. Since early 2015, the UNEP DTU Partnership has helped countries first formulate their intended Nationally Determined Contributions (iNDCs) to the Paris Agreement and subsequently to implement their NDCs with support from the Global Environment Facility. 32 countries at very different stages were supported directly by the Partnership in preparing their iNDCs for the ground-breaking COP21 in Paris.

With additional support from the Global Support Programme, four countries have since been added and have received extensive support in their journey from iNDCs to NDC implementation: South Sudan, Dominican Republic, Sierra Leone and Ethiopia. Here the UNEP DTU Partnership, together with local counterparts, undertook an in-depth review of NDCs, as well as a gap-analysis to

identify the needs for capacity building in relation to the institutionalisation of and frameworks for NDC implementation. In each country the involvement of the iNDC Support project leads to country-specific road maps for implementing NDCs.



Besides country support, phase one also consisted of the development of several guidance documents to help countries in their work with NDC formulation, implementation and NDC tracking and reporting. Documents are available to be used by countries that were not a part of phase one.

The iNDC Support project is currently in phase 2, focusing on the implementation of NDCs by both directly working with country-specific needs and developing more general support through guidance publications and training workshops.

Based on research and experience from phase one, the UNEP DTU Partnership has set up an iNDC Helpdesk where specialists from the Partnership, in collaboration with our partners in the NDC Support Cluster, are available to answer any question about the implementation of NDCs.

**iNDC** **NATIONALLY DETERMINED CONTRIBUTIONS**  
**SUPPORT**



# CLIMATE TRANSPARENCY AND ACCOUNTABILITY

**Climate Transparency and Accountability covers climate actions that can affect all 17 SDGs**



**And relates directly to the following articles in the Paris Agreement:**

Valid and transparent reporting from countries is key to following the progress of the Paris Agreement. The UNEP DTU Partnership works to strengthen national institutions and create the foundations for the Enhanced Transparency Framework by building trust and confidence among countries to foster greater accountability and to strengthen ambition in relation to climate actions and support. This work responds directly to the requirements set out in Article 13 of the Paris Agreement.

The goal is to establish transparency systems that facilitate the reporting and documentation of results and the impacts of climate action from both governments and non-state actors and on a global level. The UNEP DTU Partnership works towards this goal by providing technical assistance, capacity-building and developing the relevant guidance and tools.

The Partnership aims to be the leading institution on transparency globally through its focus on:

- Improving the availability and quality of data
- Strengthening national institutions and governance structures, and establishing coordination and information-sharing across them
- Building national capacity to establish and maintain information and registry systems for monitoring, reporting and verification (MRV) on mitigation, adaptation and support received
- Enhancing the ability to track the effectiveness of adaptation interventions and finance
- Improving understanding of nationally and globally effective practices
- Integrating the contributions of non-state actors into national registry systems
- Documenting the impacts of commitments made by International Cooperative Initiatives.



## CREATING THE FOUNDATIONS FOR ENHANCED TRANSPARENCY

ICAT covers transparency on climate actions that can affect all 17 SDGs



And relates directly to the following articles in the Paris Agreement: **11·13·14**

2018 saw the first key results of the Initiative for Climate Action Transparency (ICAT), which helps countries around the world put in place the effective and ambitious climate policies that are needed to achieve the objectives of the Paris Agreement.

## INITIATIVE FOR Climate Action Transparency

ICAT is one of two major multilateral initiatives to enhance transparency in climate mitigation and adaptation that the UNEP DTU Partnership is involved

in implementing, the other being the Capacity Building Initiative for Transparency (CBIT). ICAT was founded with a mission to support national processes in assessing the impacts of their climate policies and actions. It responds to the demand in the Paris Agreement Enhanced Transparency Framework to strengthen national institutions and create the foundations for enhanced transparency.

ICAT is also a strong answer to growing country demands for increased MRV capacity nationally, as well as being a response to a

perceived need for frameworks that improve transparency by tracking progress with the implementation of national adaptation plans, NDCs, and other provisions under the Paris Agreement and the Sustainable Development Goals.

By increasing countries' overall transparency capacity, including their policy evaluation capacity, and by providing methodological guidance to support policy evaluation, ICAT assists in establishing transparent and flexible MRV systems.

### Brazil

In Brazil, ICAT is facilitating the establishment of a robust and transparent MRV system capable of assessing how various actions can contribute to achieving the Brazilian NDC mitigation targets in a transparent and participatory manner.

In 2018, ICAT supported the development of a methodology to calculate the effects of different sets of mitigation actions in reducing greenhouse gas emissions. The methodology uses three different scenarios for Brazilian greenhouse gas emissions and mitigation actions leading up to 2030, and will be used to lay the groundwork for a NDC tracking system.

ICAT's work in Brazil includes conceptualizing NDC tracking, the transparency mechanisms and the indicators that will be used for MRV of NDC implementation, both economy-wide and at the sectorial level.

Likewise, ICAT supports the assessment of how specific mitigation actions will be able to play a part in Brazil reaching its NDCs in three different policy scenarios. The system developed by ICAT will also help the impending carbon market and pricing





## CLIMATE TRANSPARENCY AND ACCOUNTABILITY

mechanisms that depend upon trustworthy MRV mechanisms.

### **Costa Rica**

In Costa Rica, ICAT has developed specific recommendations for creating a legal framework for the management and collection of climate data.

Data collection is an integral part of developing and updating a greenhouse gas inventory. Based on a gap analysis of the existing data collection and sharing mechanisms, a new legal framework has been developed contributing to a solid and stable data management system in Costa Rica. Costa Rica has already established an advanced national Climate Transparency System, and it is vital that this system is supported by a data management system that delivers the data to track and analyse progress and impact.

In addition to creating a framework for this necessary data, ICAT has supported the elaboration of a MRV system in the Costa Rican transport sector with a focus on sustainable development benefits. This system will provide vital input to the decarbonizing process in the sector.

Costa Rica has pledged to become carbon-neutral by 2050 under the country's Decarbonisation Plan. ICAT is providing tools to assist the Government of Costa Rica to build capacity to ensure that the implementation of this ambitious and inspiring plan will lead to transformational change.

### **India**

In India, ICAT has conducted a thorough assessment of existing systems, processes and approaches for monitoring and reporting actions and policies that lead to greenhouse

gas reductions. This includes the institutional arrangements for monitoring and evaluating policies and programmes, and the process and methods used for assessing the outputs.

Part of this assessment of the current MRV system for NDC implementation consisted of the mapping of selected sectors, including renewable energy, transport and building, that were identified as important sectors for contributions to India's NDCs. The ICAT assessment also included a review of India's national climate change action plan and other relevant programmes and policies that are vital in achieving the country's NDCs.

### **Dominican Republic**

In the Dominican Republic, ICAT has conducted a thorough analysis of the current national institutional framework for collecting data on climate mitigation. The Dominican Republic can already count on institutional arrangements for collecting data from different sectors and preparing international reports to UNFCCC. However, to be fully effective these arrangements still require a legal framework defining the responsibilities of the different institutions and mandating these institutions in their respective roles.

The ICAT initiative will also support the Dominican Republic in establishing a national transparency system, building on the Information Matters project funded by the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety. ICAT will support a participatory process to develop a proposal for a legal framework that mandates the establishment of a national transparency system. The legal framework will govern the national transparency system by requiring data collection, data management and institutional arrangements for collecting, reporting and



verifying the data at the national level. This will allow the Dominican Republic to track progress with national climate change policies, including compliance with its NDCs, and enable reliable and consistent practice in data provision to inform national policy-making.

The ICAT analysis and the national transparency system create the conditions for the Dominican Republic to comply with international commitments under the UNFCCC, specifically to respond to the requirements established under Article 13 of the Paris Agreement.

#### **ICAT FOR CLIMATE ADAPTATION**

In February 2019, four pilot countries joined the UNEP DTU Partnership and other partners in a project aiming at building capacity for transparent and effective climate adaptation actions. Under this scheme, Bangladesh, India, South Africa and the Dominican Republic will work together with the Partnership to strengthen their capacity to plan, implement, monitor and evaluate effective and efficient climate adaptation actions in a transparent manner. The Partnership will lead the development and iterative testing of a toolbox and methodologies for achieving transparency in relation to adaptation activities, as well as overall project management and coordination with the larger ICAT project.



## CLIMATE TRANSPARENCY AND ACCOUNTABILITY

### MAPPING SYNERGIES BETWEEN NDCS AND SDGS

ICAT covers transparency on climate actions that can affect all 17 SDGs



And relates directly to the following articles in the Paris Agreement: **11-13-14**

A new and innovative mapping tool developed jointly in 2018 by the UNEP DTU Partnership and the World Resources Institute under the Initiative for Climate Action Transparency (ICAT) maps the sustainable development impacts of climate action, effectively linking NDCs to the SDGs.

By analysing and mapping the impact of solar mini-grids in Kenya on all seventeen SDGs and their sub-targets, the new tool shows how increased transparency on climate actions can create the basis for evidence-based policy-making to promote sustainable development in Kenya. The tool has since been applied with ICAT support in a pilot study by the Kenyan Ministry of Energy as one of Kenya's country-driven assessments.

As demands for reporting and transparency no longer target greenhouse gas inventories only but also target individual climate policies and actions, the hope is that an augmented focus on the synergies between sustainable development and climate action can lead to more ambitious climate policies.

Through its involvement in ICAT, the UNEP DTU Partnership has taken part in developing ten methodologies to assess the impacts of policies and actions. The Sustainable Development mapping tool adds to the existing ICAT Toolbox by showing SDG impacts visually in a way that is easy to access and understand.

#### THE TEN ICAT METHODOLOGIES COVER:

- Renewable Energy
- Agriculture
- Transport Pricing
- Sustainable Development
- Stakeholder Participation
- Buildings Efficiency
- Forests
- Transformational Change
- Non-State and Subnational Action
- Technical Review

As one of the actions to achieve Kenya's NDC, within the next four years, the national Rural Electrification Authority and a World Bank-financed initiative, the Kenya Off-grid Solar



**SUSTAINABLE  
DEVELOPMENT**

**GOALS**





Access Project (KOSAP), will construct 146 mini-grids. These systems will have a total solar capacity of 6.5 MWp and will supply electricity to around 31,000 consumers. By analysing the sustainable development impact of this deployment of mini-grids and developing a tool to connect these impacts to SDG targets, researchers at the UNEP DTU Partnership working jointly with ICAT partners in Kenya have shown the extent to which mini-grids can contribute to the implementation of Kenya's NDC and its sustainable development priorities.

This case study showed how, besides providing access to electricity while lowering greenhouse gas emissions by 71%, mini-grids can provide a series of sustainable development co-benefits. This includes providing access to education by providing light for schools and homework, entirely removing indoor air

pollution from the use of kerosene lighting, better access to quality health care due to the storing of vaccines and the round-the-clock provision of electricity in health centres, and helping establish an enabling environment for economic activities. At the same time, the study shows only minor trade-offs, which relate mainly to the electronic waste generated at the end of the mini-grid's life and the small impacts on mineral resource depletion.

The new tool was developed by involving stakeholders from all sectors: government, the private sector, international donors and NGOs. By the end of 2018, the Kenya Ministry of Energy was also using the new methodology on two other components of the KOSAP projects, namely solar home systems and solar pumps, as part of its country-driven assessments to track progress with NDC implementation and the SDGs.



# BUSINESS MODELS AND MARKETS

**This work is directly impacting the following SDGs:**



**And relates directly to the following articles in the Paris Agreement: 6·7·9·10·11·12**

The UNEP DTU Partnership's work on business models and markets is aimed at supporting developing countries in accelerating their implementation of climate actions. This is done by improving access to knowledge, investment preparedness and innovation, an increased focus on high-impact areas and private-sector engagement. The goal is to establish well-functioning markets and business models to further promote the dissemination and uptake

of clean and climate-resilient technologies and practices based on local innovation and production where possible.

By working with governments, cities and the private sector, the UNEP DTU Partnership provides technical assistance and building capacity, thus enabling partners to act through market development and innovative business models. At the global level, the Partnership is using its experience to develop guidance based on examples of best practice and to facilitate partnerships between public and private entities.

The Partnership is working to be a front-runner in providing expertise in market development, project implementation and access to business opportunities through:

- Enhancing the capacity of public- and private-sector decision-makers to identify and develop models for strengthened and accelerated climate action
- Supporting early-stage project formulation with cities, focusing on the most amenable sectors for the rapid implementation of sustainable energy and climate action solutions
- Developing well-proven and innovative business models with a clear focus on private-sector engagement, access to financial structures and local access to value chains.





## SUSTAINABLE ENERGY FOR ALL HUB

The UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency is the thematic hub for energy efficiency under the UN Sustainable Energy for All (SEforALL) initiative, which is dedicated to the target of doubling the rate of improvements in energy efficiency by 2030.

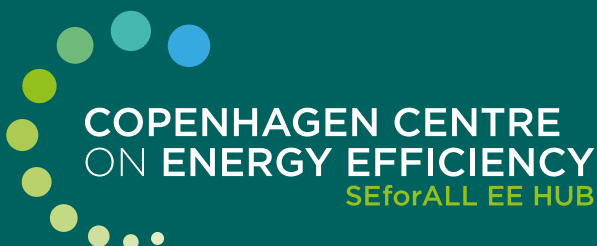
As an energy-efficiency hub, the Centre works to engage national and subnational governments to accelerate the implementation of energy efficiency, in line with global clean-energy objectives and the SEforALL Initiative. While many developing world governments are motivated to act on energy efficiency, they generally lack the capacity to realise their energy efficiency ambitions or to develop projects capable of attracting investments and generating actual energy savings.

With a focus on the most rollout-ready energy end-use sectors, namely buildings, district heating and cooling, and lighting, the Copenhagen Centre on Energy Efficiency is assisting with project and technology procurement and investment models, best-practice knowledge and research.

The Centre works to accelerate energy-efficiency programs in cities and countries through four phases:

- Creating actionable knowledge and learning on energy efficiency
- Developing available public-private implementation projects to attract the necessary finance
- Technical vocational educational training
- Replicating and communicating success.

Using a model of standardisation, upscaling and replication, the Centre is able to create impact reaching far beyond individual projects. This is also the case for the capacity-building efforts that are designed for easy access and dissemination through an online Knowledge Management System and webinars.





## BUSINESS MODELS AND MARKETS

### MAKING A BUSINESS CASE FOR CLIMATE ADAPTATION

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: **6**

Many small and medium-sized enterprises (SMEs) in developing countries have a low technical and financial capacity to respond to climate and disaster risks while at the same time often being more exposed to them. This means that SMEs are disproportionately affected by the negative impacts of climate change.

As part of the DANIDA-funded ADMIRE (Adaptation Mitigation Readiness) programme, which ended in June 2018, the UNEP DTU Partnership worked with partners and SMEs in India to improve the planning, design, financing and implementation of adaptation efforts. The Indian project was one of fourteen ADMIRE projects taking place in developing countries around the world.

SMEs are the backbone of the economy in India. However, every year many are severely affected by recurring heavy rainfall and flooding. As climate change is expected to worsen weather-related risks, SMEs, not just in India but also elsewhere, need long-term solutions in order to build their adaptive capacity and resilience. In the long term, adapting to climate change will benefit not only the businesses themselves, but also their supply chains, local communities, insurance companies and banks.

Over a two-year period, the ADMIRE project targeted 259 SMEs in Mumbai. Based on analysis and participatory processes, an innovative and sustainable approach was developed in close collaboration with SMEs. This consists of a step-by-step operational and financial framework to identify and invest in adaptation measures and thus 'climate-proof' businesses.

A central finding of the ADMIRE project in India was that, although there are limited short-term financial incentives for SMEs to invest in adaptation, the costs of inaction will prove substantial in the long term. The project also showed that adaptation investments generate net economic benefits after a seven-year payback period, with increasing benefits over time.

**ADMIRE** ADAPTATION  
MITIGATION  
READINESS

For SMEs to consider the potential of climate change adaptation, they need to be aware of the costs and benefits of investing in measures and what specific options are available to them. These projects demonstrate the need to encourage private-sector participation in adaptation efforts.

Although every context and sector is different, the findings provide examples with great potential for replication and upscaling.





### **Building businesses' climate resilience in Sri Lanka**

Based on the experience of the ADMIRE project in India, the UNEP DTU Partnership is implementing a similar initiative in Sri Lanka. This project started in October 2018 with support from the Nordic Climate Facility. The aim is to further develop approaches and models into hands-on tools for flood-prone SMEs to climate-proof their businesses and increase their long-term resilience. The project will conduct an in-depth analysis of the disaster impacts and related costs incurred by businesses, actors' behaviour and preferences, and existing governance structures. This will

inform the design of a prototype toolkit that cost-effectively integrates long-term climate adaptation solutions into business operations.

The UNEP DTU Partnership is working with the Asian Disaster Preparedness Center, the Ceylon Chamber of Commerce and MPensystems on developing the toolkit, which will later be replicated and scaled up across other sectors and countries. In addition, the project aims to inform the Sri Lankan government's national climate adaptation and disaster management strategies by strengthening policies to build the resilience of businesses at large to climate change.



## BUSINESS MODELS AND MARKETS

### DISTRICT ENERGY AND WORKING WITH CITIES

This work is directly impacting the following SDGs:



And relates directly to the following articles in the Paris Agreement: 6·7·9·10·11·12·13

District energy is an efficient solution to help cities achieve clean and low-carbon development. As an integral partner in the UN Environment District Energy in Cities Initiative, the UNEP DTU Partnership is helping cities in over a dozen developing countries conduct rapid assessments, pre-feasibility studies, capacity-building and project implementation of district heating and cooling.

As the energy-efficiency hub of SEforALL, the Partnership works with cities around the world to enhance energy efficiency in local infrastructure.

#### Energy-efficient street lighting: the 'low-hanging fruit'

In 2018 the UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency worked with 38 Argentinian municipalities on data collection and technical assessments.

These municipalities now have deep knowledge of the existing lighting infrastructure and the energy-efficiency opportunities associated with it. They are part of the Red Argentina de Municipios Frente al Cambio Climático, a network of 160 municipalities interested in developing and implementing energy-efficiency measures. The Partnership has worked with the network since 2017.

One of the main opportunities to be identified is energy-efficient street lighting. Lighting is a key public service with increasing demand due to urbanisation. However, many existing light fittings are outdated and highly energy-inefficient. Current technology can cut up to 80% of energy use, while also lasting longer with lower maintenance costs.

Last year the UNEP DTU Partnership started an ongoing process of testing the aggregation of the relatively similar investment projects in efficient street lighting in the 38 municipalities into a single project 'bundle'. This is a key innovation potentially allowing cities access to larger-scale funding and ensuring accelerated implementation of energy efficiency.

Scalability is key to achieving global impacts in implementing energy-efficiency measures. The project aims to provide a standardised model in which good practices can be replicated, ensuring high quality, speed and high impact in aspiring municipalities.



## DISTRICT ENERGY IN CITIES INITIATIVE



## THE ARGENTINIAN PROJECT 'BUNDLE'



Energy saving per year:

**161,000**  
MWh



Light fixtures to be replaced:

**275,000**



Municipalities:

**38**



CO<sub>2</sub> reduction per year:

**60,800**  
tonnes



Economic savings:

USD  
**22,870,000**



Investment needed:

Approx. USD  
**130**  
million



### District energy systems

District energy systems for heating and cooling in buildings use significantly less energy than individual boilers and chillers or air conditioners. They also have the advantage of aggregating the demand for heating and cooling, making it possible to integrate renewable sources and waste heat from industries and power plants.

The UNEP DTU Partnership and its Copenhagen Centre on Energy Efficiency are working with the support of the Danfoss Foundation on creating district energy systems from the very first assessments of demand and potential to the later stages of leveraging finance and implementation of projects.

In 2018 implementation of the Copenhagen Centre on Energy Efficiency's first two projects for district cooling in India started in Rajkot and Thane, two major Indian cities with a combined population of more than 3.3 million people. Collaborating with government and private-sector partners, the necessary financial means for investment have been secured in both cities for projects integrating district cooling into city planning.

Simultaneously, fifteen cities in Chile are now in the process of implementing district energy projects, elaborated with the technical support of the UNEP DTU Partnership. In 2018 the Partnership was also involved in the design of a national strategy for district energy in Chile, leading to a Presidential Decision on district energy for the country.

# PARTNERSHIP

## PARTNERSHIP FOR THE GOALS



In 2018 the UNEP DTU Partnership had projects in a hundred countries and direct partnerships with governments and institutions in more than sixty different developing countries around the world. The Partnership works through these global partnerships to support and achieve the ambitious targets of the Paris Agreement by bringing together national governments, the international community, civil society, the private sector and other actors in accordance with SDG 17. These partnerships are built on the basis of the Partnership's demand-driven

approach, which respects each partner's context, policy space and leadership.

Throughout 2018, the Partnership has been engaging increasingly with private-sector entities. This is based on the conviction that creating a market for climate solutions and investments is the key to scaling up and replicating climate action. By creating business cases for sustainable technology, the Partnership is generating change beyond its own reach.



### MAIN PARTNERS

- Developing country governments
- Sub-national and city authorities
- Private sector

### INTERMEDIARY PARTNERS

- UN Environment
- UNFCCC, UNDP, UNOPS, WB, Bilaterals

### IMPLEMENTATION PARTNERS

- National institutions and regional centres
- International technical partners



## PARTNERSHIP HIGHLIGHTS

### **PUBLIC PARTNERSHIPS:**

- The UNEP DTU Partnership's Copenhagen Centre on Energy Efficiency is working with Kenya on a national energy efficiency strategy.
- In Argentina, the Centre is working with a network of municipalities on the implementation and financing of energy-efficient measures.

### **PRIVATE PARTNERSHIPS:**

- Partnering with the garment industry in Sri Lanka and the Chamber of Commerce, the Partnership is involved in increasing the climate adaptation of small and medium-sized enterprises, which constitute the backbone of the Sri Lankan economy.
- Through the African Rural Energy Enterprise (AREED), the Partnership is providing funds to social energy enterprises in Ghana, Mali, Tanzania and Zambia.

### **PARTNERSHIPS THROUGH THE UNITED NATIONS: DELIVERING AS ONE**

- The Partnership is a Committee Member of the Global Plan of Action (GPA) on energy for displaced people, launched in New York in July 2018. The GPA consists of several partners in the private sector and international donors, as well as UNITAR, UNHCR, WFP, FAO, UNDP, the UN Foundation and Sustainable Energy for All.

- In cooperation with the UNDP, the Partnership is working to reduce public health risks and to stabilize household livelihoods in humanitarian crises by improving the delivery of waste management services, access to energy and income-generating activities through the implementation of innovative waste-to-energy solutions.
- Located in UN City Copenhagen, the UNEP DTU Partnership shares not only its address with eleven UN organisations, but also the ambition to achieve the SDGs. Organised through UN City, the Partnership has been an active partner in several events and outreach activities throughout 2018.
- With grant support from UNOPS, the Partnership and ICAT implementing partners Verra, WRI and ISPRA are helping countries assess the impacts of climate action and policies. In 2018 the first key results of this work were revealed.
- Through the Partnership's long involvement in the regional carbon forums, we have become an integral part of the forum's metamorphosis into what is now three annual regional climate weeks organised in partnership with UNFCCC, the World Bank, UNDP, UN Environment, CTCN and IETA, along with a wide range of regional partners.

# JOIN US

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**2018**





