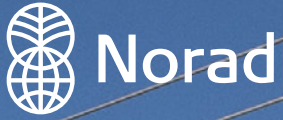


# 12



ENERGY FOR  
SUSTAINABLE  
DEVELOPMENT

ANNUAL REPORT  
2012





NORWEGIAN MINISTRY  
OF FOREIGN AFFAIRS



NORWEGIAN MINISTRY  
OF PETROLEUM AND ENERGY



NORWEGIAN MINISTRY OF  
THE ENVIRONMENT

# PREFACE

2012 was by the United Nations designated to be **the Year of Sustainable Energy for All**. It was also the year hosting the Rio + 20 United Nations Conference on Sustainable Development, resulting in the document: **The Future We Want**. This document stressed the importance of access to energy;

*"We recognize the critical role that energy plays in the development process, as access to sustainable modern energy services contributes to poverty eradication, saves lives, improves health and helps to provide for basic human needs.*

*We stress that these services are essential to social inclusion and gender equality, and that energy is also a key input to production. We commit to facilitate support for access to these services by 1.4 billion people worldwide who are currently without them. We recognize that access to these services is critical for achieving sustainable development."*

(The Future We Want – Rio + 20 Outcome Document, on Energy)

It is alarming that 1.4 billion people still are without access to electricity. In addition, the International Energy Agency (IEA) estimates that 2.6 billion people rely on use of traditional biomass for cooking, causing harmful indoor air pollution. The people lacking access to basic energy solutions are mainly living in rural areas in either developing Asia or sub-Saharan Africa. Over the years we have seen an urgency to deliver on global targets for energy access in order to ensure social and economic development. Around USD 49 billion in investments is needed yearly to achieve universal access by 2030. This is an ambitious goal, and it depends on private actors to take on a significant share of the cost.

Norwegian assistance to clean energy use public sources to finance different ways that mobilize and incentivize commercial investments leading to increased energy access and energy efficiency in development partner countries. Social and environmental considerations will have to be ensured, and the constructive dialogue that has been established between the civil society, private- and public actors must be continued.

Energy production and consumption is one of the largest sources of emissions of climate gases, counting for 60% of global greenhouse gas emissions. This illustrates the importance of continued focus on providing solutions for clean and renewable energy. For the global climate challenges to be resolved and the climate objectives to be reached, rich countries must reduce their emissions dramatically and the growth in demand from developing countries has to be met as far as possible with renewable energy and energy efficiency.

Acknowledging that access to energy is a necessity in the fight against poverty and a prerequisite for economic development, the Norwegian Clean Energy for Development Initiative was launched in 2007. In 2011, The Prime Minister of Norway and the United Nations Secretary-General initiated the International Energy and Climate Initiative - Energy+. These initiatives will support efforts to achieve universal access to sustainable energy and reduce greenhouse gas emissions in developing partner countries.

Norway contributed NOK 1.2 billion in 2012 through Norfund (the Norwegian Investment Fund for Developing Countries) to invest in businesses in developing countries. Norway also supported important international energy initiatives, such as



the “Energy Sector Management Assistance Programme” (ESMAP), a global technical assistance program aimed at promoting environmentally sustainable energy solutions.

In order to ensure reliable access to energy it is crucial to contribute to build up sound, efficient and well-functioning institutions that can supervise the energy sector. Support is therefore provided to government institutions, to power utilities, regional and multilateral bodies, the private sector, as well as the civil society. Principles of good governance – transparency, accountability and anti-corruption – are cross cutting and essential. Energy access can be especially important for women, freeing up time for economic activity. Paying attention to both women’s and men’s roles and needs can contribute to expanding energy access, and meeting energy sector cooperation objectives, by making energy projects more efficient and sustainable.

There is a great demand for Norwegian assistance related to clean energy. Decades of experience with renewable energy sources have provided us with unique expertise in the management of climate friendly resources. We are also viewed as a responsible and competent partner, strongly committed and visible in the global energy dialogue.

Through the Norwegian assistance to clean energy we continue to share our experience as a responsible steward of clean sources of energy. I am therefore pleased to see the results provided by the assistance to clean energy development which are highlighted on the following pages.

We have a broad sector and development perspective on our support to the energy sector and the role energy plays in providing opportunities for employment generation and better social

services. The ultimate goal of our efforts is to eradicate poverty, while making sure we leave off a better environment for our children. To reach the goal of sustainable development, more renewable energy and energy access is required.

Heikki Eidsvoll Holmås  
Minister of International Development  
Oslo, June 2013

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# ENERGY FOR SUSTAINABLE DEVELOPMENT

## ENERGY FOR SUSTAINABLE DEVELOPMENT

Poverty reduction and a more fair distribution of resources form the overall guiding principles and goals of Norwegian development cooperation today. Access to modern energy sources is crucial to secure social and economic development, and fight poverty. Hence, support to energy has been high on the Norwegian development agenda in recent years.

In 2012 the International Energy Agency estimated that 1.3 billion people, primarily in Sub-Saharan Africa, do not have access to modern energy sources. Securing energy access for all should be made in an environmental - and climate friendly manner. Both these challenges form the nexus of Norwegian efforts within the energy field.

The United Nations made 2012 the year of Sustainable Energy for All. Norway showed its commitment by providing NOK 2 billion to various programmes. In order to ensure reliable access to energy it is crucial to contribute to sound, efficient and well-functioning institutions that can supervise the energy sector. Support is therefore provided to government institutions, to power utilities, regional and multilateral bodies, the private sector, the civil society, as well as to various global initiatives and processes etc.

The importance of clean energy in Norwegian development cooperation has resulted in the launching of two initiatives forming the overarching structure of our clean energy support; the *“Clean Energy for Development Initiative”* and the *“International Energy and Climate Initiative – Energy+”*. Energy + will be introduced later in the report, while a brief introduction of the Clean Energy for Development Initiative is presented hereunder.

## CLEAN ENERGY FOR DEVELOPMENT INITIATIVE

The Norwegian Clean Energy for Development Initiative was launched in 2007. The aim was to *“increase access to clean energy at an affordable price based on the long-term management of natural resources and efficient energy use. It is also intended to contribute to sustainable economic and social development in selected partner countries and international efforts to reduce greenhouse gas emission.”*

Increased focus on energy issues and its importance in the climate agenda, coupled with a significant increase of funds allocated to energy related activities within Norwegian development aid, required better coordination of Norwegian efforts. The Clean Energy for Development Initiative brought this about<sup>1</sup>.

The Clean Energy for Development Initiative encompasses various programmes and projects of different sizes focusing on clean energy. The Initiative is organized under the auspices of the Ministry of Foreign Affairs (MFA), while most of the programmes are administered by the embassies in the countries where Norway engages, by the MFA directly, Norfund, Norad or other partners.

In order to ease the understanding of how the Norwegian assistance to clean energy is organized, brief introductions to the various parties are given in the text box on the following pages, as to who are the actors, and how responsibilities are divided among them.

1 [www.norad.no/no/tema/energi/ren-energi](http://www.norad.no/no/tema/energi/ren-energi)

## MINISTRY OF FOREIGN AFFAIRS

The MFA has the overall responsibility for all Norwegian development aid, including the overall responsibility for the Norwegian assistance to the Clean Energy for Development Initiative. Some of the efforts within clean energy are directly funded through the Ministry, as for example the overall support to Norfund, the International Energy and Climate Initiative – Energy+ (Energy+), the different multilateral organizations and more. The Energy+ initiative will be presented later in the report.

Furthermore the Ministry allocates funds through the bilateral development aid budget to the various Embassies with development aid portfolios.

Refer to [www.mfa.no](http://www.mfa.no) for more information on the Ministry.

## THE NORWEGIAN EMBASSIES

In line with the above, the Norwegian Embassies with development aid portfolios are given the responsibility to allocate funds to various sectors and programmes. Allocations are guided by the overall policy for the Norwegian development aid and the guidelines in the annual appropriation by the Parliament (St.Prop. 1).

Embassies are in close dialogue with the Ministry of Foreign Affairs and Norad (providing technical advice). Based on a systematic assessment process of the proposals received, the Embassies enter into support agreements for various projects. The Embassies have therefore an important role in defining which areas to support, and through which partners.

The Policy Platform for the Clean Energy for Development Initiative identifies seven main cooperation countries<sup>2</sup>. The Embassies in these countries have thus a particularly important role in following up and promoting activities within clean energy.

Norway has more than 100 diplomatic and consular missions located all over the world, and all of these have their own websites.

For more information see: [www.norway.info](http://www.norway.info)

## NORAD

Within Norad different departments are directly involved in the Clean Energy for Development Initiative;

- **The Department for Climate, Energy and Environment** hosts the Section for Renewable Energy, functioning as the Secretariat for the Clean Energy for Development Initiative. This section has a technical advisory responsibility towards the MFA and the Embassies, and only a limited budgetary responsibility within the Initiative. The Department also provide support to CDM<sup>3</sup> project development and more.
- **The Department for Economic Development, Gender and Governance** contains the Section for Private Sector Development whose aim is to stimulate private sector development in developing countries, and provide financial assistance and guidance to private companies. Usually this is given in the form of support to pre/feasibility studies, capacity building, and pilot projects. In the same department the Section for Rights and Gender Equality provides important input on cross cutting issues, and

<sup>2</sup> East Timor, Ethiopia, Liberia, Mozambique, Nepal, Tanzania and Uganda  
<sup>3</sup> Clean Development Mechanism



particularly on how to integrate gender perspectives in the overall clean energy portfolio both directly to embassies, the MFA, and other sections and departments in Norad.

- **The Civil Society Department** administers all the Norwegian support channelled through Norwegian and International Non-Governmental Organisations (NGOs).
- **The Department for Global Health, Education and Research** is responsible for programmes focusing on research and higher education sometimes with clean energy as an integrated theme.

Other departments in Norad are indirectly involved in the Norwegian Assistance to clean energy by providing quality assurance, undertaking evaluations, and other technical advice.

For more information see: [www.norad.no](http://www.norad.no)

## NORFUND

Norfund is the commercial investment instrument in Norwegian development assistance (Development Finance Institution).

Read more about Norfund under key partners later in the report, and/or see: [www.norfund.no](http://www.norfund.no)

## INSTITUTIONAL COOPERATION

In order to reach the goals set forth in the Clean Energy for Development Initiative, funds are often used to assist in developing a well-functioning framework of institutions, policies, rules and regulations in the energy sector. Capacity building and institutional strengthening is therefore of great significance for the overall Norwegian energy efforts. Assistance and expertise from key partners can be crucial to support the capacity building and institutional strengthening activities. Some of the key partners within the Clean Energy for Development Initiative will be introduced briefly later in the report.

## ENGAGING THE PRIVATE SECTOR

Despite the robust economic growth seen over the past decade in many emerging markets, investments in electricity generation capacity has often failed to meet the growth in demand. As a result, many countries have to rely on emergency solutions, often through installing large volumes of diesel or heavy fuel oil generators.

To overcome the major challenges of ensuring global access to electricity services it is necessary to accelerate investment in long-term solutions, by for example making use of the renewable energy resources available in each country. Norway aims at leveraging funds for the reduction of energy poverty. Public and donor funds are not able to finance the significant amounts needed to boost the energy sector development alone. Norwegian assistance to clean energy thus uses public sources to mobilise and incentivise commercial investments that lead to increased energy access and energy efficiency.

The Clean Energy for Development Initiative is accommodating the private sector in various ways. The main tools for direct support to the private



sector are the funding mechanisms of Norfund. Other tools for support are provided by GIEK and Norad's *Section for Private Sector Development*. Public-private partnerships are essential, thus support is given to infrastructure projects (e.g. transmission lines), capacity building, regulatory reforms and research projects to facilitate for private investments and improve the investment climate. These are only some examples of the tools and assistance used to engage the private sector.

### CROSS-CUTTING ISSUES

Norway has valuable expertise on how to manage its energy resources in a sustainable way. Energy projects need to balance commercial interests with social and environmental safeguards. The projects may create new dynamics and affect the local population on areas such as land acquisition, resettlement and land use. Development of energy projects might also lead to destruction of natural habitats and cultural property, which might affect indigenous people particularly. Further, it is acknowledged that corruption and misuse of resources are risk factors when initiating new cash flows.

How the country's natural resources are developed and managed is crucial for the wellbeing of the entire population - men, women, and children - whether they benefit from increased energy access or economic development directly, or live in communities indirectly growing due to natural resource development. To reach the goals of social and economic development, poverty reduction, energy access and equitable distribution of benefits, gender issues must be an integral part of energy program planning and implementation frameworks.

The Clean Energy for Development Initiative aims to integrate the various cross-cutting issues in all its programmes and activities at different levels and at different stages. Cross-cutting objectives will be promoted by means of training, guidance, and by developing effective and practical tools for ensuring mainstreaming.



# KEY ACHIEVEMENTS IN 2012

## UGANDA – INSTITUTIONAL COOPERATION

In Uganda, the twinning cooperation between Statnett and their «sister company» in Uganda, Uganda Electricity Transmission Company Limited (UETCL), reached the end of the project's phase II. The goal of the collaboration is to assist UETCL to build up their internal expertise.

An end review of the program was conducted in 2012, and most stakeholders communicated that UETCL is now visibly a more efficient company. The Chairman of UETCL expressed to the Review Team that in his opinion the twinning arrangement is the “best cooperation in the country and the board is fully behind the cooperation”. In general, the Review Team found that there have been improvements in many UETCL business processes – from planning to implementation. Some key results found are:

- The financial group has learnt to perform better economic analysis of projects
- A Grid Development Plan has been developed, and a power system operation and planning model has been implemented
- Improved Regional Cooperation between UETCL and their counterparts in Kenya and Tanzania

In addition to this, results have been made related to cross- and intra-departmental business process mapping, knowledge management, ICT<sup>4</sup> and communication strategy development. The cooperation was initiated in 2006, has been extended into a phase III, and is to last until 2016.



Foto: Kristin Wæringasaasen, Norad

4 Information Communication Technologies

## ETHIOPIA – STRATEGIC CLIMATE INSTITUTIONS PROGRAMME (SCIP)

The Strategic Climate Institutions Programme (SCIP) is a World Bank initiative presented in May 2012 consisting of two parts;

1) The **SCIP Fund** was set up to finance strategic interventions for capacity building within climate issues. Examples of activities in 2012 are:

- Climate Change Negotiators Support
- Piloting of a new climate planning approach – mechanisms to Motivate, Support and Reward reductions (mMSRr)
- Standardizing the Grid Emissions Factor (GEF) for renewable energy grid connected CDM projects in Ethiopia

2) The **Climate Innovation Centre (CIC)** is a business hub for climate technology entrepreneurs. Its mission is to «provide an integrated set of services, activities and programmes that empowers entrepreneurs to deliver innovative climate technology solutions».

Norway supported the programme with a total of NOK 20 million in 2012.



Foto: Asbjørn Halvorsen, Norplan

## NORAD'S MASTER PROGRAMME FOR ENERGY AND PETROLEUM (ENPE)

Norad's Master Programme for Energy and Petroleum (EnPe) aims to contribute to the education of staff in the energy and petroleum sectors in Norway's selected partner countries. In 2012, Norad supported several Master programmes on renewable energy in higher education institutions (HEI) in the South:

- Continuation of the NOMA programme on renewable energy systems in Uganda, and hydropower development in Nepal
- Programme on energy technologies in Ethiopia
- Programme on planning and operation of energy systems in Nepal
- Programme on sustainable energy focusing on CO2 capture and storage, and challenges related to the energy sector in South Africa



Foto: Asbjørn Halvorsen, Norplan

## LAO PDR – POWERING THE COUNTRYSIDE

Through active donor cooperation Norway has contributed to the electrification of 200,000 households in Lao PDR. The World Bank-initiated programs have combined investments and capacity building, and as a result 35,000 households are connected through off-grid systems like solar home systems or mini-hydro power plants. There are an increasing number of businesses in newly-electrified villages, and the use of electricity has improved living standards and allowed for other productive activities.



Foto: Ken Opprann

## SOUTHERN SUDAN – CAPACITY BUILDING

With Norad support, the Norwegian Water Resources and Energy Directorate (NVE) assists the Ministry of Electricity and Dams (MED) with capacity building. This includes activities related to the development of a legal framework, licensing processes and grid development, as well as implementing activities that are critical for MED's ability to handle the Fula Rapids hydro power project that is under development. It is too early to expect any concrete outcomes; however, the drafting of an Electricity Bill deserves to be mentioned.



Foto: Asbjørn Halvorsen / Norplan

## THE NORWEGIAN CHURCH AID

The Norwegian Church Aid (NCA) is one of the NGOs receiving support from Norad. In Brazil, 140 households benefit from an NCA project where biogas facilities have been installed. Moreover, the project has generated a large interest for the technology and has won several awards for "Best Practice of Local Management". The Caixa Econômica Federal has replicated the project in another six states, presently covering hundreds of families.

Brazil has in 2012 come a long way on the process to install renewable energy solutions for indigenous peoples in the Amazon region. The process has included mobilization and a consultation process with the indigenous groups through joint planning of a project, definition of a technical partner, local capacity building for mapping of energy demand and the acquisition and installation of equipment for measuring sun and wind potential.



Foto: Espen Rost

## NEPAL – RURAL ENERGY

Norad and the Embassy participated in a joint donor appraisal mission of the National Rural Renewable Energy programme (NRREP) in April 2012.

NRREP is a new, five-year programme that builds on the Energy Sector Assistance Programme (ESAP) which has been supported by Norway since 2003. ESAP achieved very positive results, contributing towards ensuring that 10-12 % of Nepal's population now has access to clean energy from off-grid renewable energy technologies in remote, mountainous areas. The new programme is strengthened by stronger national ownership and management, and is supported by multiple donors through a Joint Financing Agreement (JFA), providing an excellent example of donor coordination and support to a country-led programme. NRREP supports the goals of the UN Secretary General's Sustainable Energy 4 All initiative; an initiative that aims to ensure that all partners are coordinated and work towards achieving the goals of universal energy access, and increased energy efficiency and renewable energy.



Foto: Asbjørn Halvorsen / Norplan

## EAST TIMOR – ASSESSING THE FUTURE OF A PROGRAMME

Norway has supported a programme on institutional cooperation in East Timor since 2002. The current agreement was signed in 2009 amounting to NOK 50 million over a five year period (until 2014). The programme has three components; 1. Water Resource Management, 2. Hydropower Management and 3. Institutional Strengthening. In accordance with the agreement a mid-term review was carried out in 2011/12. The conclusions of the review report triggered a dialogue between the partners to assess the future of the programme. Although the



Foto: Arnt Bugten / Norplan

programme could show good results and achievements within the three defined components, the review report questioned the rationale for continued cooperation.

Under the first component a water resource law has been drafted, and subjected to wide consultation, however the legal status of the law is not clear. A hydrological network has been established with a hydrological database utilized by several agencies. The second component resulted in the drafting of a Hydropower Master Plan, and the finalization of two feasibility studies for hydropower sites. The component also included support to Gariuai Hydro Power Station (Gariuai HPS) which has experienced severe challenges. Insufficient geological surveys prior to construction, and recurring landslides have damaged the equipment, and Gariuai HPS has therefore in long periods not been operational. Additional funds have been put into repairing and adjusting the power station in 2012. Still, long term sustainability is yet to be secured. The third component has through scholarships and various trainings sought to raise the capacity of the National Directorate of Control and Quality of Water and the National Directorate of Environment in East Timor.

Due to the lack of political priority on renewable energy in East Timor, the Embassy initiated a dialogue with the partners within the programme on how to phase out the programme in 2013. The political focus within the energy sector has shifted since the programme was initiated, and in recent strategic development plans for East Timor renewable energy is barely addressed. The parties decided to close the cooperation one year ahead of time, and one of the main arguments for this decision was the belief that one will not see the results as defined in the agreement, when the areas covered in the programme are not prioritized by the governing policies in East Timor.



## INTERNATIONAL CENTRE FOR HYDROPOWER

In 2012 the International Centre for Hydropower (ICH) organized 15 courses through the Norwegian support. Courses touch upon various themes and were held in different countries and regions throughout the year. Below are two examples of important achievements from 2012:

### GUATEMALA – PREVENTION AND ADMINISTRATION OF SOCIAL AND ENVIRONMENTAL CONFLICTS IN HYDROPOWER DEVELOPMENT IN LATIN AMERICA

ICH held 2 workshops on social and environmental conflicts related to hydropower development. Rural community leaders, representatives from the indigenous people, the private and the public generating sector, and governmental agencies were brought together. The workshop included presentations about climate change, environmental and social commitment, and the importance of public participation and consensus regarding infrastructure projects. Bringing these participants around the same table to initiate and facilitate a dialogue is a significant and important accomplishment.



Foto: Ken Opprann

### NEPAL – COURSE IN NEGOTIATION TECHNIQUES

In Nepal ICH arranged a course in negotiation techniques for the Department of Electricity Development. The first part of the course addressed the legal requirements of reaching a concession agreement (or Project Development Agreement). The second part consisted of realistic negotiation training through a role-play exercise with one team representing the government and the other representing the private developer. The private team in the exercise was headed by the CFO<sup>5</sup> of Nepal Investment Board, who immediately following this training is heading the government team in real negotiations with private developers in Nepal.



Foto: Tom Solberg, ICH

5 Chief Financial Officer



## TANZANIA-KENYA – PLANNING OF A 330 KV TRANSMISSION LINE

The planned interconnection between Kenya (Nairobi) and Tanzania (Arusha) is a prioritized regional transmission line, and the Norwegian Embassy in Dar es Salaam has supported a revision and an upgrade of its feasibility study. The study documented that the interconnector would be a sound investment, and the environmental and social impacts were considered small. As a result, Tanzania is now working on a power purchase agreement, and agencies such as the World Bank, AfDB<sup>6</sup>, AFD<sup>7</sup> and JICA<sup>8</sup> have signalled willingness to support the line construction.



## INDIA – SUPPORT TO THE ENERGY AND RESOURCES INSTITUTE (TERI)

The Norwegian Embassy in Dehli supports a research program at The Energy and Resource Institute (TERI) in India with MNOK 60 over a five year period.

Research activities are structured as eleven separate projects under the three thematic areas: (1) Clean energy, (2) Climate change and (3) Energy security and climate change. In addition to the research activities, the Norwegian grant is funding the Special Library on Climate Change (SLCC) and the annual Delhi Sustainable Development Summit (DSDS). DSDS is an important international platform for dialogue on sustainable development.

A mid-term review concluded that most of the research projects are progressing well, and the program has been highly relevant for TERI, which has strengthened its research capacity under the framework agreement.



6 African Development Bank  
7 Agence Française de Développement  
8 Japan International Cooperation Agency

## RURAL INDIA – PAY-AS-YOU-GO MODEL EXPANDS SOLAR ENERGY ACCESS

In 2012, Norway supported the Asian Development Bank (ADB) with a total of NOK 52 million. One of the programmes that benefitted from the Norwegian support to the ADB is Pay-as-you-go solar energy solutions. This off-grid based model offers a simple, prepaid payment platform to enable affordable clean energy solutions for underserved consumers in India. Greater access to electricity in rural India enables children to study beyond sunset, replacing smoky fuels such as kerosene with clean solar energy improving respiratory health of household members, and improving overall productivity of rural households.

The model allows customers to make a small initial down payment for a high quality solar home system and then pre-pay for their energy service, topping up their payments through small user-defined increments using a mobile phone. Each payment also adds towards their final purchase price. Once fully paid, the system unlocks permanently and continues to produce electricity. The technology is also offered to solar micro-grid developers as an extremely flexible prepaid metering, customer, and revenue management solution.



## GLOBAL ALLIANCE FOR CLEAN COOKSTOVES

Since its launch by U.S. Secretary of State Hillary Clinton in 2010, the Global Alliance for Clean Cookstoves has raised global awareness around household energy pollution. The Alliance developed a sector strategy and strategic business plan to address deaths from indoor air pollution. It mobilized hundreds of bilateral, non-profit, academic, UN, corporate, and foundation partners in pursuit of an ambitious clean cooking agenda. Furthermore, it conducted comprehensive clean cook stoves- and fuels market assessments in sixteen countries, and raised millions to support initiatives under the Alliance's key value propositions.

Norway supported the Global Alliance for Clean Cookstoves with USD 500 000 as an unrestricted grant in 2011-2012. The grant provided critical operational resources during the initiative's early post-launch phase. Norway's unrestricted funding was used primarily to accomplish several specific tasks including support for market assessments of clean cook stoves and fuels, stakeholder outreach and program design in priority countries. In addition it led to the development of the Igniting Change report and the associated strategic business plan, the completion of key communication tools to convey the urgency of the issue. Finally the funding gave support for the Alliance's grant process for child survival research.

Norway sees the importance of the Global Alliance for Clean Cookstoves and is satisfied with their result during their early phase. Norway has decided to continue the support to the alliance in 2013.



Foto: Ragnhild Vognild, Norad

## THE ENERGY SECTOR MANAGEMENT ASSISTANCE PROGRAM (ESMAP)

The “Energy Sector Management Assistance Programme” (ESMAP) is a global technical assistance program aimed at promoting environmentally sustainable energy solutions for poverty reduction and economic growth. The Sustainable Energy Department of the World Bank Group manages ESMAP funding from the World Bank and twelve bilateral donors.

In 2012, Norway contributed a total of NOK 20 million to ESMAP to support the actions named in the ESMAP Strategic Business Plan for 2008-13. A new activity in the Business Plan is to map potential renewable energy resources in selected developing countries as a basis for policy planning and decision making on renewable energy development.

In 2012, Norwegian funding to ESMAP assisted with the completion of the Low Carbon Growth Country Studies series, which have supported seven of the world’s largest emerging economies as they develop strategies to reduce GHG<sup>9</sup> emissions while meeting national growth objectives. Another key achievement reached in 2012 through ESMAP was continued support to Lighting Africa. This programme has expanded to reach 4 million people in Sub-Saharan Africa with improved, clean, quality-certified off-grid lighting systems.



Foto: Ken Opprann

9 Greenhouse Gas



Foto: Asbjørn Halvorsen, Norge

# FINANCIAL OVERVIEW

There has been a steady increase in funds allocated to clean energy activities during recent years, both within multilateral and bilateral development assistance. Total development assistance to clean energy in 2012 was approximately NOK 1 billion. In addition, Norfund invested NOK 1.2 billion into various renewable energy projects in 2012.

Figure 1 – Assistance to clean energy in NOK million over the period 2007-2012

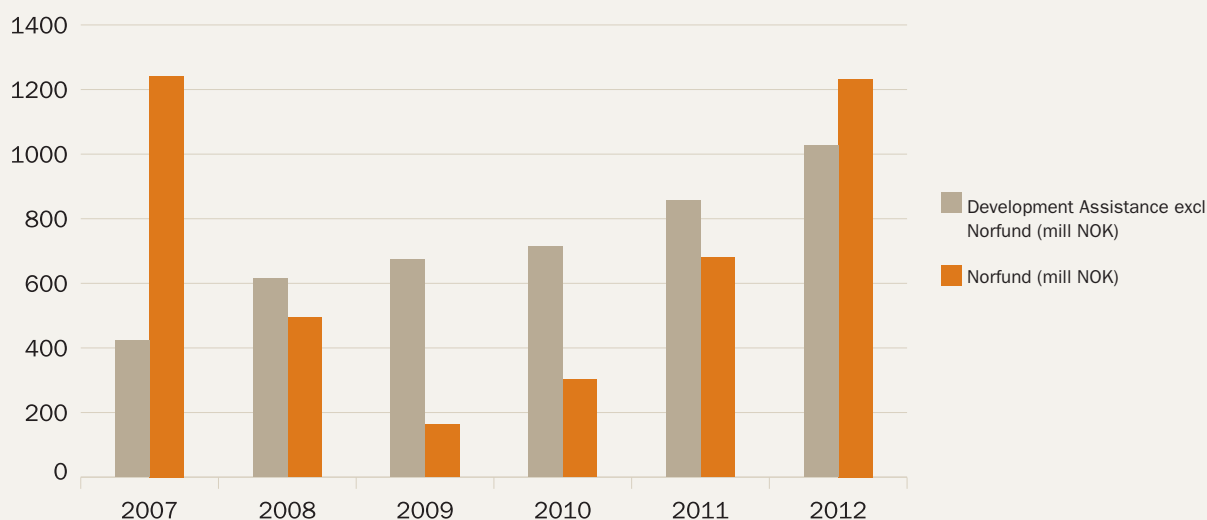


Figure 1 illustrates assistance to clean energy over the period 2007 to 2012. The increased allocation to clean energy over the years is clearly visible, as is also the importance of funds invested by Norfund within the Clean Energy for Development Initiative<sup>10</sup>. During the six year period from 2007 until 2012, a total of approximately NOK 8.4 billion was allocated to development cooperation on clean energy.

<sup>10</sup> The table reflects Norfund's disbursements to clean energy projects in 2012, in accordance with what is reported to OECD DAC.

Figure 2 – Bilateral vs. multilateral assistance to clean energy in mill. NOK over the period 2007-2012 (excluding investments through Norfund)

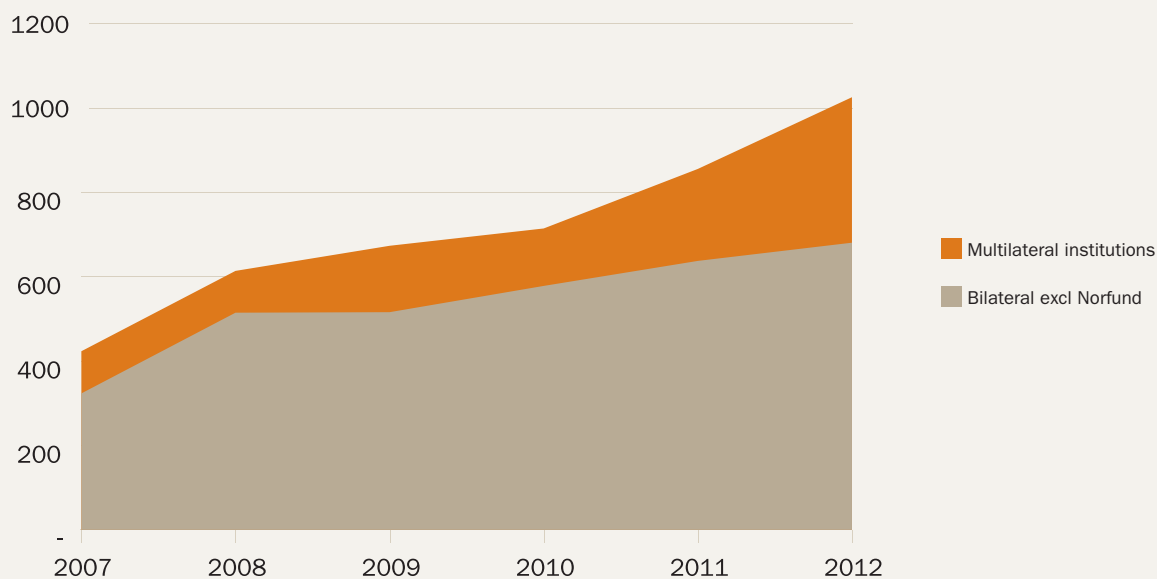


Figure 2 illustrates funds allocated through bilateral and multilateral channels. Norway provides significant funds to clean energy through various multilateral channels, and in 2012 this amounted to approximately NOK 345 million. However, overall Norwegian support through multilateral channels is often given as core support, not earmarked for a specific sector. Further, Norwegian funds might be reported as environmental support, although a significant share might be channelled to energy related activities (energy being a sub category). This implies that the figures presented in this report likely represent an underestimation of the total Norwegian development assistance to clean energy activities.

Figure 3 – Assistance to clean energy in 2012 by type of assistance (excluding investments through Norfund)

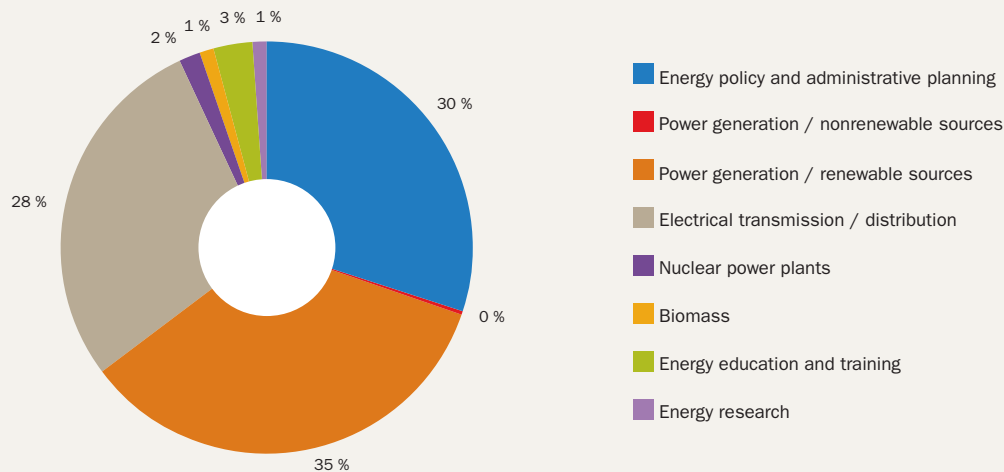


Figure 3 shows development assistance to clean energy by type of assistance<sup>11</sup>. The core of the Norwegian support is directed towards energy policy and administrative planning, power generation from renewable sources and electricity transmission and distribution. These are areas Norway holds special expertise and where it is believed that Norwegian support can contribute to make a difference. Support to energy policy and administrative planning is believed to be important for creating a framework in which the energy sector can prosper, and attract private investments.

11 The support reported under the category nuclear power plants is mainly for measures aimed at strengthening nuclear safety and nuclear security in developing countries through the International Atomic Energy Agency (IAEA).



Figure 4 – Assistance to clean energy by region in 2012

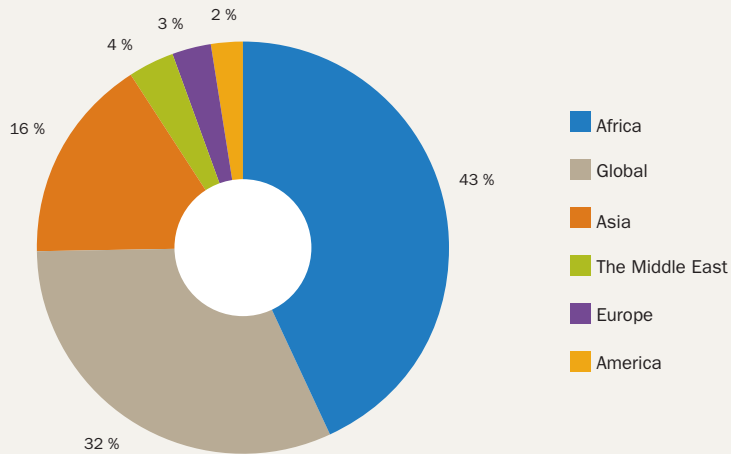


Figure 4 illustrates how the Norwegian assistance is distributed between regions<sup>12</sup> covered by the Clean Energy for Development Initiative. Remaining allocations are illustrated as 'global'.

<sup>12</sup> America includes support to programmes in Southern and Central America, mainly Brazil, Chile and Haiti.

Figure 5 – Assistance to clean energy in priority countries in 2012 in NOK million (excluding investments through Norfund)

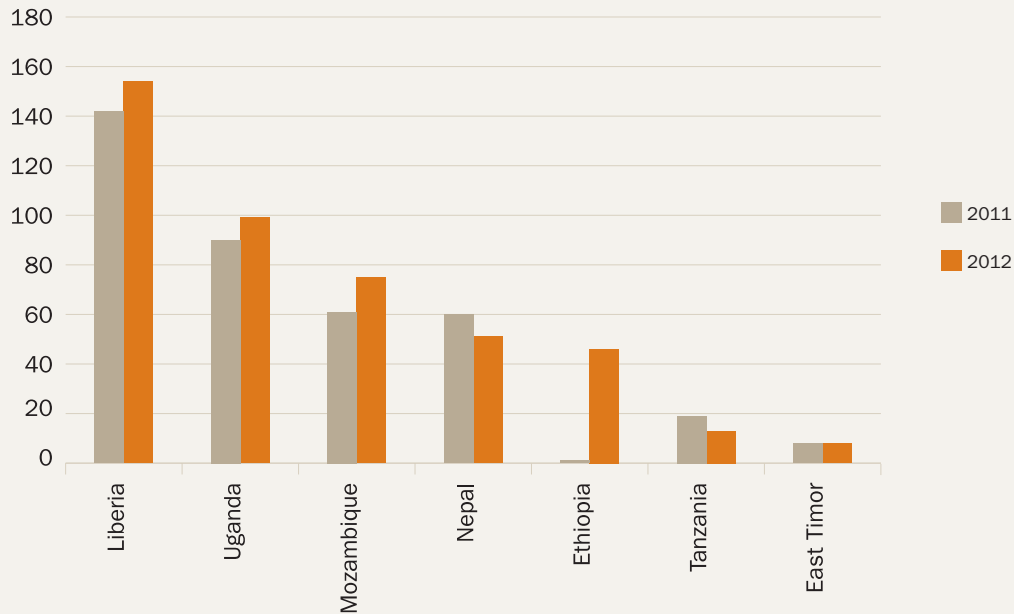


Figure 5 illustrates the division of funds allocated to the seven core countries in the Clean Energy for Development Initiative. Liberia was the country receiving the largest allocation of funds in 2012, as it was also in 2011. The amount allocated to the core countries each year is highly dependent on the progress of various projects, and can vary significantly from year to year. As an example, the Norwegian Embassy in Ethiopia disbursed NOK 46 million in 2012 versus NOK 1 million in 2011.

# ENERGY+ ACHIEVEMENTS AFTER ONE YEAR

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The International Energy and Climate Initiative – Energy+ was launched in October 2011 by the United Nations Secretary-General and the Norwegian Prime Minister. Energy+ supports efforts to achieve universal access to sustainable energy and reduce greenhouse gas emissions in selected developing Partner countries, by scaling up access to renewable energy sources and increasing energy efficiency. The Partnership is open to all and includes countries and institutions that agree with and aim to work towards the Energy+ Guiding Principles. Currently, 55 countries and institutions have joined. The Partnership and the key features of the Energy+ approach have been presented to numerous countries and organizations, including hundreds of private sector companies.

Energy+ aims to develop a sectorial approach that could inform the development of new market mechanisms under the UNFCCC<sup>13</sup>. To that aim an Energy+ Sectorial Working Group has been established. Here, results-based approaches can contribute towards making the energy sector in partner developing countries “Green Climate Fund-Ready” and will help inform the design of the Green Climate Fund.

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13 United Nations Framework Convention on Climate Change

## ENERGY+ KEY ACHIEVEMENTS FROM 2012:

- In Ethiopia, where only 17% of the population has access to electricity, Norway has entered into a five-year, NOK 500 million agreement to support efforts to increase access to sustainable energy in rural areas. The aim is to enable the installation of 9 million new improved cook stoves by 2015, which could result in an emission reduction of 14 MtCO<sub>2</sub>e<sup>14</sup>/year. UK and Norway also support the establishment of a Climate Innovation Centre (CIC).
- Kenya and Norway entered into a five-year, NOK 250 million MoU<sup>15</sup> to support increased access to sustainable energy and reduced greenhouse gas emissions by replacing kerosene lamps with solar lanterns, and supporting the production and distribution of improved cook stoves to develop more efficient and environmentally friendly cooking.
- Liberia and Norway entered into a five-year, NOK 100 million MoU to support the development and implementation of a National Energy and Climate Plan. The plan will be implemented in line with other projects in the energy sector that support increased deployment of renewable energy to develop electricity and more efficient production and use of energy. Diesel generators and heavy fuel oil will be replaced with renewable energy.
- In Bhutan, Norway has entered into a five-year, NOK 100 million agreement to increase access to energy services and reduce emissions of greenhouse gases from the energy sector. Energy efficiency improvements could, with the support of the Partnership, save 5-8 MW of electricity during peak demand, while renewable energy and energy efficiency could reduce emissions by 49%.

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14 Tonnes of CO<sub>2</sub> equivalent

15 Memorandum of Understanding



## PARTNERSHIPS

Norway has entered into several partnerships that include Energy+ relevant components with countries which are not yet Energy+ partners. To draw lessons and maintain the development of Energy+, the initiative also supports several “multilateral” partnerships besides those presented under key achievements in the report;

- Support from Norway and the UK to the Dutch/German-initiated “Energizing Development” (EnDev) program targeted at results-based activities
- NOK 23 million partnership with the Clinton Foundation on “Replacing Diesel Power with clean energy in Island Nations and Rural Regions”
- NOK 20 million partnership with the Asian Development Bank on “Project Development Facility”
- Partnership with the EIB/UNEP<sup>16</sup> joint initiative on developing “Renewable Energy Performance Platform

## ENERGY+ TECHNICAL WORKING GROUP - COUNTRY ENGAGEMENT STRATEGY

The Energy+ Technical Working Group (E+ TWG) comprises technical experts from a wide range of partner organizations. The group is managed by a small “Core Team”, in essence an out-posted part of the Energy+ Secretariat, hosted by the WWF<sup>17</sup>-US Policy Program in Washington. Among a series of other activities undertaken during 2012, the E+ TWG developed the Energy+ Country Partnership Strategy. It identifies many of the challenges that must be addressed to transform energy sectors in

which commercial enterprise must play the dominant role in the long-term, and discusses the principal instruments proposed for national-level implementation strategies. Those instruments include: the three-phase sectorial approach, results-based financing, and the national energy registry which includes a system for measurement, reporting and verification (MRV).

## CONSULTATIONS

Through the E+ TWG, the Energy+ Partnership convened to three roundtable consultations with leading private sector representatives in 2012; in Nairobi, Guangzhou and New Delhi. Energy+ also works actively with the “Energy Access Partnerships” initiative of the World Economic Forum (WEF). The concept has been presented at meetings and in various events targeting the private sector, e.g. Global Compact’s “Corporate Sustainability Forum”, UN Development Cooperation Forum and through the World Business Council for Sustainable Development (WBCSD). Energy+ also organises consultations with civil society, and strong support has been voiced from civil society to Energy+. A clear role for civil society within the Partnership has been requested.

## COOPERATION WITH OTHER INITIATIVES/ MECHANISMS

There are a number of other international initiatives/mechanisms relevant to Energy+:

- Sustainable Energy for All (SE4ALL): Energy+ shares the goals of the SE4ALL initiative and will be a key delivery instrument. Country level activities through Energy+ will be coordinated with SE4ALL. Energy+ has been presented to the SE4ALL High-Level Group and the E+ TWG convened a joint Energy+ and SE4All “thinking outside the box” meeting in New York in September 2012.

<sup>16</sup> United Nations Environment Programme  
<sup>17</sup> World Wildlife Fund

- European Union Energy Initiative (EUEI): A coordination of country level activities.
- Scaling-up Renewable Energy Program (SREP): Coordination of country level activities (Ethiopia, Kenya, Liberia, and Maldives) and targeted results-based support.
- Energy Sector Management Assistance Program (ESMAP): Development of indicators for access to energy and results-based approaches.
- Energy+ Partnership Secretariat

Norway supports the Energy+ Partnership through a Secretariat at the Ministry of Foreign Affairs providing overall guidance and coordination. Technical and analytical work is generally carried out through the E+ TWG core team.

More information on Energy+ can be found on the Energy+ website: [www.regjeringen.no/en/dep/ud/campaigns/energy\\_plus.html?id=672635](http://www.regjeringen.no/en/dep/ud/campaigns/energy_plus.html?id=672635)





# MULTILATERAL AND REGIONAL SUPPORT

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Within the Clean Energy for Development Initiative it is believed that channelling support through various multilateral and regional channels will lead to a value added in reaching the goals set for the Initiative.

Norwegian support to multilateral- and regional organizations includes both core- and energy sector specific support to programmes within clean energy. In 2012, around NOK 345 million of the Norwegian development assistance to clean energy was allocated to multilateral and regional organizations. In addition

some of the support provided through these channels is categorized as support to environment, even if the support also covers activities within energy.

This year's report will not go into detail on the funding to the various organizations/institutions receiving support (besides those highlighted in the report) However below are listed the various multilateral and regional organizations/institutions and partners receiving funds for clean energy projects from Norway in 2012:

- **United Nations**

- UN Capital Development Fund – UNCDF
- UN Development Programme – UNDP
- UN- Energy Charter
- UN Environment Programme – UNEP
- UN – HABITAT (Human Settlements Programme)
- UN Industrial Development Organization – UNIDO

- **United Nation Foundation – SE4All**

- **World Bank Group**

- International Development Association – IDA
- International Finance Corporation (IFC) Trust Fund
- Scaling Up Renewable Energy Programme in Low Income Countries – SREP (cooperation with the regional development banks )
- Energy Sector Management Assistance Programme – ESMAP
- Carbon Capture Storage – CCS

- **African Development Bank - AfDB**

- **Asian Development Bank – ADB**

- **The Inter-American Development Bank**

- **Multilateral organizations**

- Energizing Development - EnDev
- Global Energy Efficiency and Renewable Energy Fund – GEEREF
- Global Environment Facility – GEF
- Global Alliance for Clean Cookstoves
- Nordic Development Fund - NDF
- Organisation for Economic Co-operation and Development - OECD
- Renewable Energy and Energy Efficiency Partnership - REEEP

- **Regional organizations**

- Nile Basin Initiative -NBI
- Southern African Development Community - SADC
- Eastern African Power Pool - EAPP
- East African Community – EAC

To learn more on the various programmes under the above listed partners please see the Annual Report from 2011: [www.norad.no/no/resultater/publikasjoner/publikasjon?key=393797](http://www.norad.no/no/resultater/publikasjoner/publikasjon?key=393797)







# KEY NORWEGIAN PARTNERS

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In order to reach the goals set forth in the Clean Energy for Development Initiative, Norwegian funding support the development of well-functioning frameworks of institutions, policies, rules and regulations in the energy sector. Capacity building and institutional strengthening is therefore of great significance for the overall Norwegian energy efforts. In several of the countries where Norway

engages in the energy sector, assistance and expertise from Norwegian key partners is crucial to support the capacity building and institutional strengthening activities. Below are introduced some of the key partners under the Norwegian clean energy for development initiative:

## NORFUND

Norfund is the commercial investment instrument in Norwegian development aid, and has the following mandate: "to fight poverty and to create sustainable development by investing in profitable businesses in developing countries".

Norfund invests in Southern- and Eastern Africa, Central America, and Southeast Asia, mostly in LDCs<sup>18</sup>. Norfund provides equity, directly to companies or indirectly through funds, as well as other risk capital and loans to local companies in selected industries. Through the investments, Norfund contributes to the development of private sector, and creates employment, tax income and economic growth. Due to the importance of the energy sector, it has been chosen to be the major investment area for Norfund. Half of the new capital allocated to Norfund in 2012 was earmarked renewable energy.

At the end of 2012, Norfund had committed to invest in total NOK 4.1 billion in 10 different renewable energy companies. Most of the investments are in hydro power, in addition to some solar and wind projects. The largest single investment is in SN Power, a company which has 39 power plants in 9 lower and middle income

countries. To increase investment activity in Sub-Saharan Africa and Central America, the company Agua Imara was founded in 2009. In 2012, Norfund committed to new investments of NOK 532 million, including an equity position in the first large scale solar plant in Norfund's portfolio: A 75 MW solar power plant in South Africa (Scatec Solar's Kalkbult project).

In addition to capitalising on the competencies of Norwegian partners such as Statkraft, TrønderEnergi, and BKK<sup>19</sup>, Norfund cooperates with other international investors within renewable energy. In 2010 Norfund took a central role in the establishment of the Interact Climate Change Facility (ICCF) together with European sister-funds, to increase capital availability to renewable energy projects.

In 2012, Norfund established a co-financing facility with KLP where the two institutions will co-invest in renewable energy- and financial institutions in Norfund's regions of interest. The intention is to invest one billion NOK together. The facility is operational from 1.1.2013.

For more information on Norfund see:

**[www.norfund.no](http://www.norfund.no)**

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19 Bergenhalvøens kommunale kraftselskap

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18 Least Developed Countries



## THE NORWEGIAN TRANSMISSION SYSTEM OPERATOR (STATNETT SF)

Statnett is responsible for coordinating electricity generation and consumption, offering access to the power transmission grid on equal terms to all market participants, and developing and maintaining the Norwegian main transmission grid.

Due to Statnett's expertise from long-term, hands-on experience as a Transmission System Operator they offer advisory and consultancy services related to all important aspects of running a modern utility and grid operator. For Statnett this includes among others long-term planning of the Norwegian high-voltage grid, operating and maintaining the Norwegian and Nordic system, and developing the main grid in the country.

Statnett has expertise in technical, organizational and market-oriented solutions as well as all training aspects necessary for both domestic and regional grid development and system operation. Due to Statnett's extensive knowledge and expertise in this field, they are sought-after partners for institutional cooperation. In 2012, Statnett participated in the Clean Energy for Development Initiative and Energy + through their activities in Tanzania, Uganda, and Kenya.

For more information on Statnett see:  
**[www.statnett.no](http://www.statnett.no)**



Foto: Ørnulf Strøm, Norad

## THE NORWEGIAN WATER RESOURCES AND ENERGY DIRECTORATE (NVE)

The Norwegian Water Resources and Energy Directorate (NVE) is responsible for ensuring an integrated and environmentally sound management of Norway's water and energy resources. In addition to its domestic responsibilities, NVE has more than 30 years of experience in cooperating with government agencies and institutions in developing countries, both through the United Nations but also directly as part of Norway's bilateral development cooperation within the field of clean energy.

Due to NVE's extensive knowledge and expertise in the field of water and energy resources, they are sought-after partners for institutional cooperation. NVE's work within the Clean Energy for Development Initiative in 2012 involved activities in Angola, Bhutan, East Timor, Ethiopia, Ghana, Liberia, Nepal, Tanzania, The Philippines, the Republic of South Sudan and Zimbabwe.

For more information on NVE see:

**[www.nve.no](http://www.nve.no)**



Foto: Asbjørn Hålvorsen, Norplan

## INTERNATIONAL CENTRE FOR HYDROPOWER (ICH)

The International Centre for Hydropower (ICH) is a non-profit organisation based on institutional membership among international companies and organisations that are active in all aspects of hydropower generation and supply. The purpose of ICH is to raise the standards of competence of industry personnel and promote a sustainable development.

ICH offers training in order to contribute to sustainable development of hydropower resources. The courses are built around the overarching concepts of planning, construction and operation of hydropower facilities part of a mixed energy system and as multipurpose projects. The courses deal with questions related to current international trends in the restructuring of the power sector focusing on economic and financial questions, climate change, environmental and social issues. Norad has since 1997 supported ICH courses on hydropower development and management, but also on issues related to environmental and social aspects, economics and financing, legal frameworks, dam safety and other areas, as well as conferences and workshops. In 2011, Norad entered into a 5 year cooperation agreement with ICH providing support for its courses. ICH is considered to play an important role in Norway's Clean Energy for Development Initiative.

In 2012, the ICH organized events in Africa, Latin America and South Asia, as well as in Norway. ICH is based in Norway, but an increasing proportion of its activities are taking place in developing countries through cooperation with local actors. ICH runs core courses (normally one or three weeks) and tailored courses for a specific region (normally one to two weeks). In 2012 total support to ICH amounted to NOK 7.6 million.

For more information on ICH see: **[www.ich.no](http://www.ich.no)**

## NON-GOVERNMENTAL ORGANIZATIONS

Norad supports both national and international organisations and networks working with civil society in developing countries. In 2012 Norad disbursed more than NOK 2 billion through 12 different budget lines to various NGOs. Over 100 Norwegian organisations were supported. Close to NOK 20 million of the support to civil society in 2012 was channelled to clean energy activities. This is a conservative estimate as there are funds to clean energy activities channelled through NGOs that are reported as support for other purposes, such as environment.

The projects that received support were related to energy policy and planning, policy change, energy education and training, securing access to renewable energy through service delivery, advocacy work and capacity building. The recipients of support in 2012 were: Naturvernforbundet (Norwegian Society for Conservation of Nature), World Wildlife Fund (WWF), ARC-Aid, Digni (former Norwegian Mission in Development), Norwegian Church Aid (NCA), and The Royal Norwegian Society for Development.

For more information on the Norad support to Non-Governmental Organizations see:

**[www.norad.no](http://www.norad.no)**

## OTHER PARTNERS OF THE INITIATIVE

### **GUARANTEE INSTITUTE FOR EXPORT CREDITS (GIEK)**

The Norwegian Guarantee Institute for Export Credits (GIEK) is the central governmental agency responsible for providing guarantees and insurance for export credits. GIEK's goals are to promote Norwegian export and investments abroad by offering guarantees that cover commercial and political risk. GIEK also offers credit insurance through its wholly owned subsidiary, GIEK Credit Insurance.

GIEK has four different active guarantees schemes

- General guarantee scheme with a portfolio ceiling of NOK 120 billion.
- Building loan guarantee scheme with a ceiling of NOK 5 billion.
- Guarantee scheme for developing countries (LDC scheme) with a ceiling of NOK 3.15 billion.
- Power purchase scheme with a ceiling of NOK 20 billion.

Renewable Energy is a focus area for GIEK, and the projects in which GIEK has been involved have mainly been within hydropower and most of them have been financed through the general guarantee scheme.

For more information on GIEK see:

**[www.giek.no](http://www.giek.no)**.

### **EXPORT CREDIT**

Export Credit Norway offers competitive financing to companies buying Norwegian capital goods and services. It is a state-owned limited liability company and became operational in July 2012. Export Credit is fully funded by the Norwegian government and renewable energy is a priority sector. Renewable technologies that have been financed so far are: Solar PV, hydro and offshore wind projects.

Export Credit offers:

- A stable and long-term source of financing
- Funding from the Norwegian government
- Competitive interest rates

The repayment period for renewable energy projects are up to 18 years, with financing for up to 85 % of the Norwegian contract value. The Norwegian content must account for at least 30 % of the contract amount. All loans provided from Export Credit Norway needs to be secured by guarantees from the Norwegian Guarantee Institute for Export Credits (GIEK) and/or other acceptable banks. GIEK is a vital partner for Export Credit Norway helping to secure political and commercial risks on loans. Export Credit Norway co-operates with a wide range of both Norwegian and international banks.

For more information on Export Credit see:

**[www.eksportkreditt.no](http://www.eksportkreditt.no)**

### **INTPOW – NORWEGIAN RENEWABLE ENERGY PARTNERS**

Intpow is a non-profit networking organization established in cooperation between the Norwegian Authorities and the renewable energy industry. It was founded to promote cooperation between Norwegian and foreign actors in the renewable energy industry.

Intpow's partners are Norwegian authorities, companies and other industry participants with an international expansion strategy. One major task for Intpow is to facilitate meetings and bring partners to the table with international clients and create potential alliances.

For more information on Intpow see:

**[www.intpow.no](http://www.intpow.no)**





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