

# Kopernik

## Scaling up clean energy technology through women's empowerment in Eastern Indonesia

### Background and context

The three year focuses on the poor, marginalized half of the Indonesian archipelago. Eastern Indonesia, excluding West Papua and Papua, covers approximately 17.4% of land and 12.3% of the entire population, yet it only represents 4.2% of economic activities in the country's economy. Of the 10 provinces in the targeted area in this region, six rank the poorest in the entire country (33 provinces). In terms of GDP per capita, all 10 are in the bottom half of the list of all provinces and their average (\$895) is less than a third of the national average (\$3,223). These figures demonstrate the stark imbalance in the level of economic development between the rich Western region and the poor Eastern half.

Almost all the rural, last mile communities in this region do not have access to simple, life-changing technologies such as solar lanterns, fuel-efficient cookstoves, and water filters. Moreover, the socioeconomic status of women in this region is particularly low given the lack of educational and employment opportunities, compounded by traditional cultural norms and gender dynamics. This project addresses both issues of women's empowerment and access to clean technologies at the same time, at scale.

**Table 1**

Population, GDP per capita, and area of the project's geographical scope

Sources: Central Bureau of Statistics Indonesia (*Badan Pusat Statistik*), Wikipedia

Province	Population (2010 census)	GDP per capita (2011)	Area (km <sup>2</sup> )
North Maluku	1,038,087	\$ 444	31,982
Maluku	1,533,506	\$ 525	46,914
East Nusa Tenggara	4,683,827	\$ 527	48,718
West Nusa Tenggara	4,500,212	\$ 893	18,572
Gorontalo	1,040,164	\$ 671	11,257
West Sulawesi	1,158,651	\$ 833	16,787
Central Sulawesi	2,653,009	\$ 1,275	61,841
North Sulawesi	2,270,596	\$ 1,394	13,851
Southeast Sulawesi	2,232,586	\$ 1,181	38,067
South Sulawesi	8,034,776	\$ 1,206	46,717
<b>Sum/average of the region</b>	<b>29,127,414</b>	<b>\$ 895</b>	<b>334,706</b>
<b>% of total</b>	<b>12.3%</b>		<b>17.4%</b>
<b>Indonesia</b>	<b>237,736,593</b>	<b>\$ 3,223</b>	<b>1,925,023</b>

### Project summary

Despite Indonesia's rapid economic growth, the country continues to face a myriad of development challenges particularly in poor, marginalized Eastern Indonesia region, which the project targets. These challenges include:

- As demonstrated in Indonesia's 2010 Gender Development Index performance rank of 108 out of 166 countries, women are associated with low socioeconomic status due to a lack of

educational and employment opportunities, compounded by traditional cultural norms and gender dynamics. The situation is particularly worse in Eastern Indonesia.

- 82% of the rural population still relies on biomass as their primary cooking fuel (GACC 2011). Electrification rates range from 22% in Papua to 86% in Bali (USAID 2008) with many people relying on kerosene for lighting.

A lack of access to safe drinking water by the majority of the population with reports naming Indonesia as having the worst drinking water in Southeast Asia (Indonesian Research Institute/LIPI 2012)

To address these complex issues, Kopernik offers a proven women's empowerment model and an unparalleled last-mile distribution system in Indonesia that provides entrepreneurship training to women and leverages existing independent shops to deliver rigorously vetted, quality products. In its approach to empowerment and distribution, Kopernik build sustainable mechanisms while keeping low cost through state-of-the-art yet contextually appropriate distribution systems. Kopernik's unique approach was recently published in the Stanford Social Innovation Review<sup>1</sup> and is being continuously improved through experiences and innovative practices. Since 2009 Kopernik has reached more than 175,000 people — half of whom are women — through the distribution of simple, life changing technologies to poor communities living in the 'last mile'.

The project facilitated technology adoption and creates new business opportunities for poor women without them having to take on risk or debt. Working with existing networks of women's groups across Indonesia, Kopernik will provide women and women-managed shops with extensive training and a range of life-improving technology (such as biomass fuel efficient cookstoves, solar lights, and water purifiers) on consignment. The women become 'tech agents' or 'tech kiosks'<sup>2</sup> and sell the products to their communities. They earn a margin from each sale and repay Kopernik for the cost of the products and replenish their inventory.

By working through existing shops and networks, this model is easily scalable, because there is no need to invest in forming new structures. By using a consignment model, the risk of the women having to take on debt is removed. And the technology itself improves household socioeconomic productivity, is environmentally sustainable, and fosters positive change in the community more broadly.

The project will improve the socioeconomic status of 600 women MSEs including 400 tech and agents, 200 tech kiosks across 10 provinces. Through their sales and distribution of 60,000 units of clean energy products over 3 years, 250,000 people (50,000 households) will directly benefit in reducing household expenditure, improving health, and mitigating deforestation.

The project is anchored by the conceptual diagram below, motivated by a broad vision (general purpose), executed through three intervention areas to achieve three specific objectives. Kopernik has extensive experience implementing each proposed activity and has seen the logic from outputs to outcomes and outcomes to specific objectives hold true in almost all the past and ongoing projects implemented across geographical, socioeconomic contexts.

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<sup>1</sup> <http://kopernik.info/update/subsidizing-impact>

<sup>2</sup> Kopernik's tech kiosks are similar to Project Shakti's i-Shakti kiosks in India. Kopernik also partners with Solar Sister in East Africa, another business model engaging women in energy value chains.

# Energia Proposal conceptual diagram

General purpose:

To improve the quality and standard of living of women and poor households in Eastern Indonesia through distribution and scale up of clean energy technologies

