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# FOREWORD

In December 2015, the countries of the world reached a landmark agreement on climate change in Paris. Agreement on a common goal to limit the increase in average global temperatures to well below 2°C has set the foundation for intensified and concrete country actions.

With the Paris Agreement behind them, countries are now focusing on implementation and action on the ground.

UNEP DTU Partnership assisted 35 countries in developing their Nationally Determined Contributions (NDCs) in the run up to the COP in Paris. Since then we have continued assisting countries in integrating their proposed climate actions into national planning, thus turning the climate goals into a framework for national development.

UNEP DTU Partnership supports country-driven planning and implementation. In addition to the focus on NDCs, we are closely involved with more than thirty countries in building national institutional transparency structures. This enables these countries to document the impacts of policies and actions regarding NDCs and thus ensuring the credibility of the Paris Agreement.

In 2017 UN Environment again published its two flagship reports, the Emissions Gap Report and the Adaptation Gap Report. Both reports were managed and edited by UNEP DTU Partnership, and both have become reference reports in the global climate change negotiations.

The Emissions Gap report strongly emphasized the need for global mitigation ambitions to be raised urgently, and it is clear that the pace

of implementation needs to be accelerated significantly if we are to meet the agreed global climate goals.

Internally, in 2017 UNEP DTU Partnership developed a new strategy which, combined with a new structure, will ensure that the efforts of the entire partnership are aligned so as to support implementation of the Paris Agreement and the associated SDG 13, as well as the goals set out in SDG 7 on clean affordable energy.

We are working with governments, cities and the private sector in more than sixty developing countries with a focus on creating sustainable public-private partnerships, and we are ready to act and engage further on this issue.



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

**John Christensen**  
Director

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## ..... OUR MISSION

UNEP DTU Partnership's mission is to support developing countries in their efforts to progress towards climate resilient low carbon societies.

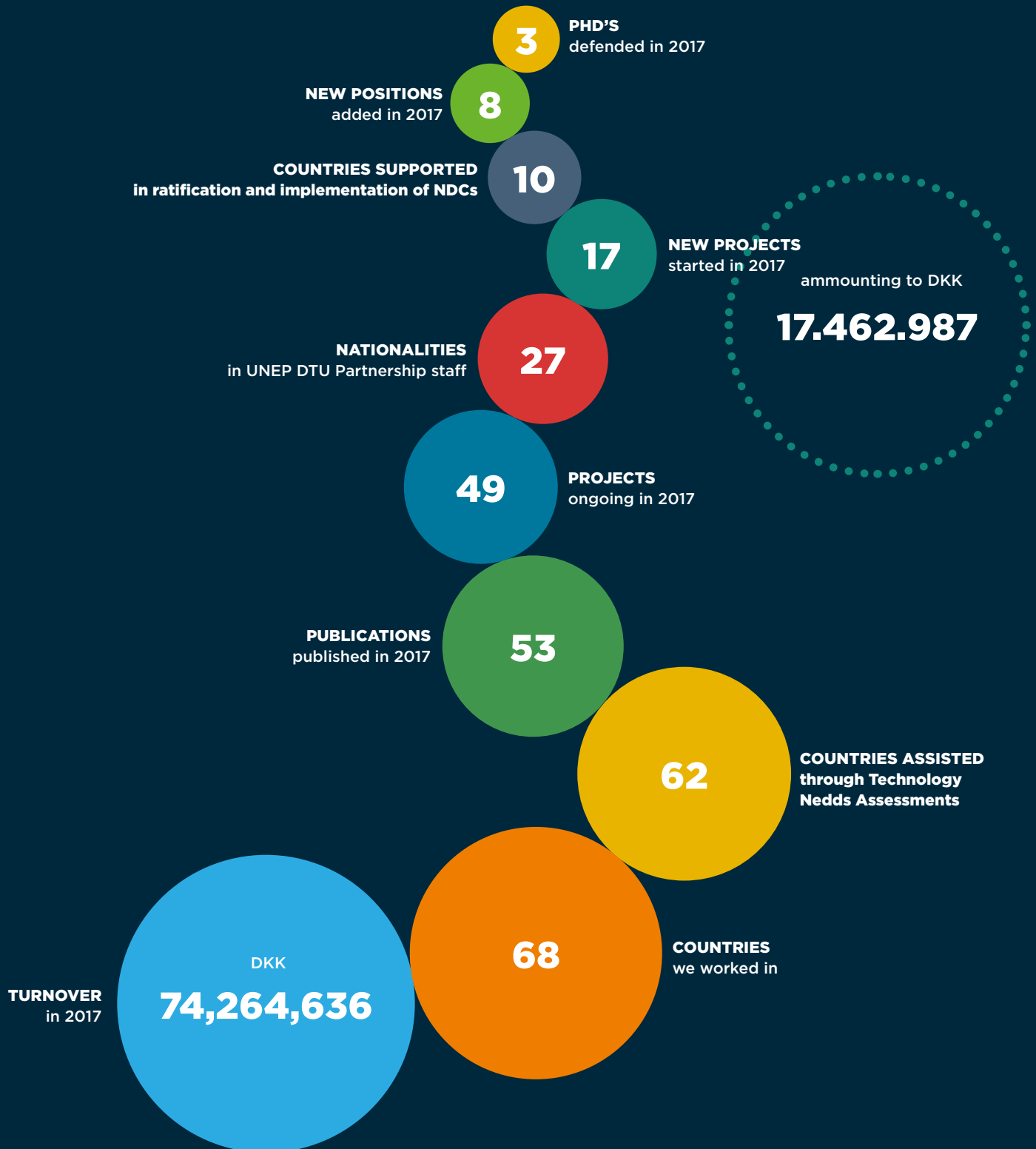
This is done by:

- Supporting country processes to integrate climate priorities in national development planning and policies, and to build stronger national frameworks for NDC planning and implementation
- Supporting developing countries in the process of building national transparency systems to track and report on climate actions and their impacts
- Supporting governments, cities and private sector to act on climate change through market development and innovative business models.



# 2017 IN NUMBERS

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# STRATEGY

From its offices in the UN City in Copenhagen, UNEP DTU Partnership works to support achievement of the Global Climate and Sustainable Development Goals in developing countries by providing research, policy analysis and capacity-building.

Since UNEP DTU Partnership was established in 1990 as a collaborative effort between the Danish Ministry of Foreign Affairs, UN Environment and the Technical University of Denmark (DTU), over the years it has established a unique scientific and operational knowledge base, as well as a large network of collaborators around the world.

Our work has its starting point in the needs and demands of governments and cities, to whom we deliver results rooted in strong country experience and research-based advice and support.

In 2013, UNEP DTU Partnership expanded its area of work and expertise by establishing the Copenhagen Centre on Energy Efficiency. As a hub of the Sustainable Energy for All (“SEforALL”) initiative, the Centre aligns its activities directly with the objective of doubling the global rate of improvements in energy efficiency by 2030. This is in line with SDG 7 on Clean and Affordable Energy. The Centre is closely involved with national and subnational governments and private-sector companies in key technological areas and has established itself as a recognized actor in the global energy-efficiency landscape.

The main focus of UNEP DTU Partnership is on achieving the Paris Agreement and SDGs 7 and 13. Looking at the needs of governments and sub-national and city authorities is the key to our approach to reaching these targets. These

authorities are the drivers of change, as well as being UNEP DTU Partnership’s main partners.

Inclusion of the private sector is vital to reaching the global climate targets. Because of this, the creation of partnerships with leading private-sector entities and business associations is the key to UNEP DTU Partnership’s approach in facilitating market expansion for green technology. The Partnership engages with various private partners to develop business models and expand markets for sustainable solutions for both climate mitigation and adaptation.

## BUILT ON THREE PILLARS

During 2017 a new strategy has been under development to ensure that UNEP DTU Partnership is ready to engage and deliver to save our climate in the future as well. This includes engaging further with private sector and non-state actors. The Partnership’s strategy for 2019-2021 will cover three main pillars of support to countries: *Climate Planning and Policy*; *Climate Transparency and Accountability*; *Business Models and Markets*.

Each pillar contributes to our overall goal of working towards SDG 7 on affordable and clean energy and SDG 13 on climate action and the goals of the Paris Agreement. At the same time, our strategy is tailored to supporting the UN Environment’s Programme of Work.

Cross-cutting the three pillars is a focus on capacity-building and the development of local institutions, as well as the underlying foundation of research and analysis, which is the unique basis for the UNEP DTU Partnership model.

The strategy will be implemented in the beginning of 2019.



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

## OUR VALUES

#### RESPECT

We work in partnership and dialogue with countries.

#### DEMAND- DRIVEN

We tailor solutions to country needs based on our knowledge and understanding of local conditions.

#### LOCAL ENGAGEMENT

We base our work on engagement with local private consultants and knowledge institutions.

#### LONG-TERM PARTNERSHIP

We enter into partnerships to build institutional capacity to ensure long-term change.

#### INTEGRITY AND INDEPENDENCE

We encourage a diversity of ideas and opinions, and value suggestions and feedback.

# RESEARCH AT THE CORE

We believe that, if you want to create change, you need to understand why things happen the way they do. Because of this, our projects are based not only on country needs and inputs, but on in-depth research and analysis.

For this reason, research designed to provide solutions to achieving the Global Climate and Sustainable Development Goals is at the core of UNEP DTU Partnership's approach.

The Partnership aims to be the leading organization within our field of applied research for support of the achievement of SDG 7 and 13.

As part of the Technical University of Denmark, the Partnership draws on a vast range of scientific expertise and collaborates with world-leading scientific partners.

We work with both DTU colleagues and other scientific institutions to enhance developing countries' access to the best solutions.

UNEP DTU Partnership staff include multidisciplinary experts from more than 27 countries, with a broad regional and language coverage, a significant advantage when it comes to efficiency of implementation.

Our multidisciplinary approach allows us to tailor solutions to countries based on a broad range of expertise and to partner with governments and the private sector with a high degree of efficiency, transparency and flexibility.

The following examples of results from 2017 show how a targeted research effort can create change extending beyond our own involvement.





## KENYA MINI WIND: SUSTAINABLE ENERGY FOR ISOLATED COMMUNITIES



One of the main areas of research at UNEP DTU Partnership is analysis of the mechanisms and implications of energy-generating technologies, including how to convert our knowledge into projects and outcomes in collaboration with our country partners.

The energy supply sector remains central to climate change mitigation efforts and has implications for a broad range of SDGs. Clean, low-carbon technologies are the means to achieve both access to energy and the climate change targets.

In September 2017, UNEP DTU Partnership secured funding from the Danida Market Development Partnership program for the Kenya Mini Wind project. This project is being carried out in collaboration with Vestas, other departments at DTU and Kenyan and Danish NGOs. It focuses on supporting sustainable mini-grid development and aiding the local production of wind turbines in Kenya.

The project emphasises market-driven action on the ground in Kenya and will contribute to the creation of new opportunities for small-scale on-shore wind turbines and mini-grids in East Africa. The goal is to ensure that isolated communities, which have so far been beyond

the range of the electricity network, will be connected to mini-grids powered by wind turbines that are partly produced locally.

Mini-grids are already being established throughout Africa, but with the potential for Vestas' smaller-scale turbines to be produced locally, this project will pave the way for mini-grids to become a greener and more viable solution, while also creating local jobs.

The project is based on long-standing UNEP DTU Partnership research on technology needs assessments, energy access and rural electrification in sub-Saharan Africa. This includes numerous reports completed under the Global Network on Energy for Sustainable Development (GNESD), hosted by UNEP DTU Partnership until 2015, as well as consultancy work with the Rural Electrification Agency in Burkina Faso and PhD research on rural electrification through private models in Kenya.

This project, which has built on various joint consultancy projects in low-income African countries for the last fifteen years, is being conducted in partnership with DTU's Wind Energy and Smart Grid researchers.

## THE INDIAN TRANSPORT SECTOR: RESEARCH WITH RIPPLE EFFECTS



India is currently the fourth largest emitter of greenhouse gases in the world, with the transport sector being the second largest contributor of CO<sub>2</sub> emissions. The country has an opportunity to leapfrog traditional models of mobility that rely on inherently greenhouse gas-intensive motorized transport and to introduce a transport system that is shared, electric and connected.

Recognizing the need to reduce transport-generated greenhouse gas emissions, in 2009 UNEP DTU Partnership started research and policy advocacy work on this issue as part of the *Promoting Low Carbon Transport in India* project. The project worked towards the adoption of a sustainability approach and sought to meet an underlying need for data on transport in Indian cities.

Since then, the work done by UNEP DTU Partnership has contributed both directly and indirectly to Indian efforts at the city, federal and country levels to introduce a low-carbon transport system.

Through several initiatives, the Indian authorities are working towards a greener transport sector. By positioning ourselves very early in that process, UNEP DTU Partnership's

research and expertise have had long-term ripple effects on the future of transport in India.

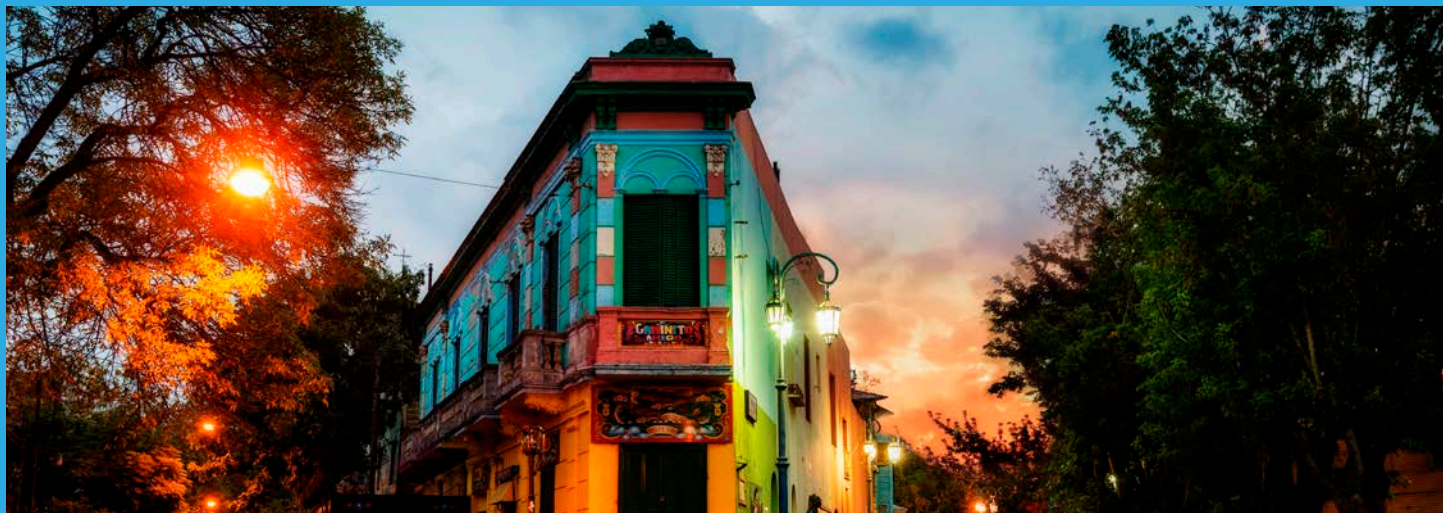
The methodology for Low Carbon Mobility Planning developed for this project by UNEP DTU Partnership was adapted at national level using a tool kit for developing Carbon Mobility Plans.

With assistance from UNEP DTU Partnership, three pilot cities developed Low Carbon Mobility Plans.

Two of these cities have been included in the *Smart Cities Mission*, an urban renewal and retrofitting program launched by the Government of India to develop a hundred cities across the country and make them citizen-friendly and sustainable.

In 2017 UNEP DTU Partnership's engagement in the Indian transport sector also included case studies of transport systems in specific cities, such as Hyderabad. Here UNEP DTU Partnership provided in-depth research on the barriers to and opportunities for electric vehicles.

## EFFICIENT STREET LIGHTING IN A BUNDLE



The Copenhagen Centre on Energy Efficiency is providing research, vision and conceptual frameworks for unlocking energy efficiency opportunities in cities. Through an innovative bundling mechanism, cities can now overcome local barriers to implementation that have been hindering the widespread use of technology for years.

By creating a methodology for project standardization in LED street-lighting projects and drawing on the methodologies developed by United for Efficiency (the Appliances, Equipment and Lighting Accelerator of SEforALL), the Copenhagen Centre on Energy Efficiency is facilitating investment and implementation.

The Centre has overseen data collection in conjunction with local counterparts and has used its expertise to create an effective methodology for project aggregation. It has also encouraged political dialogue between municipal and national governments to ensure local buy-in and functioning stakeholder relationships.

At the same time, the Copenhagen Centre on Energy Efficiency has established relationships with and in-kind provision of assistance

from local suppliers to assist with project specifications and procurement models. It has also entered into dialogue with potential funders to consider how best to build the financial structure required for investing in the project 'bundle'.

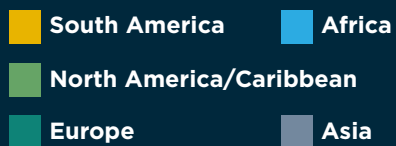
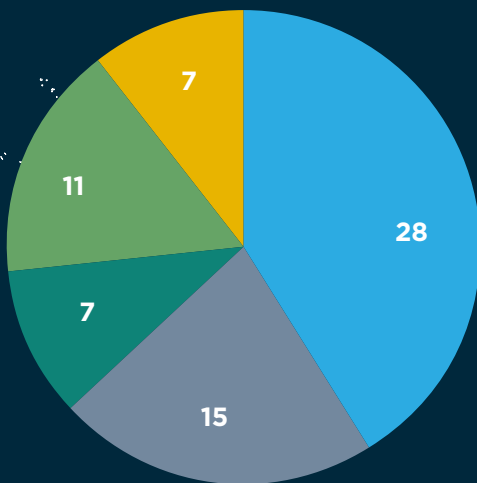
So far, the outcome of the research and methodology creation has been a 300,000-lamp project across a virtual city comprising 42 locations in Argentina. This covers a population of about three million and has a project value of 135 million USD.

The project has attracted interest from major development financiers in picking up and developing the project into a sound investment, with agreement to reach the Sustainable Development Goals.

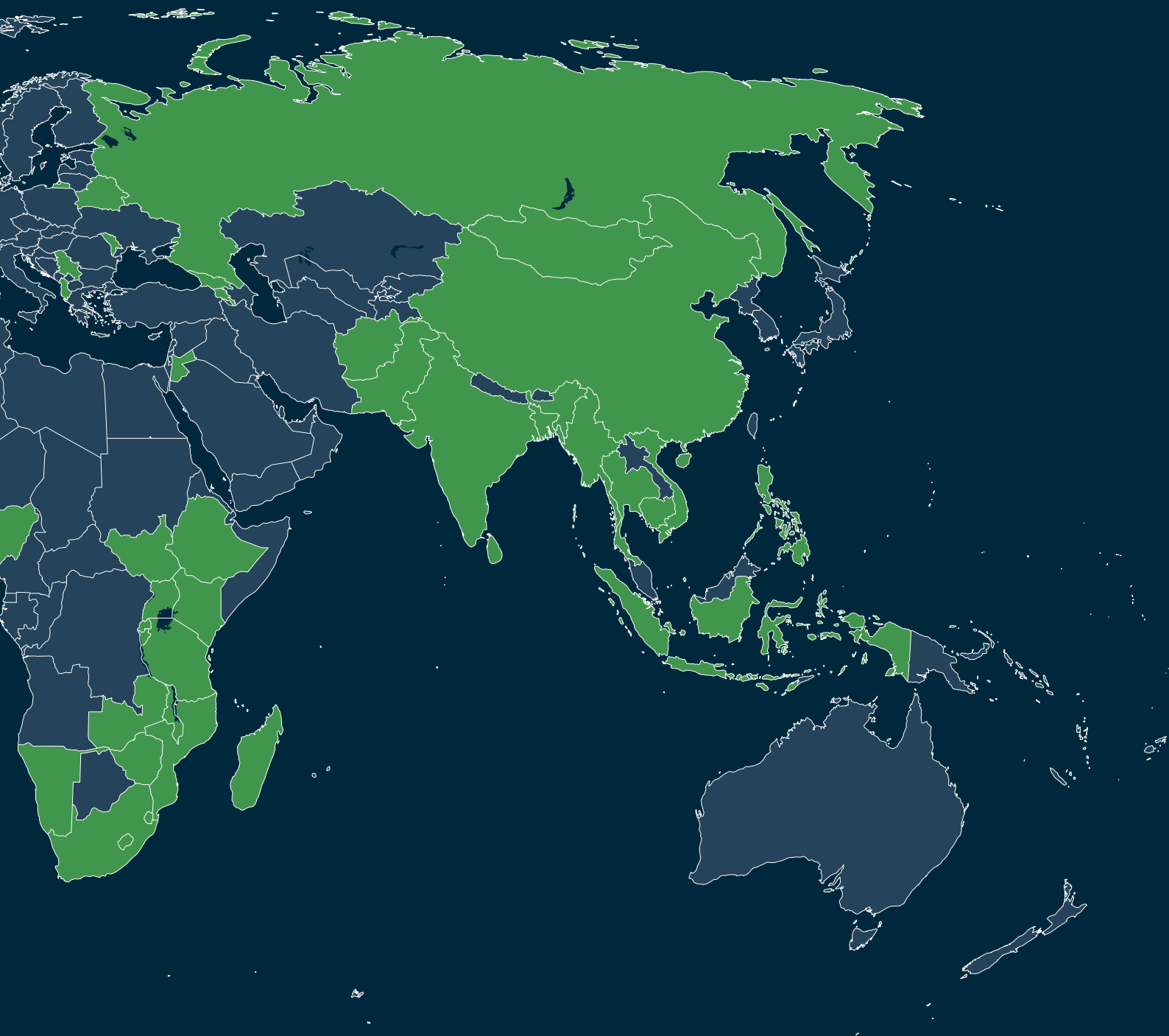
# WHERE WE WORK

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Geographical representation of projects







In 2017 UNEP DTU Partnership was working directly in 68 countries around the world.

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# STORIES FROM 2017

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We have selected some of the achievements and outcomes of 2017 to show the impact of UNEP DTU Partnership in providing cutting-edge research and analysis and in crafting partnerships around the world.



The Paris Agreement was established in December 2015 at COP 21 in Paris and entered into force one year later. It has now been ratified by 178 countries out of the 197 parties to the Convention.

The Agreement is rooted in the so-called Nationally Determined Contributions (NDCs). In the process leading up to Paris, the submission of what at the time were called 'Intended Nationally Determined Contributions' (INDCs) played a crucial role in the process that ended with the global consensus and a new legal framework for climate action worldwide.

Significant resources and technical assistance were needed by many developing countries in particular enabling them to formulate and submit their INDCs. UNEP DTU Partnership, with funding from the Global Environment Facility (GEF), provided technical support to 32 countries from Africa, Asia and the Caribbean. All countries managed to submit their INDCs in advance of COP 21 so that they could help form the basis of this ground-breaking agreement.

With the ratification of the Paris agreement, INDCs have become NDCs, as countries endeavour to deliver on the climate goals they have set themselves. UNEP DTU Partnership continues to provide guidance on NDC implementation plans and road maps and until the end of 2017 was continuing to work with the 32 countries on the integration and implementation of their NDCs in the context of national development planning.

### **2017: LAUNCHING A NEW INDC HELPDESK**

In April 2017 UNEP DTU Partnership launched the iNDC Helpdesk, a new web-based, support portal for NDC implementation.

Setting up the Helpdesk meets a growing demand for a platform that can provide sound answers on the implementation of NDCs based on expertise and experience.

Specialists at UNEP DTU Partnership assumed that many questions would be common to government staff working on NDCs. The portal provides answers to these questions based on the available UNFCCC documentation and the experience of our experts.

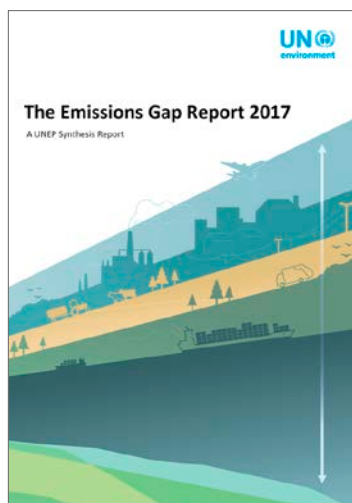
With the launch of the iNDC Helpdesk, there is now a place where national climate practitioners can ask questions about the implementation of climate action in English, French or Spanish.

Every question is answered by experts from UNEP DTU Partnership, in collaboration with our partners at the NDC Support Cluster.

Although the portal's services were developed as a component of the support provided through the GEF-funded program targeting the 32 countries, the service is accessible to all countries and stakeholders.

The ratification, implementation and updating of the NDCs are central to raising the ambitions of the Paris Agreement. The Helpdesk, though only a small part of UNEP DTU Partnership's work, aims to make our expertise as easily accessible as possible.

## GAP REPORTS: PROVIDING THE DATA FOR CLIMATE ACTION



Since 2012 UNEP DTU Partnership has managed the production of UN Environment's annual flagship report on climate change, the Emissions Gap Report.

The Emissions Gap Reports are annual science-based assessments of the gaps between countries' pledges on greenhouse gas emissions reductions and the

reductions required to keep the increase in global temperatures to well below 2°C by the end of this century, as stipulated in the Paris Agreement. Each year the reports also feature assessments of key opportunities for bridging the gap.

The reports have gained a wide reputation as a scientifically authoritative source of timely and policy-relevant information for key decision-makers, informing them of the UNFCCC COP process and, looking forward, implementation of the Paris Agreement.

UNEP DTU Partnership staff act as the secretariat for the different parties involved in the preparation of the reports, drafting the executive summary, authoring several sections and running the editorial process. The Partnership is also involved in outreach activities and in communicating key findings of the reports.

Statistics show that the top three most downloaded publications from UN Environment in 2017 was the Emission Gap Report 2017, the Emission Gap report 2016 and the executive summary of the 2017 report.

Published on 31 October 2017, the Emission Gap Report reached the top of the list in only two months.

In 2014, UNEP DTU Partnership and UN Environment decided to expand their collaboration in providing gap information to cover adaptation, leading to publication of the first UN Environment Adaptation Gap Report.

The Adaptation Gap Report series complements the Emissions Gap Reports by exploring key adaptation gaps, discussing how these may be assessed and determining the options for bridging them. The aim of the reports is to inform national and international efforts to advance adaptation and to inform the UNFCCC COP process.

The 2014 Adaptation Gap Report provided a framework for defining adaptation gaps and a preliminary assessment of the gaps in three key areas: finance, technology and knowledge. The 2016 Adaptation Finance Gap Report focused on finance, assessing the difference between the costs of meeting climate change adaptation needs in developing countries and the finance available to meet these costs.

In 2017, the Adaptation Gap Report focused on the status of and ways forward for assessing and tracking progress on adaptation globally to support the post-Paris process and implementation of the global goal on adaptation.

The 2017 report also provided insights into the current state of knowledge on methodologies, indicators and metrics for adaptation tracking, thereby feeding into and supporting UNEP DTU Partnership's broader work on metrics and transparency.



## TECHNOLOGY NEEDS ASSESSMENTS: COUNTRY NEEDS AND A FIRST MOVER ON GENDER

Technology is key to achieving the goals of the Paris Agreement to reduce greenhouse gas emissions and thus limit the increases in global temperatures that threatens people's livelihood all over the world. By understanding national climate technology options we can determine how to support reduction of greenhouse gas emissions and how best to adapt to the adverse impacts of climate change.

To enhance the development, transfer, deployment and dissemination of technology, since 2009 UNEP DTU Partnership has assisted more than sixty developing countries through the Technology Needs Assessment (TNA) programme. TNAs support developing countries in determining their climate technology needs to accelerate low-emission, climate-resilient and sustainable development as efficiently as possible.

As a new dimension, during COP 23 in 2017 UNEP DTU Partnership, along with the Climate Technology Centre and Network, was invited to work with gender and technology under the new UNFCCC Gender Action Plan.

In relation to the COP mandate on gender UNEP DTU Partnership is a first mover, working with stakeholders to collect, enhance and share information on the incorporation of gender considerations into technology needs assessments. There is a clear need for women to be represented in relation to all relevant climate targets and goals as an important contribution to increasing their effectiveness.

A gender-responsive climate policy continues to require further strengthening in all activities concerning climate change adaptation, mitigation and related ways of implementing climate policies, as well as associated decision-making.

Through the TNA programme and the mandate under the UNFCCC Gender Action Plan, UNEP DTU Partnership seeks to advance women's full, equal and meaningful participation and to promote the creation of gender-responsive climate policies.

2017 also saw the preparation of the third round of the TNA programme, in which gender will be incorporated for the first time. In the next round, starting in 2018, another 23 countries will determine how technology can best help them act on climate change.

The Technology Needs Assessment methodology will be used by developing countries as they work to develop further and implement their Nationally Determined Contributions (NDCs). Already today, more than 70 percent of those developing countries with a TNA have used it in preparing and implementing their NDCs.



## TRANSPARENCY AND ACCOUNTABILITY: BUILDING TRUST FOR GLOBAL CLIMATE ACTION

Given the limited time and resources and the enormous challenge of climate change facing us, we cannot continue with business as usual but must enact policies that fundamentally shift emissions towards low-carbon and sustainable development outcomes.

Regarding the NDCs, UNEP DTU supports policy-makers in implementing policies and programs with the greatest potential to promote decarbonisation and resilient development. In parallel UNEP DTU Partnership is strongly engaged in ensuring the transparency and accountability of climate actions.

Ensuring transparency has become a core component of the Paris Agreement, and in a very direct sense it will provide the Agreement with its credibility. As countries work towards implementing their NDCs, a common framework and understanding of how to measure progress and impact will be needed.

At the same time, it is important not to forget that the private sector will play a key role in our ability to reach the global climate goals. Merely focusing on the transparency of government actions risks leaving out the largest non-state actors with the potential to take the lead in climate action and with the financial means to accelerate both mitigation and adaptation efforts.

Looking at the private sector and other non-state actors, UNEP DTU Partnership is developing ways to enhance accountability in cooperation with all relevant stakeholders so as to ensure that the efforts undertaken and the uptake of enhanced climate actions are both recognized.

In 2017 UNEP DTU Partnership worked with several partners specifically to promote

transparency in climate actions through the Initiative for Climate Action Transparency (ICAT) and the Capacity-Building Initiative for Transparency (CBIT).

While there is a focus on transparency and accountability in most UNEP DTU Partnership projects, these two programmes specifically focus on providing support to countries on improving transparency and capacity-building related to the Paris Agreement.

### ICAT

The Initiative for Climate Action Transparency (ICAT) aims to support transparency in reporting on the impacts of climate policies and actions.

One component of its work is a series of guidance documents, which provide methods to help users assess the impacts of policies and actions that reduce greenhouse gas emissions, achieve sustainable development outcomes and drive transformational change.

In 2017 UNEP DTU Partnership directly supported 17 countries under ICAT. It is expected that more than ten countries will be added to the list during the course of 2018.

By improving the transparency and quality of data analysis, the initiative enables countries to track their progress in implementing their NDCs and helps assess the ambition of climate actions to achieve transformational change to zero-carbon and sustainable development.

Throughout 2017, UNEP DTU Partnership, as an implementing partner to the initiative, worked on developing guidance and methodologies for measuring the impacts of policies and actions. Developing this guidance

involved the broad engagement of stakeholders through public consultations and technical working groups, as well as a presentation of the guidance at the 2017 COP23 hosted by Fiji in Bonn.

Stakeholder involvement and development of the guidance is still ongoing, moving towards a third and final version that will include case studies of the guidance applied in developing countries.

Ensuring that ICAT becomes a framework that can be easily accessed and utilised by governments and other target groups such as private-sector actors and financial institutions was at the forefront of UNEP DTU Partnership's work in 2017.

It is the intention that the initiative will provide a platform for countries to share lessons learned and build mutual confidence in their climate actions.

During 2017, UNEP DTU Partnership, together with partners in Bangladesh, India, South Africa and the Dominican Republic, also led the development of a new component of ICAT focused specifically on adaptation action transparency. This new ICAT activity will aim to strengthen the capacity of countries to implement, monitor and evaluate effective and efficient adaptation actions in a transparent manner. It will start implementation during 2018.

## **CBIT**

As part of the Paris Agreement, it was decided to establish a Capacity-Building Initiative for Transparency (CBIT) within the Global Environment Facility. The goal of the CBIT is to strengthen the institutional and technical

capacities of developing countries to meet the enhanced transparency requirements of the Paris Agreement.

CBIT works to identify needs and gaps in national transparency systems, share lessons learned and facilitate access to practices, methodologies and guidance on transparency.

In April 2017 UNEP DTU Partnership, jointly with UN Environment and UNDP, launched the CBIT Global Coordination Platform. This is a web-based platform with information on support initiatives and developing countries' needs for transparency-related capacity. It also facilitates knowledge-sharing and the sharing of best practices.

Together with UN Environment, in 2017 UNEP DTU Partnership also established a virtual Transparency Centre of Excellence as a response to the increasing demand for technical assistance in the area of transparency. The Centre is currently supporting countries in the Latin American and Caribbean region to access CBIT funding and will also provide technical assistance to enhance national transparency in the region.

In 2017 support by the Centre and UNEP DTU Partnership helped Chile and Costa Rica to access USD 1,232,000 and USD 1,000,000 respectively.

Besides the launch of the CBIT Global Coordination platform and the Transparency Centre of Excellence, in 2017 UNEP DTU Partnership supported a range of countries globally to develop CBIT concept notes and access funds to develop full project proposals for CBIT.

## ENERGY EFFICIENCY ACCELERATED: HELPING COUNTRIES AND CITIES

The Copenhagen Centre on Energy Efficiency is the Energy Efficiency Hub of the global Sustainable Energy for All (SEforALL) initiative launched by the United Nations Secretary-General in 2011 and co-chaired by the UN Secretary General and the World Bank President.

SEforALL has three ambitious and inter-linked global goals to be achieved by 2030: ensuring universal access to modern energy services; doubling the global rate of improvement in energy efficiency; and doubling the share of renewable energy in the global energy mix. These goals are closely aligned with SDG 7 on ensuring access to affordable, reliable, sustainable and modern energy for all.

As part of its energy efficiency activities, SEforALL has established an Accelerator Platform consisting of five so-called accelerators covering Buildings; District Energy; Lighting, Appliances and Equipment; Industry; and Vehicle Fuel Efficiency.

The accelerators are intended to act as global multi-stakeholder platforms that focus on scaling up and accelerating work on energy efficiency at the national, sub-national and city levels. The Copenhagen Centre on Energy Efficiency is responsible for coordinating and activating this Accelerator Platform wherever possible. The goal is to pursue energy-efficient projects, build a coalition of leading service and technology providers around such projects and assist them in scaling up actions. The Copenhagen Centre on Energy Efficiency focuses on creating synergies between the many partners involved and helps provide an integrated package of services to both countries and cities.

### DISTRICT ENERGY IN CITIES

In 2017, the Copenhagen Centre completed the following areas of work by engaging with the District Energy in Cities Initiative, with support from the Danfoss Family Foundation:



### DISTRICT ENERGY IN CITIES INITIATIVE

**India:** Rapid assessments of district cooling systems in five pilot Indian cities. Based on the results of these rapid assessments, the Ministry of Power in India included district cooling development in the National Cooling Action Plan.

Through the DES Initiative, in 2018 India's publicly owned ESCO, Energy Efficiency Services Limited (EESL), successfully received 200 million USD from the World Bank to develop district cooling and tri-generation projects throughout the country.

**Malaysia and Morocco:** Rapid assessments of district cooling in pilot cities in Malaysia and Morocco were completed, with a subsequent move to a pre-feasibility study and deep dives for the pilot projects.

200 million  
dollars leveraged  
through DES  
Initiative





**Egypt, Maldives and Seychelles:** These countries completed their feasibility studies of ozone control in 2017. District cooling was ranked as one of the top technologies for phasing out HCFC/CFC refrigerants under the Montreal Protocol and Kigali Amendment.

**China:** A joint centre on district energy research and engineering application has been set up in China by the South China University of Technology and UN Environment. In 2017 UNEP DTU Partnership and the Copenhagen Centre on Energy Efficiency joined this collaboration as partners of the DES Initiative.



“We strongly support the Copenhagen Centre on Energy Efficiency and the District Energy in Cities Initiative, which have successfully demonstrated a scalable model for cities worldwide to deliver sustainable heating and cooling. This platform is a unique set up bringing together public and private expertise to accelerate the development of modern district energy systems.”

**Julia Panzer, Head of Public Affairs and Sustainability, Danfoss**

## ADMIRE: BUSINESS MODELS THAT REPLICATE AND GROW

The ADMIRE (Adaptation Mitigation Readiness) programme is funded by the Danish Ministry of Foreign Affairs with the aim of engaging the private sector in climate mitigation and adaptation by developing business cases for climate-friendly investments in the developing world.

The purpose of the program is to showcase how to bridge the existing gap between the development of good ideas and the structuring of bankable climate mitigation and adaptation projects.

Working to bridge this gap is one of the ways in which UNEP DTU Partnership aims to enable countries implement their Nationally Determined Contributions under the Paris Agreement.

The rationale is that private investments (local or international) are the key to releasing the action required to reach the global climate and development goals. For private capital, however, a sound business model is fundamental before any investment can take place. It is here that the ADMIRE projects intervene by developing business models to leverage private capital investments.

At the same time, ADMIRE engagements are having a positive impact on several SDGs, such as ending poverty, reducing hunger and inequality, and creating partnerships across sectors.

The business frameworks created through ADMIRE ensure that the actions that are thereby generated do not remain one-off events, but can be replicated and scaled up elsewhere.

Through ADMIRE, fourteen distinct projects in twelve countries across different sectors, technologies and stakeholders have been started. Officially ending in June 2018, the ADMIRE programme has already yielded significant results in terms of investments and market creation throughout much of 2017.

Here are two examples:

### **GHANA: CLIMATE ADAPTATION OVER THE PHONE**

Climate change has already made life harder for farmers in Ghana. Droughts and irregular rain patterns mean that farmers can no longer cultivate their land as they have done for generations.

With support from UNEP DTU Partnership under the ADMIRE program, the socio-economic mobile company Viamo (formerly Votomobile) has developed a business model for a service that helps farmers with climate adaptation.

By using a phone, subscribers can obtain weather forecasts, information on market prices and instructions on when to spread fertilizers and fight pests in local languages.



“Working with UNEP DTU Partnership was very fruitful and informative. The partnership opened Viamo to the world of mobile agricultural extension and gave us wheels on which to move. Through ADMIRE we were able to serve the crop sector, and the results have ushered us into new sectors.”

**Collins Boakye, programme manager, Viamo**

It is important that climate solutions are available for the most vulnerable groups. By using cell-phone technology and local languages, this project ensures that those who are affected the most by climate change have access to real-time adaptation possibilities.

ADMIRE's support ran until July 2017, by which time 5,868 farmers working in three commodity value chains, mainly maize, rice and cocoa, had signed up for the service. Since then Viamo has used the results of ADMIRE to win a contract with the US development organization ACIDI/VOCA to service 20,000 farmers growing maize, rice and soya.

In November 2017, the project's record of achievement won Viamo the contract to serve female fish-smokers as well, another vulnerable group feeling the effects of climate change.

### **JAMAICA: ENSURING FOOD SAFETY AND CREATING GROWTH**

Climate change poses a major risk to agriculture development in Jamaica. Due to the country's limited fertile land mass and fragile ecosystems, it already has a high dependence on food imports with an all too real threat to food security looming.

The high import dependency is only set to increase due to impacts of natural disasters such as hurricanes, floods, landslides, droughts and strong winds affecting the island more regularly due to climate change.

As a response, UNEP DTU Partnership and INMED Partnerships for Children developed Financing the Adaptive Agricultural Programme in Jamaica, a project that finished in September 2017.



**"INMED truly appreciates the support provided by the ADMIRE Program, which enabled climate-smart aquaponics to go beyond proof of concept to making it accessible to Jamaican farmers on a commercial level; this is possible thanks to the financial modelling and business case developed in collaboration with ADMIRE."**  
**Kristin Callahan, International Programs Director, INMED Partnerships for Children**

Aquaponics, an innovative agricultural system, was identified as a solution that can help Jamaican smallholder farmers to become more resilient to climate impacts and increase outputs of their farms, improving their livelihoods.

Aquaponics is a climate resilient farming technique that combines aquaculture (fish farming) with hydroponics (soilless crop production). It can support over 50 different crops with a production rate that is significantly higher than traditional farming.

The project built pilot sites to demonstrate technical feasibility and economic viability, and worked with financial institutions to establish access to finance for smallholder farmers.

Parallel to this several ministries supported stakeholder engagement through raising public awareness and participating in capacity building activities.

Building on the ADMIRE project a four year programme launched in 2017 with the aim to firmly establish aquaponics as a climate adaptation practice in Jamaica.





## ACCESS TO SUSTAINABLE ENERGY FOR REFUGEES IN TANZANIA

In 2017, UNEP DTU Partnership completed the first ever cost-benefit study of fuel-switching in a refugee camp in collaboration with UNHCR in Tanzania. Given its status as a UN Environment collaborating centre, UNEP DTU Partnership is uniquely placed to deliver such pioneering research-based advisory services. This means that it can operate as a legitimate partner of other UN agencies and obtain access to unconventional or niche markets and challenges.

Around the world the global community is struggling to keep up with the scale of the refugee crisis. In this situation, UN-affiliated technical partners such as UNEP DTU Partnership have a crucial role in conducting vital research and providing advisory services in the task of securing investments in sustainable energy for refugees.

UN estimates that over 135 million people need humanitarian assistance, 65.6 million of whom have been displaced from their homes by conflict. Most refugees, especially in Africa, use wood fuel for cooking and heating, which is ineffective and polluting. With large and dense camps, this leads to forest degradation and deforestation, risks to human life and health caused by smoke, conflict with local communities, and violent crimes committed against refugee women and children forced to walk up to twenty kilometres to collect wood. Data and analysis on the benefits of switching to sustainable energy for refugees are lacking. The UNEP DTU Partnership is working to bridge this gap in order to leverage investments in more sustainable alternatives.



**"In 2017, UNEP DTU provided crucial and much-needed research and technical expertise to support our programme of work in delivering sustainable energy to refugees in the Kigoma region. We are pursuing their recommendations and a market creation road map for LPG, in partnership with the government of Tanzania."**

**James Mwangi, Energy and Environment Officer, UNHCR in Tanzania**

Encouraging fuel-switching in refugee camps addresses fifteen specific targets across six SDGs, offering a range of co-benefits. Those who benefit are mainly women and children, who bear the brunt of the health risks from smoke pollution, conflicts with local communities and crime related to the activity of gathering wood.

UNEP DTU Partnership is working with UNHCR in supporting the global coordinator for energy, based in Geneva.

Following up on the cost-benefit study that took place in the Nyarugusu refugee camp in Tanzania, UNEP DTU Partnership developed a market creation plan for liquid petroleum gas (LPG). This plan will help UNHCR and the Tanzanian government implement one of the key recommendations of the study.

Building on this work, UNEP DTU Partnership was invited to become part of the Steering Committee of the Global Plan of Action on energy for displaced people, which will be launched in July 2018 at the High Level Political Forum on the SDGs in New York.





# PARTNER STATEMENTS

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**Ali Shareef, Director of the Climate Change Department in the Ministry of Environment and Energy, Maldives:**

“ UNEP DTU Partnership has developed a straightforward model that we have been able to take forward ourselves and apply to our work with climate change and renewable energy. The experts at UNEP DTU Partnership are at the cutting edge of information when it comes to climate change adaptation and mitigation.”



**Javier Darío Aristizabal, Head of Project, Fundación Natura, Colombia:**

“The support of UNEP DTU Partnership means that our chances of succeeding are significantly higher. It has given to us better tools to expand our efforts in reaching new stakeholders whose common vision is developing business models based on climate-friendly actions. UNEP DTU Partnership has played a key role in this process. It has strengthened our capacities for understanding how to build partnerships among private entities and to enhance the collaboration between the public and private sectors.”



**Patricia Campos, Vice Principal of Climate Change Management, Ministry of Energy and Environment, Costa Rica:**

“The UNEP DTU Partnership FIRM project has given us extremely valuable guidelines for all the national policies we have in the country. What the Paris Agreement has clearly demonstrated is that climate change is not to be treated with an environmental approach. Instead it has to be seen as an economic development model matter.”



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