



Results-based financing (RBF):

A Market Development Mechanism for Improved Cooking Technologies

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Christian Liedtke, 10th June 2016



energising
development



Energising Development (EnDev)

EnDev is a partnership programme between: Netherlands, Germany, Norway, Great Britain, Australia, Switzerland, Sweden

Co-financed by EU and Irish Aid

Objective : provide at least 19 million people with access to energy in a sustainable manner by 2019 (Phase 1: 2005-2009, Phase 2: 2009-2019)

Current Budget: 290 million EUR

Implementing organisation: GIZ in cooperation with Dutch RVO and other internationally operating organisations

Market-based Approach: Establishing economically sustainable energy solutions and distribution schemes

22.06.2015



Regional Distribution of EnDev Projects

25 countries – 15 Africa, 6 Asia, 4 Latin America



Solar



Hydro



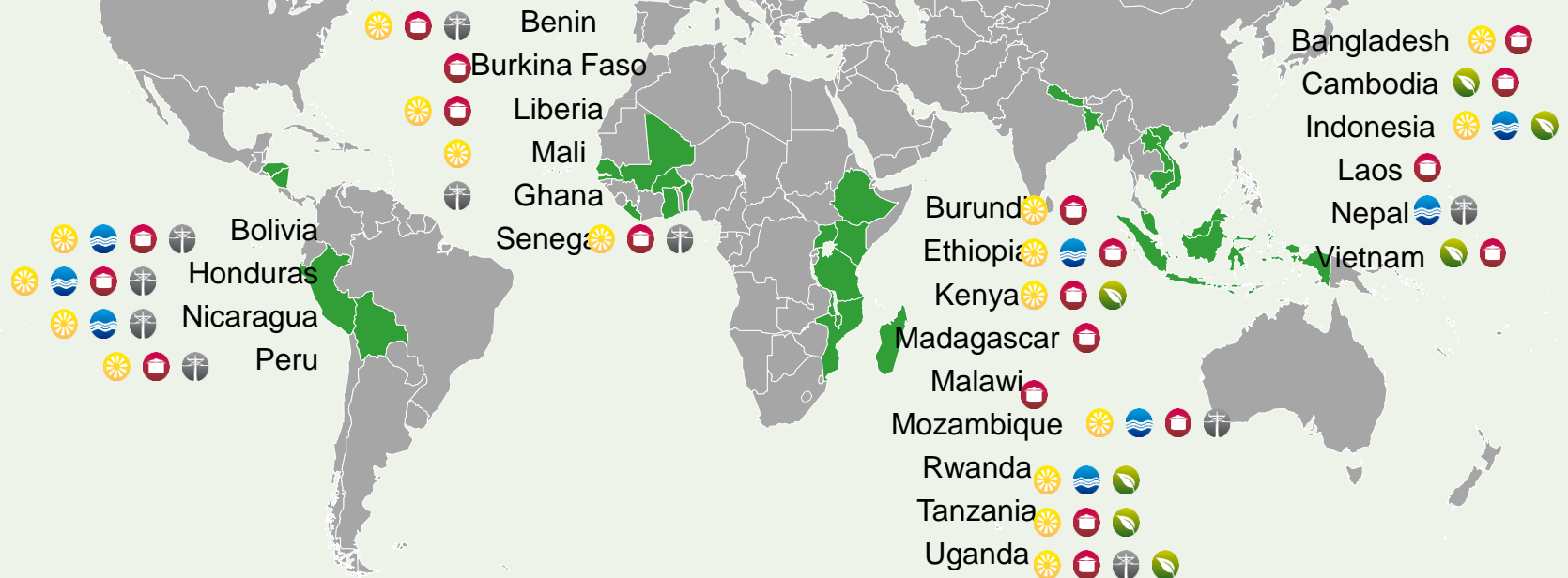
Biogas



Cooking energy



Grid extension/
densification





EnDev Impacts within 10 years



15.5 million people with access to modern energy



1.7 million tonnes CO₂e saved per year



34,000 SMEs were supplied with energy



17,800 soziale institutions were supplied with energy



37,000 producers, retailers and technicians for cookstoves trained

RBF for cooking technologies – A new approach

- „Payment by results“ principle (e.g. applied in health sector) transferred to cookstove market

- Concept & key principles

“Overcome market barriers through contractual agreements with private companies by paying incentives after verification of pre-agreed results”

→ Enable private sector delivery of modern energy services to the poor

1. **Payments** to a recipient on achievement of pre-agreed results
2. Recipient is given freedom as to how results are achieved
3. Independent **verification** of results functions as trigger for disbursement



RBF for cooking technologies – A new approach

- Implementation started recently (mainly 2015)
- Total budget committed in projects: EUR 46,793,000
- Timeframe for project set-up & implementation: 4 years

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- A green circular icon containing a white electrical plug symbol.
- Solar (6)
 - Cookstoves (6)
 - Mini-grids (2)
 - Street lights (1)
 - Gasifier stoves (1)
 - Domestic biogas (2)
 - Solar Water Heaters (1)
 - Solar Water Pumping (1)
 - Grid connections (1)

Technologies



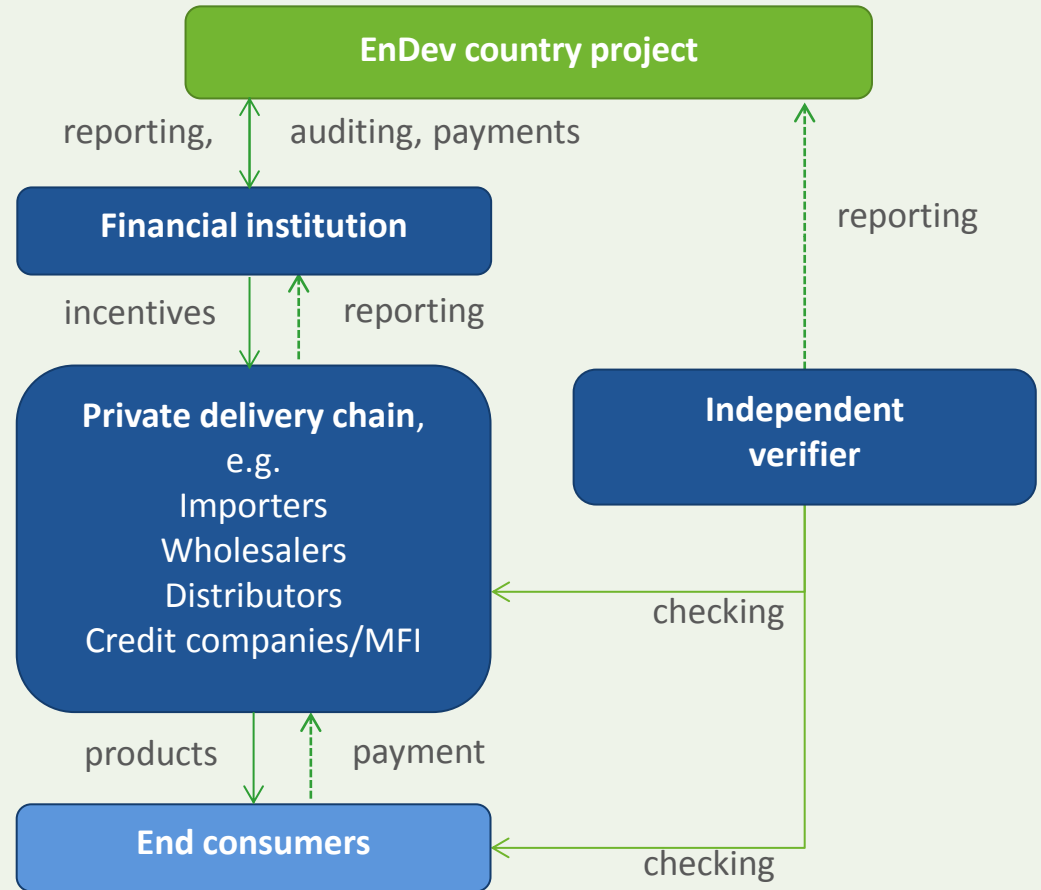
- Africa: Benin, Ethiopia, Kenya, Malawi, Mozambique, Rwanda, Tanzania, Uganda
- Asia: Bangladesh, Cambodia, Laos, Nepal, Vietnam
- South America: Peru

Countries



RBF Project Design

- Design principles
 - EnDev: Project set up, management, TA, Monitoring
 - Private Sector: Accreditation for RbF and delivery of results
 - Independent Verifier: Checks if output has been achieved
 - Financial Institution: releases incentives



RBF projects in the cooking sector



Country	Objective	Bottleneck	RBF design
Ethiopia	Connect urban production to rural distribution via cooperatives	Transport and distribution costs and risks too high	Incentives per stove to cooperatives to invest in profitable distribution chain
Peru	Design and market introduction of portable stoves	No portable stoves available in the Peruvian market	Innovation contest for design of portable stoves. Winning stoves brought to market
Kenya	Strengthening market for tier 2 and higher stoves	Consumer financing constraints, absence of affordable credit mechanisms	Incentives for FI/MFI per loan extended to household purchasing stove, securing stoves loan product in MFI/FI standard portfolio
Mekong (Cambodia, Lao, Vietnam)	Introduction of higher tier stoves to the region	Manufacturers hesitant to enter new market, no connection with local distribution market	Stove auction with increasing min. price and connecting manufacturers to national distribution agents



Stove Auction Mekong – Snapshot

- **TITLE:** Market Acceleration of Advanced Clean Cookstoves in the Greater Mekong Sub-region (Cambodia, Laos and Vietnam)
- **DURATION:** 4 years - March 2015 to March 2019
- **BUDGET:** EUR 3,839,704
 - Management and TA = EUR 767,704 (cannot exceed 20% of total budget)
 - RBF incentives = EUR 3,072,000 (80% of total budget)
- **OBJECTIVE:** Accelerate market for advanced biomass stoves which are cleaner and safer than other biomass stove alternatives
 - Increase number of actors in the market
 - Improve access to cleaner and more efficient energy services for end-users

STOVE TARGETS	YEAR 1	YEAR 2	YEAR 3	YEAR 4	TOTAL
Cambodia	-	10,000	16,000	21,550	47,550
Laos	-	4,275	8,550	13,538	26,363
Vietnam	-	6,413	12,825	27,075	46,313
<i>Total</i>					120,225



Stove Auction Mekong - Concept

HOW IT WORKS

- Like in every auction there are Sellers and Buyers.
- The Sellers in *The Stove Auction* are stove producers or their agents and the Buyers are locally based stove distributors and retailers.
- **Sellers consign their stoves to *The Stove Auction*** located in Phnom Penh, Vientiane and Hanoi to sell to Buyers.

BENEFITS FOR SELLERS

- Guaranteed prices backed by an RBF mechanism for stoves that are auctioned
- Early, low cost entry into new markets in Southeast Asia
- Access to incentivised distribution channels facilitated by The Stove Auction

BENEFITS FOR BUYERS

- Access to high quality products at competitive prices
- Can purchase in affordable quantities
- Receive a **cash incentive for each sale** to an end customer





Dynamic market valuation of RBF incentive to seller





Verification

- **RBF payments to Sellers:** paid once their stoves are sold at auction and the transaction has been independently verified.
- **RBF payments to Buyers:** paid once their stoves have been sold to end-user and that transaction has been verified through phone calls and physical inspections by the IVA.
- Transaction records that Buyers would need to submit to claim RBF are:
 - Full customer contact info
 - Serial numbers are recorded
 - All registration cards are included
 - RBF Claim calculations are correct
- RBF claims by Buyers will be deemed to have failed when more than 20% of claims (inspected both onsite and via phone) prove false.

Method	Who	Producer	Distributor	End-consumer
Paper Trail	IVA/FI	100%	100%	100%
Onsite	IVA	10% of boxes	0	5%
Phone	IVA	0%	0	10%

Lessons Learnd

- RBF works best if embedded in a larger market development effort (RBF should not be an exclusive instrument)
- Considerable TA-efforts for project set-up (selection of, and CD for, partners) and monitoring necessary
- Don't design RBF overly complicated: rules of delivery and payment need to be clear
- Take financial cycles of companies into account (quick verification and disbursement of incentive; pre-financing might be necessary)
- Take-up of RBF by private sectors grows very slowly at beginning
- Financial institutions engage only slowly: unclear business proposition, and unfamiliar with role of project manager



Thank you for your attention

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Funded by:



Implemented by:





Pilot phase Cambodia

- SNV has been **piloting *The Stove Auction* first in Cambodia** prior to third-party implementation
- The first auction was March 31, and subsequent auctions on April 21, May 11 and May 26. Two auctions per week are scheduled.
- Currently there are **two stove models auctioned** so far (ACE 1 and Prime Fuelwood), with others waiting to be shipped and others in the pipeline undergoing approval.
- With the first four auctions, **980 stoves have been sold**. The clearing price has already slowly been going up as well as highest bids.
- SNV is currently mobilising Buyers to register for *The Stove Auction*, with a target of at least 15 by September 2016 in Cambodia. **Currently there are 8 registered bidders** in the Cambodia auction.

Key performance indicators

EnDev indicators and RBF Key Performance Indicators (KPI)	Target	Rationale of estimate
Total people gaining access (EnDev counting method)	609,425 people	Avg people per household (5 for Cambodia and Vietnam and 6 for Laos) multiplied by “Technologies Deployed” (this amount also takes into account repeated customers from year 1 due to a 3 year stove life, e.g. customers in year 1 buy again in year 4 and they are not counted twice)
EUR per person gaining access	6.30 EUR	Total EnDev contribution (RBF plus programme costs) divided by “Total people gaining access”
T CO₂ emissions avoided (over the lifetime of the products sold during project)	541,013 tCO ₂ e	3 year product life, avg 1.5 tCO ₂ e ERs/stove/hh/yr
EUR per t CO₂ emissions avoided	7.10 EUR	Total EnDev contribution (RBF plus programme costs) divided by “TCO ₂ emissions avoided”
Private sector leverage ratio	2.19	End-user investment (70 EUR/stove * 120,225 stoves) divided by RBF payments + EnDev funded programme costs (EUR 3,840,000)
Jobs created	300	50 in Laos, 100 in Cambodia and 150 in Vietnam (auction, transport, sales agents/retail)
Enterprises created plus existing enterprises strengthened.	100	This takes into account about one-quarter of existing distribution companies and retailers in the three countries that SNV has identified – and has the potential to be scaled-up significantly through the EnDev RBF programme
Technologies deployed	120,225 (indicative, based on modelled level of RBF)	Total of 47,550 in Cambodia, 46,313 in Vietnam and 26,363 in Laos over 4 years