

# Towards Resilience: Enabling Community Renewables in Orissa, India

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## Abstract

*Towards Resilience* is a multi-partner project that commenced in April 2014, and aspires to contribute to both the understanding and rollout of decentralized renewable energy generation ('renewables') in Orissa, eastern India. This paper aims to summarize the delivery rather than research aspects.

Broadly speaking, *Towards Resilience* aims to empower communities in Orissa to take control and ownership of renewables infrastructure by leveraging the latent potential of local and regional supply chains. It seeks to do this by facilitating engagement between existing and prospective end-users on the one hand, and relevant 'providers' – in particular, supply chain actors and NGOs – on the other.

More particularly, our project seeks to pilot a free and open mobile-SMS gateway designed to achieve a step change in end-user – provider engagement in the fledgling off-grid renewables sphere in Orissa. The gateway will be designed to allow end-users to easily signal requests for a comprehensive range of services to potential providers.

In conjunction with fieldwork in Orissa, our pilot platform will be designed to anticipate a range of technology-specific system faults and failures on solar PV projects. However, pending a successful pilot, the potential exists to tailor 'issues flagged' towards other renewables technologies, and expand functionality beyond the notification of simple service disruption towards financial-, information-, waste collection- and other services.

**Keywords:** Orissa; Decentralized Energy; Community Renewables; ITC; SMS Gateway.

## Background

### About us

Scene Consulting is an Edinburgh-based organisation with a mandate to enable and facilitate the decentralised ownership and generation of renewable energy across the globe. In partnership with the University of Edinburgh, GeoGeo and TERI, and with support from the Scottish Government, we have begun an ambitious new project in Orissa, India in April 2014. Our project, *Towards Resilience*, has both research and delivery objectives; we describe the latter here.

### About socio-technical resilience

Renewable energy interventions by governments, donor agencies and NGOs in Orissa have had mixed success. The capacity of communities to take ownership of renewable energy projects has been limited by a range of socio-cultural, political, material, organizational and

human resource constraints. Meanwhile, community energy systems have been left vulnerable to a lack of both *accountability* and *accessibility* from service- and other providers.

## The Challenge

Research leading up to *Towards Resilience* has established 3 clear unmet needs facing communities in rural Orissa:

### Problem 1: The unmet need for low-cost energy

In common with rural communities across the global south, communities in rural Orissa have a clear demand for electricity to meet their lighting needs (domestic and for micro-enterprises, e.g. dairies, craft, agri-processing) and also their needs for communication and connectivity (telecommunications, radio and television).

### Problem 2: The unmet need for technical support

Poor people's access to energy in rural Orissa is limited by the existing social and technical infrastructure. Top-down, donor-driven projects often transfer assets with little view towards long-term resilience, and without transferring technology. Meanwhile, there is limited engagement between local private sector entities and existing or prospective end-users for the acquisition, repair and maintenance of renewables infrastructure.

### Problem 3: The unmet need for knowledge exchange

A strong need for better knowledge exchange exists between communities, policy makers and practitioners. In Orissa and elsewhere in India, policymakers and practitioners have identified a need for benchmarks of good practice in community renewables projects focused on issues of community ownership and socio-technical infrastructure.

## Approach

### Objective 1: Understanding and mapping the resilience of renewables projects

By systematically studying community-based renewable energy initiatives across Orissa, and detailing how project success and failure relate to financial benefits, skills development, local employment, the resilience of local

economies, and other socio-technical factors, *Towards Resilience* will look to make an important contribution to the evolution of locally appropriate, low-carbon development pathways.

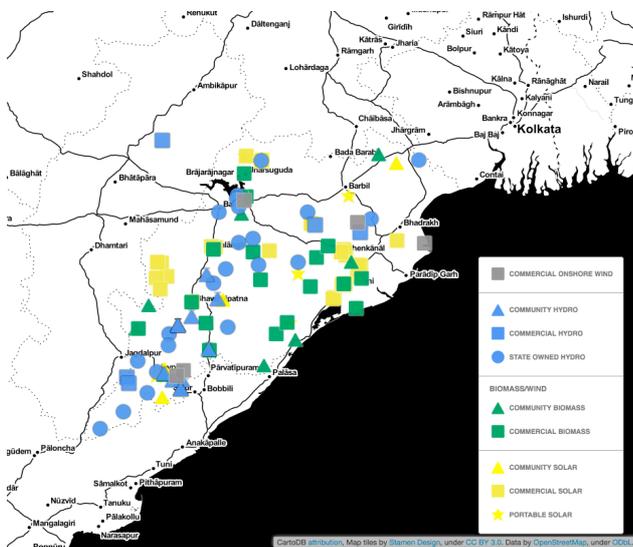


Figure 1: Initial mapping of Orissa renewables projects.

## Objective 2: Piloting an SMS supply-chain gateway

By using mobile-SMS gateway technology, *Towards Resilience* will look to facilitate engagement between service providers and other supply chain actors on the one hand, and existing and prospective renewables end-users on the other. A well-designed SMS gateway would look to assist India's poorest communities to build and maintain the socio-technical infrastructure for community owned and managed renewables.

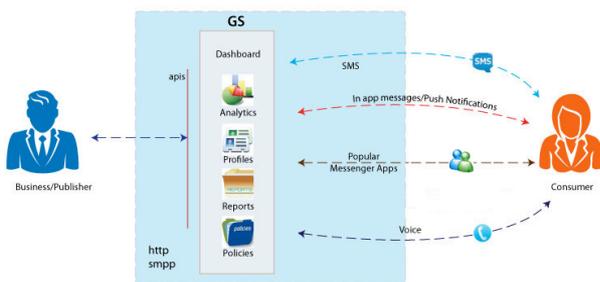


Figure 2: Schematic SMS gateway design.

## Onward steps

Project progress is disseminated through the project website (see [sceneconsulting.com/research-home](http://sceneconsulting.com/research-home)). Work on Objectives 1 and 2 commenced in December 2014, and the launch of the pilot platform is on track for late 2015.

## Participation Sought

The project team welcomes any feedback. Furthermore, we are open to partnerships with other organizations that share our commitment towards building local socio-

technical resilience in the sphere of the distributed generation of low-carbon energy.

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