

**Strategic Evaluative Review of the
Energising Development Partnership Programme
Short Version**

Skat Consulting Ltd.

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Hedi Feibel, Eric Kamphuis

SKAT – Swiss Resource Centre and Consultancies for Development

Vadianstrasse 42, CH-9000 St. Gallen, www.skat.ch

hedi.feibel@skat.ch

hebkamphuis@ziggo.nl

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Abbreviations

ADES	Association pour le Développement de l’Energie Solaire Suisse
AEEP	Africa EU Energy Partnership
AP	Annual planning
AREI	Africa Renewable Energy Initiative (Trustee AfDB)
BMZ	German Federal Ministry for Economic Cooperation and Development
CAT	Country analysis tool
CC	Climate Change
DFAT	Australian Department of Foreign Affairs and Trade
DFID	UK Department for International Development
DGIS-MFA	Directorate-General for International Cooperation of the Netherlands Ministry of Foreign Affairs
DVT	Data visualisation tool
EnDev	Energising Development Partnership
ESMAP	Energy Sector Management Assistance Program, World Bank
EUEI-PDF	European Union Energy Initiative-Partnership Dialogue Facility
GACC	Global Alliance for Clean Cookstoves
GB	Governing Board
GCF	Green Climate Fund
GIZ	Deutsche Gesellschaft für Internationale Zusammenarbeit GmbH
GP	Global Program
GPE	Green People’s Energy („Grüne Bürgerenergie“)
GPOBA	Global Partnership on Output-Based Aid
GTF	Global Tracking Framework
HERA	(former) Household Energy Programme (of GIZ)
HIVOS	Humanistisch Instituut voor Ontwikkelingssamenwerking
HQ	Headquarter
ICS	Improved cookstove

IDCOL	Infrastructure Development Company Limited, Bangladesh
IP	Implementing Partners
IWA	International Workshop Agreement
LDCs	Least Developed Countries
MAEVE	Malawian local NGO
MDB	Multilateral Development Bank
MDC	Middle Income Countries
M&E	Monitoring & Evaluation
MFA-NOR	Norwegian Ministry of Foreign Affairs
MHP	Micro and mini hydropower
MTE	Mid-term evaluation
MTF	Multi-tier Framework
(I)NDC	(Intended) Nationally Determined Contribution
NPO	Non-profit organisation
OCS	Outcome Calculation Sheet
PA	(British international non-governmental organization) Practical Action
pp	Per person
PU	Productive use
PV	photovoltaic
RBF	results-based financing
RE	Renewable energies
RECP	Africa-EU Renewable Energy Cooperation Programme (under EUEI PDF)
RVO	Rijksdienst voor Ondernemend Nederland, Netherlands Enterprise Agency
SDC / DEZA	Swiss Agency for Development and Cooperation
SDGs	Sustainable Development Goals
SE4ALL	Sustainable Energy for All
SHS	Solar Home System
SI	Social infrastructure
SIDA	The Swedish International Development Cooperation Agency
SME	Small and medium enterprises
SNV	Stichting Nederlandse Vrijwilligers, Netherlands Development Organisation
SREP	Scaling Up Renewable Energy Programme
SSA	Sub-Saharan Africa
TVET	Technical and Vocational Education and Training
UNFCCC	United Nations Framework Convention on Climate Change
UNICEF	United Nations Children's Fund
WB	Worldbank
WHO	World Health Organization

1. Summary

The present report critically reviews the EnDev Programme following the OECD DAC criteria, namely relevance, effectiveness, efficiency, impact and sustainability and assesses the governance and management of the EnDev Program. Based on the assessment, it gives a number of recommendations and suggests strategic building blocks. The authors base their assessment and appraisal on the perusal of reports, more than 20 interviews with EnDev's donor agencies, cooperating partners, implementing partners and EnDev's management as well as an online survey (with 35 participants). The assignment did neither include a portfolio review nor a detailed assessment at country level due to the ToR and the scope of the strategic evaluative review at global level.

- **Relevance:** **The strategic assessment according to the OECD DAC criteria** showed that EnDev is of high **relevance** for the target group. It is well aligned with the various policies of its donor community, particularly regarding international agreements like Agenda 2030 and Paris Accord. The statements made by the different interviewees prove a really outstanding position of EnDev in the so-called **development landscape**. EnDev is one of the few programs with long-term experience in broad implementation of activities facilitating energy access for the poor. It is known for its flexible and pragmatic approach. Interviewees from cooperating partners SE4ALL, ESMAP / WB, GACC and EUEI PDF confirmed that there is strong interest in a **closer and strategically well-defined cooperation**. On the other hand, EnDev's own expectations towards these organisations and initiatives still remain to be figured out. A systematic in-depth analysis is needed to identify possible added values EnDev could get from the various partners to thus finally strengthen its role in the global development landscape.
- **Effectiveness:** EnDev is a very professionally and **effectively** managed and implemented global program which at the end of 2017 over-achieved its original main goal to facilitate access to modern energy to 15 million people by 3.22 million (total of 18.22 million). Access to modern energy technologies and services gives poor people the chance to improve their living conditions. Furthermore, the program has a number of additional **positive development results/impacts** like gender, health and economic development.
- **Efficiency:** Through its performance-based approach and a unique monitoring system the program is steered towards **high efficiency**, thus setting a good example also for other international organisations and initiatives. A mixture of project interventions, complementarity of cost coverage, cooperation with local implementation partners, flexible fund allocation and a lean management contribute to the efficiency of EnDev. Measures which would allow to improving efficiency further are intensified knowledge sharing, building up of even more local capacities, and closer exchange and harmonisation with other (national and international) stakeholders.
- **Impact:** EnDev achieved significant **impacts** through increased efficiency in the cooking and lighting sectors, reduction of air pollution and related health problems, reduction of climate-damaging emissions, strengthening of capacities and development of pro-poor markets for improved cookstoves and off-grid solar products.
- **Sustainability:** The results of the program are to a large extent **sustainable** because it capacitates entrepreneurs and individuals selling and maintaining energy products and services and contributes to market development. As in many other programs, sustainability problems exist in case of rural micro-grids and electrification of schools and health centres. Sustainability could be improved through stronger embedding of EnDev activities in the respective national energy sector context and supply concept. The risk of such efforts would be that EnDev might

lose its implementation focus. Therefore, EnDev should continue to well balance the implementation focus and policy advice.

- Governance and management structure: The assessment of the governance and management of EnDev showed that the program has a lean and appropriate management setup. With the recent changes in the set-up the management has been well-adapted to the changed organizational requirements. EnDev' management in Europe operated at slightly below 7% of the total programme expenditures. Members of the Governing Board (meetings twice a year) bring in their points of view subject to their country's policy lines. This mainly affects decisions with financial consequences and thus has an impact on EnDev operating flexibly with the funds put at its disposal. A workspace the so-called "EnDev Wiki" is made available by Energypedia for all EnDev staff. Currently, about 380 EnDev staff members are on the Wiki and thus also have access to the knowledge platform [Energypedia](#).
- Portfolio management and steering of the program: EnDev has well-defined work responsibilities with respect to standard services: finances, outcome monitoring, impact monitoring, knowledge management, human resources, backstopping, during planning and implementation. EnDev management makes quite an important administrative and accounting effort to ensure smooth implementation of the significant number of projects in the various countries. Less earmarking and more long-term commitments from donors would alleviate these problems, reduce administrative cost and allow increasing efficiency. The management, in close cooperation with the Governing Board, defined "entry and exit criteria" and a specific procedure and criteria for upscaling of activities.
- Quality control and performance assessment: EnDev applies a high end, rather conservative, reliable and transparent monitoring system which is at the same time a strong steering instrument. EnDev's outcome orientation and gradually optimized monitoring system are appreciated by most "outsiders". "Insiders" who need to meet the set outcome figures see advantages but also limitations in their freedom to invest in more complex and "not immediately fruitful" activities.

The second part of the report lists and elaborates on a number of **recommendations and strategic building blocks** deducted mainly from the results of the key stakeholder interviews and of the online survey but also from information drawn from various reports.

To actually play a more important role and increase its impact EnDev should:

- I. Contribute to transformational change: EnDev should intensify – where appropriate – efforts for transformational changes either with (governmental / other) cooperation partners or based on own activities.
- II. Develop portfolio strategy and translate it into M&E system: EnDev should make use of the offered flexibility of EnDev donors with regard to the 20 Euro/person benchmark by now **adapting its portfolio strategy and thus also its outcome figures** in favour of a certain strategic re-orientation towards stronger focus also on:
 - poverty reduction through **income-generation** and local economic development,
 - (better) **supply of social infrastructure**, but also
 - recycling or at least save disposal of **electronic waste**.

These foci would accommodate the interlinkage of SDG7 with other development goals. It would neither turn the general EnDev approach inside out nor spoil the outcome-orientation. Aspects like e.g. supply of SMEs and job creation are already part of the indicators, however, they need to be broadened to **income-generation** and **involvement of the local private sector**,

while the international private sector is rather to be called in for provision of products/services not available (at the required quality) locally and/or to provide knowledge and technology transfer and build up local capacity. If it is decided to bring the above-mentioned aspects to the **same level of importance with “access to modern energy”**, this would need to be reflected in the outcome figures to be accommodated with the required budget.

In the monitoring system: **clearly separating** a) cooking energy, b) off-grid electricity and c) mini grids / grid connection in the outcome figures and separately present their respective added values; **incentivising multiplier effects** (“multiplication factor” instead of reduction due to “contribution factor”) and improve **transparency on cost** of “soft services” versus “hardware”.

- III. Secure funding: EnDev should strengthen its **existing and establishing new partnerships** with those players (international organisations, government agencies etc.) who can replicate EnDev’s approach/es and who can benefit from its lessons learned. Finally, partnering can also facilitate the required policy changes and create / strengthen ownership by local partners, both often vital to bring markets to scale and increase the sustainability of interventions.
- IV. Specify entry and exit strategies more clearly: EnDev should well define entry and exit strategies, also for multi-country activities.
- V. Strengthen implementation structure: EnDev should well define the selection processes of **implementing partners** and project (upgrading) proposals to guarantee **fair competition, result-oriented selection** and **flexibility** for the management.
- VI. Structure knowledge management and innovation: EnDev should take a strategic decision on the importance of knowledge management and assign (at least) a 1% share of the budget. This allows to (even more) systematically analysing **lessons learned** and disseminating it **more pro-actively** e.g. through Energypedia to achieve **multiplier effects**, increase its own **visibility** and to **impact in international discussions** (e.g. lobbying for improved cooking energy systems, linking climate topics to pro-poor approaches).
- VII. Develop strategic outreach: EnDev should develop an updated communication strategy and transfer it into an action plan to achieve **strategic outreach**.

The current report is the result of a “Strategic Evaluative Review”. A more in-depth evaluation also on country level and a more thorough assessment which allows consideration of technology-specific program aspects would certainly yield more specific and concrete recommendations which can more easily be “translated” into action.

2. Objectives and methodology of the strategic review

The multi-donor Energising Development Programme (EnDev) is an energy partnership program funded mainly by 6 donor countries. It promotes sustainable **access to modern energy products and services that are affordable, meet the needs of the poor, and create positive economic, social and/or environmental impacts**. Target groups of EnDev are poor households, social institutions and SMEs. EnDev promotes access to modern energy through grid connection, mini-grids and off-grid technologies and products, including improved cookstoves. By mid-2017, EnDev comprised of 31 projects in 25 countries and of side activities in 5 additional countries. 21 of these 31 projects concern the support to improved cooking systems, 18 projects to off-grid solar technologies (SHS, pico PV), 10 to mini-grids (solar/hybrid or hydropower), 11 projects to grid extension, and another 5 projects to biogas.

EnDev is currently in its 2nd phase (2009-21) which directly followed the 1st phase (2005-09). Now, at mid-term, EnDev’s strategy is being reviewed to accommodate changes in the global energy access

agenda. The review included an assessment of EnDev's relevance, performance, structures, alignments, and management. Overall objectives were: 1) to review progress against objectives, 2) assess strengths and weaknesses of EnDev, compile lessons learned and give recommendations, 3) assess the added value of EnDev for donors, for international initiatives in support of the Agenda 2030 and Paris Agreement, as well as partner countries, 4) assess to which extent EnDev influenced transformational changes in partner countries and in the global energy access agenda and 5) develop options for EnDev's future strategy towards scaling its impact on the **universal energy access** ambitions, the national and global **energy transformation(s)**, and **social and economic development** of its target groups. The review work (covering 07/2013 – 06/2017) has been based on existing reports, discussions during a **Governing Board Meeting** (Nov 2017), an **online survey** among implementing partners and 21 **comprehensive stakeholder phone interviews** with donor agencies, current partners, selected implementing partners, energypedia staff as well as the managing organisations GIZ and RVO.

3. Strategic assessment of the program according to the OECD DAC criteria

3.1. Relevance

Given the global gap in achieving SDG 7, not only in LDCs but also in rural remote areas of many non-LDCs, EnDev as a global programme is addressing "**relevant topics for relevant target groups**". The assessment has shown EnDev's high relevance

1. With regard to the **Agenda 2030**, because it significantly contributes to SDG7; it over-achieved its goal of assisting 15 million people to get access to modern energy. In addition, it contributes to a number of other SDGs (e.g. gender, health)
2. With regard to the **Paris Accord**, EnDev contributes to reduction of CO₂eq emissions of 1.9 million/year which is not so high in absolute figures. However, by creating awareness on energy efficiency (cleaner and more efficient cooking) as well as on renewables, EnDev is "co-initiator" of a transformational change towards a more climate friendly development. In addition, it clearly contributes to increase peoples' resilience against impact of climate change.
3. For the **target group**, through its implementation focus and pro-poor approach
4. For its **donor agencies**, by well aligning the programme with the respective policies (selection of countries, including Result-Based Financing (RBF), gender focus, and its outcome-orientation)
5. Even for other **international organisations and initiatives** where EnDev is highly appreciated for its implementation focus, achievement of target figures and hands-on experience.

Worldwide a variety of initiatives, programs and funds, which are relevant for EnDev, has been established and the overall number is still continuously increasing. Representatives of the currently main cooperation partners of EnDev at global level have been interviewed: Sustainable Energy for All SE4All (initiative of the UN General Secretary), Energy Sector Management Assistance Program ESMAP / WB, Global Alliance for Clean Cookstoves GACC, European Union Energy Initiative-Partnership Dialogue Facility EUEI PDF today GET.pro, with its service line "RECP" - Africa EU Renewable Energy Cooperation Program. All interviewees from cooperating partners confirmed that EnDev plays an **important role in the "development landscape"** and that there is strong interest in a **closer and strategically well-defined cooperation**. The interviews helped to better understand their expectations. EnDev's own expectations towards these organisations and initiatives still remain to be figured out. A **systematic in-depth analysis** is needed to identify possible added values EnDev could get from the various partners.

3.2. Effectiveness

The EnDev Programme has **over-achieved its original major target figure of “15 million people with access to modern energy” by 3.22 million** (today 18.22 million beneficiaries). The original logframe had been adapted during the course of the program. Indicators have finally been defined per 100,000 Euro programme budget as specified in the following table.

Table 1: New indicators (in red) - fixed based on a defined budget - and their status of achievement

(New) Indicators	Targets until 2021 per 100,000 EUR project budget	targets until 12/2019 (based on 360 million Euro) ¹	Current results 06/2017	Progress-assessment
No. of people with access	5000	20 million	18.2 million	on track
No. of supplied social institutions	10	36,000	19,900	Progress insufficient
No. of (supplied?) SMEs	20	72,000	40,200	Progress insufficient
No. of people cooking at tier level 2 (and higher)	1500	5.25 million	4.7 million	On track
No. of created jobs (full time equivalents)	5	17,500	10,650	On track
generation capacity based on renewable energy	500 W	1.75 MW	42.5 MW	Overachieved
Reduction/prevention of annual CO ₂ emissions	400 t	1.5 million t CO ₂ eq	1.9 million t CO ₂ eq	Overachieved

In a nutshell, in quantitative terms and considering the targets of the original and modified logframe, EnDev **reached its overall goal**, but some weaknesses still need to be addressed. **Strengths and weaknesses** as specified by the interviewees and survey participants are summarised in Table 2.

Table 2: Strengths and weaknesses of EnDev as expressed by interviewees and in the online survey

Strengths of EnDev	Weaknesses of EnDev
<ul style="list-style-type: none"> Different donors bundle their conceptional, political and financial resources and competences for a common goal (SDG7), which leads to more international visibility and more impact (contribution to Paris Declaration and other efforts for donor harmonisation) 	<ul style="list-style-type: none"> Programme steering needs more harmonisation between different donors, while also (donors') policies and policy changes need to be integrated (e.g. refugees & migration); decide whether new focus is first “tested” or immediately integrated into

¹ The access target for 2019 was increased because the originally planned 18 million were already achieved. Some other targets for 2019 are slightly lower than calculated as data are only available since the new indicators were introduced in 2015.

<ul style="list-style-type: none"> • Focus on implementation and results • Aggregated reporting on outcomes strengthens credibility and international influence; robust monitoring with conservative approach; helpful for political communication • EnDev creates opportunities for market development and supports local private sector <u>while still</u> also targeting poorer, vulnerable people in rural and remote areas through temporary subsidisation • Possibility to test new strategies / approaches (at a smaller scale); also useful for bilateral activities • High flexibility in many ways and pragmatism in EnDev's implementation structure (EnDev is opportunistic, meaning "it goes where it can achieve most", not only a strength!); "not too big and not too small"; can be innovative • Engaging capable implementing partners is a strong feature • Building up of local capacities taking the situation of each programme country carefully into account • EnDev continuously developed using also lessons, results and structures built up during (former) bilateral projects which facilitated a robust basis with regard to project approaches & logistics in the countries • EnDev has more "institutional memory" than many bilateral programs; applies lessons learned more systematically • EnDev as a global programme facilitates cross-country learning • Partners in the countries (national administrations, ministries etc.) are mostly on board; EnDev not felt like being imposed (addresses needs); where it explicitly addressed energy policy it achieved a lot 	<p>overall approach</p> <ul style="list-style-type: none"> • More complex management structure and coordination • Earmarking: if that becomes too dominant, would weaken the brand / core of EnDev • Lack of a more holistic view: link between SHS, mini grids, national grid • Strategic dialogue at national level (with governments) differs from country to country and needs to be further strengthened • Perceived dominance of countries which are managing EnDev (Germany and Netherlands); sometimes lack of fair competition • Even more local management capacity in countries needs to be built up • Achievement of RBF objectives is lagging behind; take-off took longer than expected (high complexity of the modality, variable quality of implementing teams) • Discrepancy between invested resources & achievements on the one hand and external visibility on the other hand (also in international debate), "nobody knows how many mini grids EnDev already supported" • Less national visibility of donor countries in country of implementation • Current size of the programme is also reducing its flexibility; e.g. funding constraints now more difficult to handle • Knowledge management could be (even more) improved
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3.3. Efficiency

"Efficiency" is a measure of how economically resources (funds, expertise, time etc.) are converted to results. Another implication is the **timely achievement** and whether programme implementation is the **most efficient, compared to alternatives**. EnDev "facilitates access to modern energy" by developing markets (e.g. for ICS, pico PV systems, SHS) by training stove producers, doing consumer awareness campaigns, improving transport logistics, implementing or introducing quality control etc. In other cases, EnDev contributes to hardware investment cost (e.g. viability gap financing for mini hydro in Rwanda, 70% subsidisation of PV-diesel mini grids in Senegal). The **overall cost of an intervention depends on numerous parameters**: which activities are required to produce the result, which technology or tier level is aimed at, which other (government) programs already exist (e.g. subsidisation of mini grids in Indonesia), educational background of training participants etc.. Some of these **parameters are not**

under EnDev’s control, others are. Table 3 lists the three main aspects where EnDev can influence its efficiency (left column) and the measures successfully taken to address them (right column).

Table 3: “controllable efficiency parameters” and EnDev’s measures to address these parameters

Controllable efficiency parameters	EnDev’s approach to ensure high efficiency
select intervention areas which allow for “optimum results at limited costs”	<ul style="list-style-type: none"> • EnDev selects a mixture of project interventions in the cooking and electricity sector, a mixture of different levels of supply (tiers) subject to the specific target groups and to the general frame conditions • Higher cost and/or temporary subsidisation only accepted to ensure “leave no-one behind strategy” (e.g. remote areas, refugee camps), to address market deficiencies etc.
optimise the intervention approach	<ul style="list-style-type: none"> • Project proposals selected based on performance based approach, ensuring EnDev only covers those cost which are not covered by other stakeholders • Well-developed monitoring system (including adjustment figures) allows for effective control and steering towards high efficiency, provides proof of the achieved outcomes to ensure expenditures are justified. • EnDev mainly works with local implementing partners (inter-/national NGOs with local staff (partly supervised by GIZ country responsible) • EnDev very flexibly allocates funds per technology and country program
keep its own management cost as low as possible	<ul style="list-style-type: none"> • EnDev has a very lean management at HQ: the overall percentage used for management and backstopping is in the range of 7-8% of the overall budget; at yearly expenditures of 30 million Euro/year this corresponds to about 2.4 million Euro. From the latter about 1.5 million Euro/year are staff cost, out of which about 10% (meaning 150,000 Euro/year are used for M&E). Overhead cost like travel expenditures are kept very low.

For a detailed assessment of efficiency, different country interventions would have to be analysed separately to compare e.g. different activities on ICS or different activities for mini grids, also with other (bilateral) projects. GIZ as organisation does **not have comparable figures at hand**. Other projects obviously do not calculate such cost per person. This may be an indication that comparability is almost never prevailing because project activities and consequently “expense items” vary widely.

The EnDev management stresses that the 20 Euro/person benchmark is an encouragement for projects to **aim at cost efficiency, and lean approaches**, but is not excluding projects above the benchmark provided they give a proper justification. Implementing Partners emphasised that the € 20 pp benchmark cannot be applied in the same way in **all countries with hugely differing characteristics**. Remoteness of the target area, technology and institutional aspects are to be taken into account.

To summarise, the **general efficiency** of the programme is assessed to be very high in particular due to the strong performance-based approach. To assess the cost efficiency of the programme in detail is difficult because of the variety of activities (variety of resources mobilised / inputs as well as variety of goods and services produced / outputs). The programme is definitely very **time-efficient** because it already over-achieved its overall target figure. The “**time dimension**” can also be looked at with reference to “how long the results are sustaining”. Through a number of activities like capacity building

(at different levels), awareness campaigns, developing markets, introducing quality control etc. EnDev is addressing **long-term sustainability**.

Looking at **“climate-efficiency”**, one could simply divide the rough expenditures of 30 million Euros per year by 1.9 million tons of avoided CO₂eq emission, which results in about 16 Euro per ton². This is a rather high efficiency. The programme’s efficiency should however NOT only be measured with such bold figures because EnDev has many more additional – not easy to measure – impacts, which further increase its overall efficiency.

Important measures to **improve the efficiency** further are knowledge sharing and cooperation / harmonisation: Some interviewees stated that with regard to **internal exchange of knowledge and experience** an optimum is already achieved whereas others see still room for improvement. **Building up even more local capacities** (NGO’s, GOs, associations etc.) and further increasing efforts for sharing of EnDev’s global experience to **ensure that this knowledge remains in the specific country** even after project end is considered crucial. Beyond its current efforts to harmonise with other energy projects in a country or region, EnDev should even more **exchange with other (international) stakeholders**.

Regarding overall programme efficiency the following should be taken into account. **Controllable as well as uncontrollable parameters**³ influence both the overall programme efficiency with respect to the “cost to facilitate access to modern energy”. What EnDev can contribute to SDG 7, depends on both types of parameters. This is even more important if benchmarks for specific technologies/tiers are discussed. The overall budget spent by EnDev mainly depends on **types of activities** (technical assistance, training, establishing an RBF structure etc.). A direct link between program expenditures and **real “hardware cost” for a specific technology** only exists where such hardware is (temporarily) subsidised (procurement of goods instead of only providing “soft services”). A **technology-specific benchmark** is considered to be important but might also be misleading. The figures in column 3 in Table 4 may give rise to the impression that access to improved cooking can be provided at 7.5 Euro pp and access to electricity e.g. from a mini-grid at 45 Euro pp. However, the EnDev benchmark cost stands for how much it costs for EnDev to **“facilitate sustainable access to energy”** which is subject to government / other donor subsidy to a specific technology, technology cost, know-how in the country, required training etc. What is required for improved cooking or electricity is extremely complex. The very rough figures for investment costs (column 2 in Table 4) are listed to show the **order of magnitude of the “real price”**⁴, just to implement the hardware. EnDev strives to use funds efficiently by e.g. supporting organisations with strong own contributions in kind or in cash. In some cases, consumers pay the “full investment cost”, in some cases (different) sources for subsidisation are made use of. BUT, in particular for mini grids and grid connection, such additional sources are vital for any EnDev intervention.

² With a CDM price of 0,... Euro/t, EnDev cannot compete but with EU ETS in the order of magnitude of 7 Euro/t EnDev compared to other development projects could maybe competitive (in some fields?); to be analysed.

³ Meaning controllable / uncontrollable by EnDev.

⁴ Including all cost (+ profit) for equipment and installation

Table 4: Cost per person for different technologies: investment cost & EnDev cost to facilitate access

Technology option	Investment cost (for hardware) ⁵ Assumption of 5 pers/device or connection	Current “EnDev cost to facilitate access”
Improved cookstove (depending on technology level)	< 1 to 14 Euro/pers	on average 7.5 Euro/pers for improved cooking
Biogas system	40 Euro/pers in Asia and close to 200 Euro/pers in Rwanda	
Pico PV appliance	7-15 Euro for a relatively cheap device (higher quality more expensive) (1.5-3 per pers.?)	on average 45 Euro/pers for “electricity” (averaging picoPV, SHS, mini grid, grid connection)
SHS e.g. 50 W system	5-11 Euro/W 250-550 Euro → 50-110 Euro/pers	
Mini grid	50-100 Euro/pers for MHP (in Asia) 100-250 Euro/pers for PV	
Grid connection	50-400 Euro/connection 10-80 Euro/pers depending on country (if grid nearby!)	
Overall average		20 Euro/person

The overall **benchmark of 20 Euro pp** can be misleading in a sense that donors start calculating on “how much funds are required to supply 3 billion people with improved cooking stoves and 1 billion people with electricity”. The current logframe incites donor agencies to follow this “linear logic” by specifying what can be achieved with 100,000 Euro. This would assume that all supply has to be provided from the outside and (almost) no internal country development happens. However, if a local energy industry is developing and the economic situation is improving because a critical mass of the people has access to modern energy, ideally, a development process continues without such massive external support. Precondition is that the course is set for a **self-contained development through capacity building, know-how transfer, policy advice and further activities targeting sustainability**. From a **user perspective**, what counts even more than the investment cost - which is often subsidised by development projects - are the **operational costs** (or in case of short lifetimes the **replacement cost**).

⁵ Figures from IRENA Publication and own estimates; these figures do NOT include marketing, quality assurance, R&D or management cost. They rather provide a rough estimate of pure investment cost of the technology (equipment and installation)

3.4. Impact

EnDev's main impacts (specified in the ToR for the current study) together with a respective comment on their achievement are listed in Table 5. On a policy level, the programme inspired transformational changes and had **national impacts** (e.g. development of national ICS standards, awareness for quality products). A differentiation between outcome and impact is sometimes difficult, especially if the impact should be measured by impact studies and not only by calculations. It is impossible to (quantitatively) analyse all the various impacts for all EnDev countries. After the last evaluation in 2014, it was decided to focus on strengthening the validation of reported numbers and reduction factors which has been done successfully. EnDev management is regularly analysing the scientific literature on cause-effect-related impacts of access to electricity and modern cooking technologies.

Table 5: Achievements of impacts

Impact	Comments on achievement
- To increase the efficiency of the use of cooking and lighting energy sources in benefiting households	People who got access to "modern energy": 13.77 million served by an improved and thus more efficient cookstove and 4.45 million supplied by energy services based on RE and energy-efficient appliances
- To reduce indoor air pollution	Reflected in number of people using ICS which significantly reduce indoor air pollution (also through improved cooking set-ups like ventilation etc.)
- To reduce health problems related to the use of traditional energy services, especially for women and young children	Not directly measured but obvious through reduced indoor-air pollution for 6.7 million women and children due to usage of ICS
- To reduce climate-damaging emissions	Per year 1.9 million tons of CO ₂ eq are mitigated Wood and charcoal stoves supported by EnDev save up to 1.7 million tons of firewood each year contributing to reduction of forest degradation
- To develop and strengthen pro-poor markets for improved cook-stoves and off-grid solar products	40,000 trained technicians, stove producers, sales agents sell affordable (or temporarily subsidised) ICS and off-grid solar products and provide after-sales services
- To build and strengthen local gender-neutral capacities	Selective studies in Ethiopia and Kenya show that EnDev seriously addresses the topic although more could be done
- To generally improve people's living conditions .	Numerous case studies provide proof of improved living conditions in addition to the occasionally implemented impact studies. E.g. > 13,400 supported schools gained access to modern energy services (better learning)

For the future, it is recommended to **distinguish more clearly between outcomes and impacts**. Key data currently directly collected by the monitoring system should be considered as outcomes. Figures estimated or calculated based on the outcome figures, should be considered as impacts.

3.5. Sustainability

To achieve “technical supply sustainability”, it is essential to have

1. **capacitated entrepreneurs or individuals**, who are able to
 - **sell technologies** and services in case of a market product (ICS, pico PV etc.)
 - **solve technical difficulties**, replace spare parts or the whole system
2. customers being able and willing to **pay for modern energy technologies and services**
3. a conducive **policy and regulatory framework** in case of a mini grid or grid connection

The complex **monitoring** of EnDev also surveys in how far the interventions are sustainable, e.g. whether people continue to use an ICS. Despite a very conservative reporting, the results are very positive showing **interventions are mostly sustainable**. One (still unsolved) critical question is **for how long and at which expenses** EnDev is going to follow up on this “**sustainability control**”. One of the general conclusions of the studies on sustainability implemented by EnDev suggests to “**strengthen market development with a high ownership of the private sector**”, in particular for ICS, pico PV and SHS systems. The observation that “markets further develop”, is then seen as an indicator for sustainability. Private sector and market development are perceived as “proxy” for sustainability which is maybe not always applicable. E.g. for mini-grids and grid-connection the setting is more complex.

Building up and strengthening local capacities

A big part of activities of EnDev are entrepreneurial and technical capacity building. Awareness-raising on consumer side is done to ensure users appreciate the value of ICS and RE technologies, have sufficient knowledge about quality and warranty aspects and are willing to pay for the services. “**How much**” **capacity building and awareness raising** are needed depend on the complexity of the technology and the context in the specific country. From the online survey among IPs, it turned out that capacity development is considered fully appropriate (36%) or to a large extent appropriate (40%). Given the additional votes for “more or less” or “not” appropriate of together almost 20%, shows that still additional activities are needed to reach a fully satisfying level (need to: invest more time and resources, improve access to existing knowledge products, develop new / improved knowledge products).

Alignment with / change within partner countries: contribution to “transformational changes”

To ensure EnDev activities contribute to transformational changes (and thus sustainability) they should be more systematically embedded in a country context with **national partners and be combined with other activities of national / international actors over a longer period**. Transformational changes (e.g. policy changes, establishment of supportive government programs, capacity building through training institutions) have mainly been triggered by EnDev in countries with rather long-term interventions of like-minded organizations and programs (e.g. Rwanda, Indonesia). EnDev at least partly has contributed to several fundamental changes in its partner countries:

- 1) from fossil fuel dominated economies towards **economies based on renewables and energy efficiency** (promotion of ICS, LED etc., setting of benchmarks for quality)
- 2) from centralized, grid based power systems towards a complementary system also **including decentralized off-grid solutions** for electricity services in rural areas
- 3) from an economic growth concept focused on urban and industry development towards **rural development strategies**.

EnDev should give more thought to **possibilities for integration of different systems**. Although a general “interlinking of small individual energy systems to larger intelligent grids” is still a distant prospect, **sustainable (national) supply concepts** should be part of EnDev’s considerations to avoid that SHS and pico PV markets mainly develop “under the grid” or mini grids are abandoned once the national grid arrives. Different **energy resources** (solar, hydro, biomass etc.), the **macroeconomic impact** (overall investments vs. individual opportunity cost) and **possibilities of later integration** should play a role.

Recycling / disposal of electronic waste and batteries

This topic is directly related to the preceding paragraph. Massive dissemination of small and smallest energy systems with a quite limited lifespan (in particular batteries) will provoke a significant environmental problem of partly dangerous waste. Many interview partners highlighted this as unsolved problem which “does not fit to an approach of sustainable and climate friendly energy supply”.

EnDev management is well aware of the problem and plans to address this topic (together with two other difficult topics: “economic development through energy access” and “sustainable energy supply of social infrastructure”) by means of a so-called **innovation challenge fund**. Given the complexity of the three topics, the additional total budget of 1 to 1.5 million Euro seems to be a drop in the bucket. EnDev should **take this topic much more seriously**, and intensify its already ongoing activities in this field.

Environmental impact of improved cookstoves

There is no doubt about the significant positive environmental impact of improved - meaning more efficient - cookstoves. Whichever fuel is used, be it wood, charcoal, manure or even LPG, if efficiency is increased by 40% (or even more) a lot is already achieved. Still it was mentioned in a few interviews that stoves should be seen in **close connection with the type of fuel**. EnDev is already developing the so-called **Cooking Energy System CES approach** which takes more of the complexity into account: fuel quality / switching fuel, improving cooking device and equipment, adjustment of user behaviour and cooking practices as well as increasing ventilation and modifying the kitchen. From a user perspective the dimensions of accessibility, health protection and convenience are those of relevance, also reflected in the CES. EnDev worked on the CES evaluation concept (piloting in the field since 2017). While working on field studies to assess the influencing factors, it seems that there is contemporaneous need from IPs to get additional information and support to already **apply new findings** in their specific projects.

4. Strategic assessment of program governance and management

4.1. Governance and management structure

EnDev is co-managed by RVO and GIZ. With the handover of the (co-) leadership of GIZ’ EnDev management **adaptations in the overall management structure** have been made within GIZ. To share management responsibility among several persons and increase work efficiency an additional hierarchy level is being introduced, also allowing for more participatory decision making. The management structure will then consist of top management and 3 departments. All in all, EnDev has a **lean and well appropriate management setup** with well-defined rules and procedures, provoking limited cost (maximum 8% of the total expenditures). EnDev regularly organises meetings for internal consultations and for its global staff, for mutual information and feedback to EnDev headquarters staff. Support provided by the management to the country teams is highly appreciated but still with room for improvements. **Members of the Governing Board** representing their countries’ polices, bring in their

points of view (mainly during the bi-annual meetings). This especially counts for decisions that have financial consequences.

A workspace the so-called “**EnDev Wiki**” is made available by Energypedia for all EnDev staff. Currently about 380 EnDev staff members are on the Wiki and thus also have access to [Energypedia](#)⁶. The latter is a wiki platform for knowledge exchange on renewable energy, energy access, and energy efficiency topics in developing countries with currently 8,000 registered users (> 50,000 unique visitors all over the world in Jan 2018). At EnDev’s start, Energypedia published lots of relevant information and reports and thus made it available to a broader public. Due to limited resources (financial support from EnDev currently 40,000 Euro/year) it is impossible to keep pace with analysing, processing and selection of relevant information for the platform. Interviews with IPs showed that the Wiki and Energypedia are **very well appreciated**, but more comparative analyses of implementation experience, information also in other languages (e.g. in French, relevant for many African countries) etc. are needed.

4.2. Portfolio management and steering of the program

Per October 2017, in total about € 312 million are committed to the EnDev Programme. About one third (€ 106 million) is earmarked: € 29.5 million for special country programmes and about € 77 million for specific technologies/modalities. In addition, the different planning horizons and disbursement cycles of EnDev’s donors make it difficult to plan EnDev’s expenditures more than 1.5 years in advance. Despite these limitations for flexible **use of funds**, EnDev management tries to safeguard a smooth implementation by means of the non-earmarked donor funding.

EnDev clearly defined **9 entry criteria** for countries in Africa, Asia and Latin America with a minimum energy poverty ratio (30% on the national level), while at least half of its funds has to be committed to LDCs: *Promising opportunities for increasing energy access, political interest of EnDev donors, ownership of the partner country and stakeholders involved, expected cost efficiency (low transaction costs per beneficiary), etc..* Over the last 4 years the number of EnDev countries was rather stable, but the **total number of country projects has grown**. Since 2015, **multi-country projects** are developed whereby it is not clear to which extent the country selection criteria are applied in these cases.

Reasons for **phasing out** include *high GDP per capita, crowding out by other donor activities (failing cooperation), (sub-)sector no longer in need, low results at high cost, lack of funds, political reasons*. Entry and exit criteria are considered adequate. Some fear was expressed e.g. that EnDev ends up in a **hit-and-run strategy** to make energy access possible for €20 pp.

Upscaling of activities in existing country projects goes in accordance with clear **criteria and procedures**. The criteria include e.g. *cost efficiency, sustainability, impact, market development, African country, LDC, bonus for remoteness and gender strategy*. The decision for a recommendation of a proposal to the GB Meeting is taken on a 90% consensus during a 1-day workshop, but without a scoring system (needs further careful consideration). Since 2016, the EnDev management tries to make the upscaling recommendations **more transparent** to the Governing Board. Since it was found that Implementing Partners are in a relatively powerful position (some handling a significant number of projects, identification of new projects etc.), the **selection process of IPs** as well as the **process of fund allocation to project proposals** might, in general, need more **transparency**.

⁶ Energypedia is a spin-off of GIZ founded in 2012; currently with 1.5 full-time positions.

4.3. Quality control and performance assessment

EnDev’s “**high end**” monitoring system is focused on results at outcome level and merges the results achieved in a variety of projects into a few meaningful figures to show its relevance with regard to the SDGs, in particular SDG 7. The monitoring is **rather conservative** in its assumptions and counting methods to ensure credibility vis-à-vis the public and its donors. The latter appreciate **reliability and transparency** of the system and a good bi-annual reporting, quick and to the point financial monitoring, and prompt reporting on special requests. The overall **(global) baseline** with 2.7 billion people without **access to modern cooking stoves** and 1.2 billion without **access to electricity** (ratio 3:1) is transferred into a similar ratio of targeted beneficiaries: 13.8 million got access to ICS and 4.4 million to electricity. The fact that also the baseline figures clearly differentiate between cooking and electricity (“overlap” not specified), is an argument to **keep the figures also in the EnDev monitoring separate**. Critical remarks from implementing partners and (external) partner organisations refer to 1) the **overall figure** “people with access to modern energy” and **averaged benchmark of 20 Euro pp** since communicating all energy services in ONE figure may lead to incentivising the **cheapest technology** (e.g. ICS) and a disregard of more difficult targets such as job creation, sustainable supply of social infrastructure; 2) the **reduction factors**; the complex system of eight parameters (will soon be reduced to three) is difficult to understand, is perceived unfair and prevents from comparison with other projects; 3) **more reporting** on e.g. context and **policy framework** is called for, although not being a “funding criterion”. Finally, the question needs to be raised about the **long term vision of the monitoring system**. Currently, the data are mainly stored by GIZ. To involve a local institution would create more ownership for the target and would allow for further use and analysis of the data and information in the specific country.

The EnDev monitoring system is quite complex and it developed over years based on the reporting requirements but also based on field realities (what is measurable). The reviewers did NOT undertake an in-depth analysis of the different counting mechanisms, the procedures and the efficiency of the system. The main focus was to understand the overall logic and in particular **how this monitoring system steers the program and its activities**. This led to recommendations on how to adapt the system (see 5.2).

5. Recommendations and strategic building blocks

5.1. Contribute to transformational change

(I) Contribute to transformational change

- For each specific country intervention, **assessment** of
 - the importance of the **policy level** for the respective (planned) approach
 - **opportunities** to increase sustainability
 - possible integration of planned intervention in (future) **national energy system**.
- If the assessment above reveals that the policy context needs to be addressed:
 - Check for **cooperation partners** already active in that field to feed in ideas / experiences
 - If cooperation is impossible, plan **own activities** on policy framework (or else leave the country). Policy advice gets more **credibility** if implementation is done in parallel!
- Strengthen **relationship with governments to stimulate more ownership** (convey the message “EnDev activities support your work”).
- **Integrate** planned EnDev interventions on policy level **in outcomes and monitoring!**

It was stated by many interviewees that EnDev should keep its implementation focus while taking into account the importance of necessary **cooperation with governmental institutions and other strategic partnerships** to better facilitate **transformational changes** and thus to increase sustainability. In particular, in cases where a sudden change in government policy completely countervailed EnDev activities, the limitations became evident. Based on these statements, the above stepwise approach is recommended. Some EnDev donors as well as the European Commission are supporting the future **GET.pro** (Global Energy Transition Program; former EUEI PDF); EnDev should closely coordinate its activities with GET.pro.

5.2. Develop portfolio strategy and translate it into M&E system

(II) Develop portfolio strategy

- **Address ALL agreed outcomes “in the (core) programme”** (supply of social infrastructure, productive use, income generation, recycling or at least save disposal of electronic waste, etc.) while accepting a higher overall benchmark or clearly disclose (even more) different benchmarks for different outcomes; see also (III) below.
- Develop a clear policy on **private sector involvement** in EnDev:
 - **(local) SME should be involved** wherever possible and useful to ensure a stronger link between energy access and **local economic development**
 - **International enterprises** should (only) be involved if they provide products / services not available (at the required quality) in the country and/or if they provide knowledge and technology transfer and thus build up local capacity

Addressing ALL agreed outcomes “in the (core) programme”

Nobody among the interviewees and in particular from the donor agencies seriously challenged the **“3:1 ratio”** (improved cooking versus electricity access), a ratio which to a certain extent also reflects the balancing between “pro poor/leave-no-one-behind” and “higher tier levels”. Since there was no serious objection to the ratio, it is not suggested to significantly change it⁷. The general portfolio approach is not disputed, however it is recommended - even if that increases the benchmark -

- a) to **equally address ALL targeted outcomes**, including productive use, income generation etc. and
- b) to **put more focus on generation of a local added value** to increase the long term impact on the local economy, be it for ICS or electricity supply systems, independent of the tier level and

The interviews revealed a shared firm conviction about e.g. the **importance of income generation and productive use** but also the **uncertainty about the best approach** for success. More **internal discussions** between EnDev and its donor community are required to create more awareness on limitations and opportunities with regard to targets which go beyond the stipulated quantitative core outcomes. The programme is steered by the quantitative outcomes to be achieved based on an overall limited budget

⁷ The idea of leapfrogging of technologies, meaning that e.g. electricity access at the same time allows for cleaner cooking is mostly not realistic. Due to affordability reasons people tend to continue cooking with traditional methods (even 3-stone-fire) despite having access to (some) electricity. In some cases, also the limited available (electric) capacity leads to “stacking” of multiple energy solutions instead of leapfrogging

which entails the 20 Euro/person benchmark. This leads to the effect that e.g. the outcome figure “number of supplied SMEs” (despite being part of the outcome indicators) is “less attractive to be followed up” because it requires more resources. Therefore,

- Either such outcomes need to be **“treated separately”**, by introducing separate budget lines, or
- All outcomes “remain in the (core) programme” while accepting a **higher overall benchmark** or clearly **disclosing (even more) different benchmarks** for different outcomes.

One justification for the second option is the context of Agenda 2030 where SDG7 is closely linked to other objectives.

The plan to introduce a so-called **“innovation challenge fund”** - maybe considered as preparation to develop the portfolio - bears the risk that (the rest of) the programme targets even more the “low hanging” fruits and anything which appears more difficult and cost intensive is left to the innovation area. **“Pioneering” should continue to be taken serious and remain part of EnDev’s core business** to be assigned the required significant budget. A maximum of 1.5 million Euro for the total of three complex themes, namely “economic development”, “social infrastructure” and “recycling of solar access products waste”, and with a maximum of 3-4 projects (under each of them?) is considered to be not sufficient given the importance of the topics. Potential **disadvantages** of such an innovation fund could be

- Limited or no possibilities to **address the specific problems across the board** (at an EnDev-wide scale) and thus after all **postponing more far-reaching changes** in the program
- Provoking an **increase of the benchmark**, once the approach is to be scaled up
- Approaches turning out successful under specific circumstances are not / less successful in another situation; no **“100% transferability”**.

Topics like productive use, support of SMEs, job creation, local value creation, sustainable energy for social infrastructure and “sustainable fuel for sustainable stoves” should become **inherent part of the future strategy (reflected in the monitoring)**. This would NOT lead to a fragmentation of topics but rather complement the hitherto achievements and maybe open opportunities for additional funding.

Formulation of a strategic EnDev policy on private sector involvement

To create as much local added value as possible, finally an appropriate **“supplier approach”** is needed, meaning to determine when **large (international) supplying and investing partners** are needed and when **(local) SME** should be involved.

Based on implementing experience, it can already be analysed **which approaches in the past helped the local private sector**, where did international companies eliminate local ones (what are positive and negative impacts) and what was **EnDev’s role** in such developments. Based on this analysis EnDev should develop **clear (eligibility) criteria** on how and where to involve (which) private sector.

(III) Translate into M&E system

- **No longer lump together electricity and improved cooking in one figure.** This overall figure is perceived by many stakeholders as too artificial, because e.g. access to an improved cookstove is considered not comparable with having a connection to an electricity grid. In **the logframe (outcome figures)**, in monitoring and in reporting, it should be separated between
 - **Cooking energy**
 - **Off-grid electricity and**
 - **mini grids / grid connection**

Telling “three different stories” with their added value allows presenting the broad spectrum of achievements with additional **contributions to other SDGs** (for each).

- Consider a **new / different indicator related to income generation** in general. The monitoring should even more strictly value any kind of additional income generation, instead of only “job creation” (currently calculated as full-time job equivalents) and “supply of SMEs” and thus also clearly incentivise local production vis-à-vis imported products.
- Adaptation of outcomes should contribute to: **better reflect the additional benefits** of the program, **simplify the current monitoring** and make better use of the **collected information**. In this context, it would make sense to also incentivise “fuel switch”.
- Capitalise **multiplier effects** by working on a higher (institutional) level to **enable local experts, associations etc.** to train manufacturers, entrepreneurs etc. (subject to country strategy; see (I) above). This needs to be reflected in a “multiplication factor” in the monitoring.
- Ensure transparency on **EnDev’s allocation of resources**: procurement of goods vs. “soft services” (what does the benchmark include and additionally required resources)

Any decision made on addressing **additional and/or modified program targets** needs to be reflected in an adaptation of the outcomes in the logframe, as well as in the monitoring system accordingly. Since the programme is very much focused on achieving its quantitative outcomes (at a given cost benchmark), any strategy change can only materialise if

- a) it directly contributes to outcomes in the logframe OR is defined as separate (new) outcome.
- b) it does not lead to an increase of the overall benchmark of 20 Euro/person OR is covered by a separate budget line.

The suggestions are summarised under (III) above. In particular with regard to the indicator on “job creation” it is recommended to broaden the view to **“income generation”** and to ensure that not only the direct but also indirect impacts and co-benefits are taken into account.

Furthermore, to **create more transparency** about what the so-called benchmark/s are standing for, it is recommended to report - in particular towards EnDev’s donor agencies - even more clearly on **what the main expenditures of EnDev include** (e.g. marketing, training, quality management) and what they do NOT include (e.g. hardware cost for mini-grids where this is covered by other programs / governments). This creates more awareness on what is feasible based on a specific available budget.

In a nutshell, EnDev needs to **re-assess its impact dimensions**. This is then the basis for securing long-term financial commitments, increasing transparency in the country selection process and the selection of implementing partners and project proposals as presented in the next paragraph.

5.3. Secure funding, specify entry & exit strategies more clearly and strengthen implementation structure

(IV) Secure funding

- EnDev management to work and lobby towards **longer term funding commitments** to maintain the necessary flexibility AND required continuity.
- **Conditioning and earmarking of funding to be reduced** from donor side to avoid exponential growth of EnDev's already very complex accounting system to allow for sound incremental growth of EnDev. Different types of earmarking hamper economies of scale in the management while increasing the required effort for risk management in fund administration.
- EnDev to **systematise its cooperation activities in a target-oriented way**. An analysis should for each potential partner identify
 - specific features and possible fields of cooperation with EnDev with regard to: information exchange, lobbying, theme/subject-based advocacy, funding channels / joint investments
 - Possibilities for linking up with these initiatives

With the focus on SDG7 and the diverse activities of EnDev, all current donors find their respective focus in the programme. Some even see options to provide additional funding and would accept a benchmark of > 20 Euro/pers. if "good arguments are provided", e.g. higher tier electricity supply to create more options for development through energy. EnDev management is developing concrete ideas to **strengthen its donor communication**: e.g. address donor agencies more intensely (also bilaterally), harmonise EnDev with other bilateral and global activities of its donors, provide more in-depth information on EnDev's activities and maintain the faithful cooperation. In general, the management should work and lobby towards **longer term funding commitments** and less **conditioning and earmarking**.

With regard to cooperation partners at global as well as on country level, EnDev needs a more **consistent strategic approach**. The way how EnDev is structured, it can design interventions which are **flexible, innovative and fit to specific country objectives**. This creates opportunities to define partnerships with others which do not have these comparative advantages, but can bring in **significant funding and strength in negotiating with government institutions** (e.g. WB, ESMAP). The **GET.pro program** (former EUEI PDF) is also seen as an important partner. With its network into national governments and international initiatives it is well positioned to include EnDev's lessons into inter-/national **policy making**. Despite disagreement on some fundamental aspects, also **cooperation with the GACC secretariat** should be followed up and intensified.

To **identify and prioritise future (most promising) cooperation partners**, it is recommended to **involve the GB members** to provide information about other initiatives and activities which they ALSO support and where they like to see more synergies. **Alignment with the NDC Partnership** can be a useful and vital complement to this.

Since EnDev does not have a political mandate, it needs to be selective in the way it engages itself in initiatives at global level. EnDev as a performance-based program with its limited budget (relative to the overall objective to achieve SDG7) could seriously **involve other partners to multiply its approach** to accelerate energy access. This can be achieved e.g. through awareness raising (GACC), through lobbying of EnDev's approaches via a "mouthpiece" like SE4ALL or through up-scaling by financially stronger "large-scale implementers" (WB or other MDB). Finally, sharing the new draft strategy with the most important strategic partners could be a way to create a broader basis of confidence.

If, the described approach to leverage impact is considered promising, then, the targeted outcomes (and monitoring system) need slight adaptations. **Accelerating access through cooperation** should be incentivised so that efficiency gains are NOT “superseded” by a very low **attribution factor**.

(V) Specify entry & exit strategies more clearly

- Increase **transparency** in country selection process
- Better definition of application of possible entry and exit strategies in close connection with the **overall project objective in this country**.
- Define whether same entry/exit criteria can be applied for **multi-country activities**.
- Decide whether **weighing factors** need to be attached to each of the entry/exit criteria.

EnDev management considers scaling up and growth of the EnDev Programme as a feasible option as long as conditioning and earmarking do not further increase. In addition, in particular more complex country interventions (e.g. mini grid support) require a **longer-term commitment** in a country. However, independent of the term of intervention in a specific sector and country, a clear **exit strategy** needs to be defined because this is also part of a set of tools to steer the activities. Recommendations are summarised under (V) above.

(VI) Strengthen implementation structure

- Open up for a **diversification among implementing partners**
- Re-consider the **selection process** of such partners to ensure professional work to maximise outputs: which services to be tendered (and how), increase transparency in processes, evaluation of implementers, open up for proposals from “outside of EnDev”.
- Develop a clear, transparent and straightforward strategy allowing for **fair competition, result-oriented selection** and **flexibility** for the management.

Experience shows that scaling-up activities “too thoughtlessly” can easily **overburden implementing partners** like smaller NGOs which - despite broad and in-depth experience in a topic - simply do not have the structures (including sufficient competent and experienced staff) to quickly multiply their activities. A **thorough assessment of available capacities and a realistic project schedule** should have priority over ambitious target figures. EnDev should consider a **diversification among its implementing partners** and in particular re-consider the **selection process**.

Contributions of the current IPs need to be evaluated; so far there was much satisfaction about the work of e.g. SNV, HIVOS and Practical Action. An appropriate selection process is even more relevant for technically more complex activities like biogas systems, mini grids and grid connection. Even if e.g. a mini-grid is tendered and based on this procedure assigned to a private implementer, professional overlooking of the process, straight forward approaches (not excluding local entrepreneurs e.g. through exaggerated standards) and understanding of technical and financial aspects are required to make a good selection among bidders and control the implementers’ work.

E.g. one criterion to decide on whether (national) tendering or call for proposal is required or not should be the number of potential competitors and the **trading off between competition and need for local capacity building**. When tendering implies a focus on the lowest cost of offered services, caution is justified: EnDev’s features **require high quality inputs**, in which local knowledge, reputation, and embeddedness are key.

5.4. Structure knowledge management and innovation

(VII) Structure knowledge management and innovation

- EnDev management with its donor community to take strategic decision on **importance of knowledge management** for the Programme
- Define (a least) a **1% share of the budget** for knowledge management to
 - facilitate cooperation with global and local partners (through sharing of lessons),
 - increase EnDev’s impact at different levels and
 - significantly contribute to its visibility (see also (VIII)).
- **Energypedia - an excellent “tool”** at hand - to be used to bring information pro-actively to a broader public through new knowledge products, social media, webinars, online courses etc..

The interviews showed that there is common agreement among donors, IPs and cooperation partners that “knowledge management makes much sense” and should be improve. Hereby, it was stressed that special focus should be put on implementing partners as main contributors and main users of knowledge products. More formats should be identified to also facilitate **direct South-South-exchange** among local actors.

Topics, described below, should be addressed (partly resulting from interviews). For a final decision on what is needed most urgently a more **systematic inventory** is needed.

- **Market development** while adhering to a **pro-poor approach** (e.g. for ICS, pico PV, SHS): where markets so far are developing and where not and why (e.g. more SHS “under the grid” or “beyond the grid”); how to address the difficulty to serve rural, often less attractive areas.
- **Local value chains and local added value:** which value chains have been successfully developed with regard to energy systems and the use of energy (see also c) below); which activities had really improved the LOCAL economic situation and improved affordability of energy services; what are different technologies contributing (including mini-grids)
- What are pre-conditions for successful development of strong and well-functioning **supply chains** for increasing/improving access to energy (e.g. ICS, biogas)
- Sustainable **energy supply of social infrastructure** (schools, health centres etc.)
- Profound analysis on **successes and failures of mini grids:**
 - a) which method was applied for technology choice (i.e. resource assessment or others)
 - b) Systematic comparative analysis of differences between PV- and MHP-mini grids including investment and O&M cost, cost drivers, generation cost per kWh; successful training approaches, supply chains, critical number of systems in a region, tariff regulations, ownership and operation models
 - c) Successes and failures of productive use activities (preconditions, impact)

Energypedia gives a good introduction on mini grids, however an update and significant replenishment with lessons learned is required (e.g. experience from 600 implemented mini grids in Indonesia). Currently, e.g. “The Good & Bad of PV Mini Grids” is planned analogous to [“Good & Bad in MHP”](#). In general, energypedia is an excellent platform for knowledge exchange and could be developed to become a “capacity building platform”. It could e.g. offer webinars and online courses to be held by experts on specific topics. Still, such online activities should be complemented by real face-to-face trainings, in particular where field courses for practical skills are required. Energypedia with support

from EnDev experts should develop more synopses and summarizing analyses on specific topics as introduction for project implementers / practitioners and to guide them to more in-depth information.

5.5. Develop strategic outreach

(VIII) Develop strategic outreach

- EnDev management to **develop an updated communication strategy** on global level and assist with a helping hand on specific communication strategies on country levels: contents, target groups, communication channels.
- Transfer this strategy into an **action plan with a 1- or 2-year schedule**, defining concrete measures like participation in workshops, conferences, writing of policy briefs, etc.

Better visibility helps to have **more (political) influence** on what others do (government organisations, other donor programs etc.), to establish **strong partnerships** and possibly also to attract **additional funding** (see also (IV)). Intensified knowledge management - including professional knowledge products which can be used by other projects and programs - should be part of the outreach strategy. With its newly established pillars “Key Account Cooperation Management” and “Public Relations & Event Management”, EnDev already prepared the ground for improvement.

This also includes a more systematic check of what others are doing, e.g. “green mini grid helpdesk” of AfDB (funded by DFID), E4I (former GVEP), GACC, ARE etc.. The content of the communication strategy then needs to be transferred into an **action plan with a 1- or 2-year schedule**.