



Photo © Jiri Pasz

Climate Smart Energy Solutions

Supporting climate-resilient development
by improving sustainable access to clean
energy products and services



Alliance 2015

towards the eradication of poverty



Photo © Mr. Choith Tit

WHAT ARE WE TRYING TO ADDRESS?

Across the world, more than 1.3 billion people still lack access to electricity. At least 2.7 billion lack access to modern fuels for cooking and heating, relying instead on traditional biomass sources such as firewood, which have harmful impacts on health. Poorer households often have the least access to energy sources and are particularly vulnerable to energy poverty and its negative social, environmental and economic impacts. Enabling access to reliable and clean energy sources is a critical precondition to other social and economic changes. For example, increases in per capita energy consumption are closely correlated with increases in per capita GDP, gender equality and educational outcomes. Energy access needs to be at the forefront of efforts to achieve sustainable economic development and climate resilience.

PIN has more than a decade of experience enabling access to sustainable energy markets. We support access to clean, reliable, and affordable energy services across a range of different contexts, and see this as one of the key measures in achieving climate resilient development. Context-specific strategies are utilized which engage both public and private actors,, take advantage of emerging technologies and innovations, and promote new business models which are inclusive of the poor. PIN's energy programming is aimed at supporting both mitigation of and adaptation to the effects of climate change.

EXAMPLES OF PIN'S EXPERIENCE

Mongolia – Addressing air pollution through energy efficiency

In Mongolia, poorer urban residents cannot afford imported insulation materials or modern energy-powered heating, and resort to using inefficient and polluting coal fired stoves. PIN's 'Sheep Wool Building Materials' project developed sustainable supply chains for locally sourced, environmentally-friendly sheep wool insulation. This was done through targeted support to pastoralist producers and SMEs, establishing national product standards, and supporting value chain actors to improve demand for their products. The project contributed to sheep wool insulation covering 52,500 square metres of home space. The Switch Off Air Pollution (SOAP), implemented in partnership with GERES, aims to reduce coal consumption from Ulaanbaatar's Ger area through coordinated action in the field of energy efficiency in housing construction. The project is improving awareness, providing advisory and financial services to households, and strengthening commercial supply chains.



© Régis Defurnaux



Cambodia – Sustainable access to energy products and services for households and businesses

6.9 million Cambodians are without grid access, and people in rural areas tend to pay up to four times more for electricity. To address these problems in a sustainable way, PIN has been strengthening the functioning of rural energy markets. The 'Developing Sustainable, Market-driven Biogas and Solar Energy Solutions for Rural Communities' project in Cambodia facilitated access to renewable sources of energy for more than 38,000 rural villagers, and contributed to a cumulative reduction of 236,276 tons of CO₂ (annually).

This has involved improving the supply and marketing capacities of suppliers, increasing distribution channels in remote 'last-mile' areas, strengthening the provision of after sales services, and promoting the sale and usage of new and innovative products (e.g. flood-proof and easily installable plastic biodigester models).



Sri Lanka – Improving access to biogas technologies

PIN has worked to create an enabling environment for the large-scale dissemination of biogas as a reliable source of clean energy for SMEs and households in Sri Lanka. Our project played an instrumental role in establishing the Lanka Biogas Association (LBA), and initiating and facilitating the development of national biogas standards. The project strengthened biogas-related services (design, construction, after sales services, appliances) amongst 67 SMEs, supported 4 financing institutions to develop loan schemes to support the construction of biogas units, enabled more than 1000 households and 35 hotels to adopt biodigesters, and contributed to a reduction of emissions of over 2504 tons of CO₂ per year. Households and businesses now have an effective waste disposal solution that provides them with a clean source of energy.



The Philippines – Strengthening climate resilience through renewable energy

In Northern Samar, where PIN works in the Philippines, nearly 40 percent of households are not connected to the grid, and electrification rates are lower than 20 percent in mountainous areas. The area has the highest poverty rate in the region and is highly vulnerable to natural disasters. PIN's Renewable Energy Access for Off-grid Communities and Households (REACH) project is working to enhance access to disaster-resilient renewable energy solutions. This is being done through promoting innovative off-grid technologies for households and rural businesses, not; supporting access to finance, and increasing demand for renewable energy sources. This ongoing project aims to enable access to disaster-resilient energy solutions for 1875 households and 275 businesses.



KEY PRINCIPLES OF PIN'S WORK



Photo © Jiri Pasz

Market-based solutions which engage the private sector: The local private sector is often best placed to stimulate demand and supply for products and services that poor people need, and has the financial incentives to continue operating after donor-funded projects end. Compared to traditional 'direct delivery' approaches where products and services are often provided for free, approaches to engage the private sector can greater geographic scale- when successful to new customers and regions, and when other businesses follow suit. Despite this potential, local businesses, which the majority of low-income consumers purchase from, often lack the expertise, resources or incentives to market their products and services and create effective demand among poorer and more remote consumers. PIN uses a market systems development approach that facilitates improvements in the functioning of energy market systems and increases investments in and services from the private sector in more fragile and remote environments.

A systems change approach: Market systems provide opportunities to address

energy access goals in a sustainable way. Rather than trying to tackle problems directly, PIN adopts a systems approach focused on first understanding the complex systems we aim to influence through our work, and then working closely to support the relevant market, government and civil society actors to drive inclusive change. This approach is taken to maximise the sustainability and impact of our interventions, and ensure that any changes we contribute to can continue occurring after our projects end.

In-depth analysis to understand and address root causes: We must understand the causes of energy poverty in order to design effective interventions (for example: are there financial barriers? Are potential users aware of the benefits of the technologies?). The design of PIN's projects uses formative research, market analysis and effective behavioural change strategies to understand and address practical barriers that prevent people from using energy solutions that can improve their lives.

Supporting undeserved 'last mile' populations: The transmission of grid electricity to rural and remote areas can be an expensive and timely process, and its supply in these areas can often be unreliable and vulnerable to natural disasters. Decentralized and off-grid renewable energy solutions, such as solar PV, wind, hydro, or biomass, provide important opportunities to quickly connect communities with reliable energy. Due to technology improvements, the prices for such solutions are now competitive with the price of grid connectivity. Despite these opportunities, the needs for off-grid energy products and services is much greater than the speed that existing companies are able to expand. PIN can play an important role in these contexts to improve the functioning and inclusiveness of rural energy markets, so that more households are able to gain long-term access to such solutions. PIN's role is key in expanding the reach of private sector suppliers and service providers beyond urban areas to the communities that need them most.

Supporting innovations: Energy production is one of the main sources of greenhouse gas emissions worldwide and a key contributor to climate change. While the use of renewable energy has increased, nearly three quarters of global energy supply still comes from sources that pollute air, deplete natural resources and damage the environment. Considering the rapidly increasing global demand for energy, maximizing the use of renewable resources while increasing the efficiency of energy use is critical to global development. PIN supports technical and financial innovations that can play a key role is accelerating this switch to renewable energy. For example, pay-as-you-go finance models were supported in Cambodia as a way to accelerate the adoption of solar power home systems.

Climate Smart Energy Solutions - People in Need
peopleinneed.cz



Alliance 2015
towards the eradication of poverty