Energising Development (EnDev)

EnDev is a partnership programme between 7 countries: 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

Maket-based Approach: Establishing economically sustainable energy solutions and distribution schemes
Regional Distribution of EnDev Projects

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

Solar
Hydro
Biogas
Cooking energy
Grid extension/densification

Bolivia
Honduras
Nicaragua
Peru
Benin
Burkina Faso
Liberia
Mali
Ghana
Senegal
Bangladesh
Cambodia
Indonesia
Laos
Nepal
Vietnam
Burundi
Ethiopia
Kenya
Madagascar
Malawi
Mozambique
Rwanda
Tanzania
Uganda

Solar
Biogas
Cooking energy
Grid extension/densification
EnDev Impacts within 10 years

- 15.5 million people with access to modern energy
- 1.7 million tonnes CO$_2$e saved per year
- 34,000 SMEs supplied with energy
- 17,800 social institutions supplied with energy
- 37,000 producers, retailers and technicians for cookstoves trained
Results-based financing (RBF):
A tool to accelerate markets for Energy Access Technologies
EnDev RBF Projects

„Payment by verified results“

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

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

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

- 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)

Total budget: EUR 46,793,000

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

Principles

- **EnDev**: Project set up, management, TA, Monitoring
- **Private Sector**: Accreditation for RbF and delivery of results
- **Independent Verifier**: Checks if result/output has been achieved
- **Financial Institution**: releases incentives
# RBF - Tool Designs

<table>
<thead>
<tr>
<th>Objective</th>
<th>Bottleneck</th>
<th>RBF tool design</th>
</tr>
</thead>
<tbody>
<tr>
<td>Engage <strong>early movers</strong> in new product segments</td>
<td>Lack of market transparency and version to enter new or difficult markets</td>
<td>Incentives per product sold (in region) to compensate/mitigate the <strong>risks</strong></td>
</tr>
<tr>
<td>Strengthen <strong>distribution channels</strong></td>
<td>Transport and distribution costs and risks</td>
<td>Incentives per product sold to <strong>invest</strong> in profitable distribution chain and <strong>marketing</strong> tools, i.e. bonus products to retailers</td>
</tr>
<tr>
<td>Strengthen/engage <strong>financing channels</strong>, product design and market diversification</td>
<td>Consumer financing constraints, absence of affordable credit mechanisms</td>
<td>Incentives for FI/MFI per <strong>loan</strong> extended to household purchasing product, securing loan product in MFI/FI standard portfolio</td>
</tr>
<tr>
<td><strong>support specific product segments</strong>, product design and market diversification</td>
<td>Quality of products and lack of drive to innovate</td>
<td>Incentives per product sold or award based support for products based on performance benchmarks</td>
</tr>
</tbody>
</table>
The Stove Auction – Mekong Concept  
(Regional Programme – Lao, Vietnam, Cambodia)

HOW IT WORKS

- Prequalification of products through SNV and EnDev
- 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.

Dynamic market valuation of RBF incentive to seller

- Guarantee price to the supplier of stoves
- Economy of scales = less profit/unit & lower landing costs allows to bring down guarantee price
- Lower RBF Incentive
- Increasing demand = competition = higher bids
- Auction price for the distributor
- EnDev/SNV increasing the reserve price over time
- Reserve price (minimum acceptable offer)

No sales

BENEFITS FOR SELLERS

- Guaranteed prices
- Early, low cost entry into new markets
- Access to incentivised distribution channels

BENEFITS FOR BUYERS

- Access to high quality products at competitive prices
- Can purchase in affordable quantities
- Receive a cash incentive for verified sales to an end customer
EnDev RBF supported projects in Asia

EnDev Bangladesh & IDCOL: incentive + loan to distributors (SHS, PicoPV)

EnDev Bangladesh: Product performance based incentive to distributors, aligned with IDCOL

GoB & EnDev Bangladesh/BBF: GoB incentive for quality assured products channelled through BBF to Retailers

EnDev through CLASP in Bangladesh: First mover bulk purchase support to distributors and incentive producers abroad to reduce cost before import to Bangladesh

EnDev through SNV in Cambodia, Laos, Vietnam: guaranteed prices and lower market entry barrier through The Stove Auction

EnDev Nepal: incentives to vendors for each stove sold or installed as well as to cooperatives for each loan issued to end-users to purchase hoods.
Lessons Learned

- 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

Contact:
Jan-Hendrik.Soehlemann@giz.de

Funded by:

[Logos of funding bodies]

Implemented by:

[Logos of implementation bodies]
The 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

<table>
<thead>
<tr>
<th>STOVE TARGETS</th>
<th>YEAR 1</th>
<th>YEAR 2</th>
<th>YEAR 3</th>
<th>YEAR 4</th>
<th>TOTAL</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cambodia</td>
<td>-</td>
<td>10,000</td>
<td>16,000</td>
<td>21,550</td>
<td>47,550</td>
</tr>
<tr>
<td>Laos</td>
<td>-</td>
<td>4,275</td>
<td>8,550</td>
<td>13,538</td>
<td>26,363</td>
</tr>
<tr>
<td>Vietnam</td>
<td>-</td>
<td>6,413</td>
<td>12,825</td>
<td>27,075</td>
<td>46,313</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>120,225</td>
</tr>
</tbody>
</table>
Pilot phase Mekong/Cambodia - 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.

<table>
<thead>
<tr>
<th>Method</th>
<th>Who</th>
<th>Producer</th>
<th>Distributor</th>
<th>End-consumer</th>
</tr>
</thead>
<tbody>
<tr>
<td>Paper Trail</td>
<td>IVA/FI</td>
<td>100%</td>
<td>100%</td>
<td>100%</td>
</tr>
<tr>
<td>Onsite</td>
<td>IVA</td>
<td>10% of boxes</td>
<td>0</td>
<td>5%</td>
</tr>
<tr>
<td>Phone</td>
<td>IVA</td>
<td>0%</td>
<td>0</td>
<td>10%</td>
</tr>
</tbody>
</table>
# The Stove Auction Mekong – Key performance indicators

<table>
<thead>
<tr>
<th>EnDev indicators and RBF Key Performance Indicators (KPI)</th>
<th>Target</th>
<th>Rationale of estimate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total people gaining access (EnDev counting method)</td>
<td>609,425 people</td>
<td>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)</td>
</tr>
<tr>
<td>EUR per person gaining access</td>
<td>6.30 EUR</td>
<td>Total EnDev contribution (RBF plus programme costs) divided by “Total people gaining access”</td>
</tr>
<tr>
<td>T CO₂ emissions avoided (over the lifetime of the products sold during project)</td>
<td>541,013 tCO₂e</td>
<td>3 year product life, avg 1.5 tCO₂e ERs/stove/hh/yr</td>
</tr>
<tr>
<td>EUR per t CO₂ emissions avoided</td>
<td>7.10 EUR</td>
<td>Total EnDev contribution (RBF plus programme costs) divided by “TCO₂ emissions avoided”</td>
</tr>
<tr>
<td>Private sector leverage ratio</td>
<td>2.19</td>
<td>End-user investment (70 EUR/stove * 120,225 stoves) divided by RBF payments + EnDev funded programme costs (EUR 3,840,000)</td>
</tr>
<tr>
<td>Jobs created</td>
<td>300</td>
<td>50 in Laos, 100 in Cambodia and 150 in Vietnam (auction, transport, sales agents/retail)</td>
</tr>
<tr>
<td>Enterprises created plus existing enterprises strengthened.</td>
<td>100</td>
<td>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</td>
</tr>
<tr>
<td>Technologies deployed</td>
<td>120,225 (indicative, based on modelled level of RBF)</td>
<td>Total of 47,550 in Cambodia, 46,313 in Vietnam and 26,363 in Laos over 4 years</td>
</tr>
</tbody>
</table>