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Decision Support Unit

Essor Access to Electricity Evaluation Study

November 2022 – Final

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itad

e-Pact is a consortium led by Oxford Policy Management and co-managed with Itad

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About the Decision Support Unit (DSU)

The DSU is a Foreign Commonwealth and Development (FCDO) -financed project implemented by Oxford Policy Management (OPM) in the Democratic Republic of Congo (DRC). It is designed as a support function to FCDO's overall management of its Private Sector Development (PSD) programme. The DSU provides evidence and analysis aimed ultimately at improving the programme's overall impact of increasing incomes for the poor in the DRC. In addition, the DSU provides an external learning role targeting improved implementation practices of the broader development community working in the field of economic development.

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List of abbreviations

A2E	Access to Electricity
AfDB	African Development Bank
ANSER	Agence Nationale de Service Energétique Rural / National Agency for Rural Energy Services
ARE	Autorité de Régulation du Secteur de l'Electricité
BER	Business Environment Reform
C19	Covid 19
DFI	Development Finance Institution
DFID	Department for International Development
DP	Development Partner
DRC	Democratic Republic of Congo
DSU	Decision Support Unit
EQUALS	Evaluation Quality Assurance and Learning Services
EU	European Union
FCDO	Foreign, Commonwealth and Development Office
GBP	Great British Pound
GoDRC	Government of the Democratic Republic of Congo
GFF	Green Finance Fund
ICF	International Climate Fund
IFC	International Finance Corporation
IFI	International Finance Institution
IMF	International Monetary Fund
IPP	Independent Power Producer
KfW	Kreditanstalt für Wiederaufbau (German state-owned investment and development bank)
KPI	Key Performance Indicator
LF	Logframe
LPG	Liquified Petroleum Gas
M&E	Monitoring and Evaluation
MoB	Ministry of Budget
MoECNWF	Ministry of Environment, Conservation of Nature, Water and Forests
MoEH	Ministry of Electricity and Hydropower
MoESD	Ministry of Environment and Sustainable Development
MoRHE	Ministère des Ressources Hydrauliques et Eléctricité (Ministry of Hydropower and Electricity)

MoF	Ministry of Finance
MoU	Memorandum of Understanding
MTE	Mid Term Evaluation
MW	Megawatt
MWh	Megawatt Hour
MWp	Megawatt Peak
N/A	Not Applicable
NAIC	Net Attributable Income Change
OPM	Oxford Policy Management
PEA	Political Economy Analysis
PM	Project Management
PPP	Public private partnership
PSD	Private Sector Development
PV	Photo Voltaic
PwC	PricewaterhouseCoopers
Q	Quarter
RE	Renewable Energy
REDD+	Reducing Emissions From Deforestation And Forest Degradation in Developing Countries
REIPP	Renewable Energy Independent Power Producer
RFP	Request for Proposals
RFQ	Request for Quotations
SEFA	Sustainable Energy Fund for Africa
SFI	Société Financière Internationale
SMG	Solar Mini Grid
SNEL	Société Nationale d'Electricité (DRC National Electricity Utility)
SoP	Standard Operating Procedures
TA	Technical Assistance
ToC	Theory of Change
ToR	Terms of Reference
TREES	The REDD+ Environmental Excellence Standard
VFM	Value for Money
UCM	Unité de Coordination et de Management / Coordination Management
UNFCCC	United Nations Framework Convention on Climate Change
USAID	United States Agency for International Development
WB	World Bank

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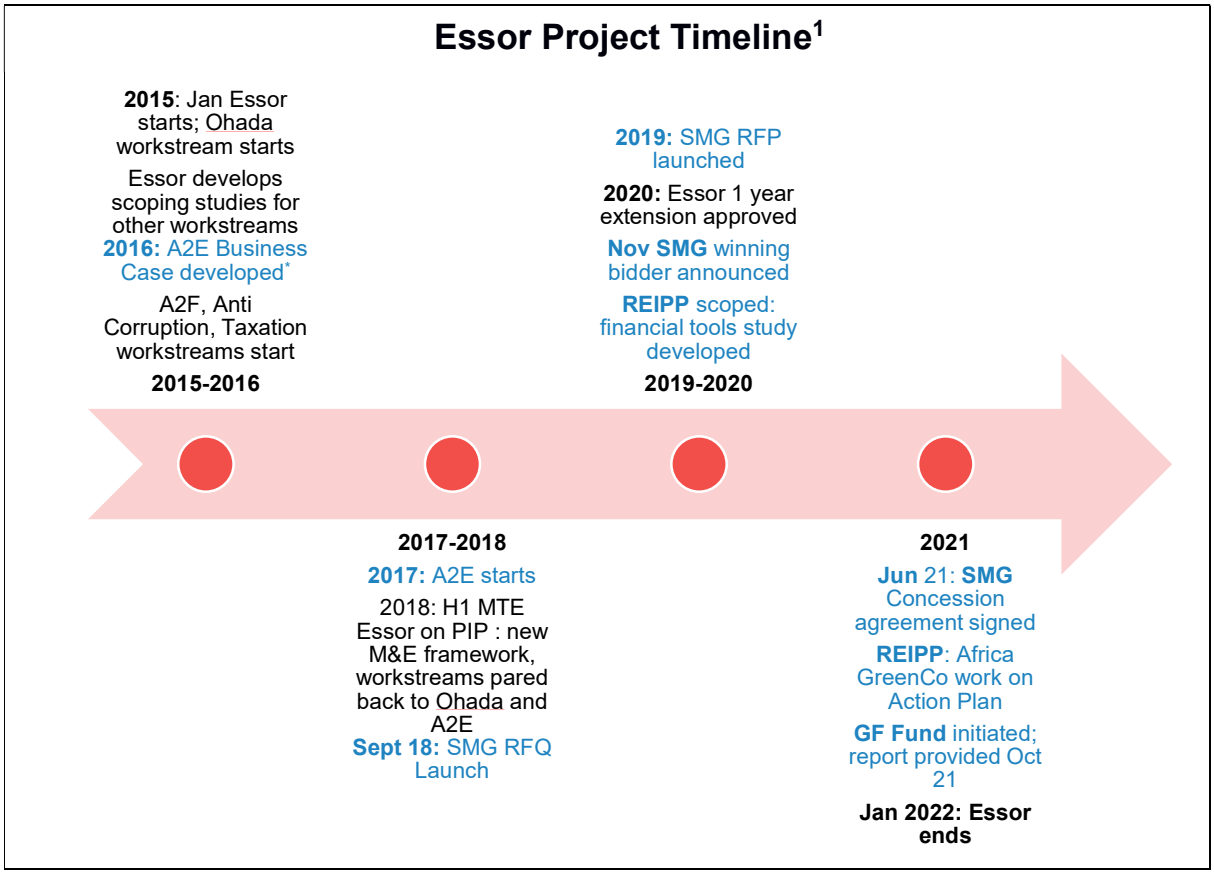
1 Introduction

1.1 Project overview

Essor was a £35 million component project of the FCDO's PSD programme in the DRC. Implemented by PwC, Essor was working to reduce the cost of doing business in the DRC and facilitate increased income for poor households. Essor's implementation period was from January 2015 to January 2022.



Initially, designed as a non-prescriptive, flexible facility for designing interventions that could be scaled up or down depending on progress and anticipated results, from mid-2018 Essor was reorganised around the two workstreams (Access to Electricity (A2E) and Business Environment Reform (BER)) where it had the most traction. The BER component provided support to the government to formalise the economy, reduce corruption and facilitate access to credit. The A2E component worked to bring reliable renewable energy to DRC by unlocking constraints to private sector investment including, inter alia, support to an international auction of Solar Mini Grid (SMG) concessions. In the last two years of the project, the A2E component was expanded to support two new interventions:

[1] A2E in blue

1) An intervention aimed at unlocking stalled Renewable Energy Independent Power Producer (REIPP) projects and;

   An intervention to support the government's development of a roadmap to expand access to green financing.

1.2 Objective and Scope

This evaluation study forms part of the overall Final Evaluation of the PSD programme. The core objectives of this specific study on Essor's A2E component were to:

1) Identify actionable lessons that can enhance the design and future of assistance in the renewable energy sector in DRC;
2) Share lessons and recommendations relevant for FCDO's strategy and programme delivery in DRC and other fragile and conflict affected states; and
3) Update on the progress made by the intervention against that set out in the Logical Framework and original Theory of Change.

1.3 Methodology

As well as reviewing programme documentation, the evaluation study benefited from in-person and remote discussions with key project stakeholders including the DRC government (notably the Ministry of Hydropower and Electricity, including its Unité de Coordination et Management (UCM), as well as other public-sector stakeholders), Development Finance Institutions (AfDB, IFC), development agencies active in the Renewable energy sector in DRC (World Bank, AfDB, EU), Africa GreenCo, Gridworks, and the most advanced REIPP private promoters (as advised by UCM). The study also benefited from inputs and discussions with Philae Advisory, who were generous with their time. A full list of interviews is set out as an annex.

2 Executive Summary

2.1 Key findings

The A2E component's objectives and the Theory of Change to achieve them, remain relevant and coherent. The A2E intervention was designed to contribute to poverty reduction, economic growth, and job creation by lowering the costs and improving the reliability of electricity for small businesses; and sustainable development through the replacement of greenhouse gas (through replacing diesel generators with solar energy). These outcomes were to be achieved by attracting private sector investment into the renewable energy market.

The most important success of the A2E intervention has been the replication of the SMG model in other projects. This was achieved by investors, development partners and the government increasing interest and confidence in the feasibility of private sector participation in the renewable energy sector. There is good evidence that Essor's work and experience has influenced other organisations and the development of new SMG initiatives. UCM claimed that two other projects are based on the Essor model: SEFA (an electrification project of 500 households); and a project through the IFC in Kasai, part of their Scaling Mini-Grid programme. IFC also confirmed to the evaluation team that they considered their Scaling Mini-Grid programme in DRC to be a logical scale up of Essor's intervention. UCM also comment that more investors and entrepreneurs have come into this area partly due to Essor's engagement. The World Bank believe that Essor's intervention was an important part of the ecosystem, which has led to an explosion of interest in SMG initiatives in DRC.

The project is still likely to reach the impact targets set out in the PSD programme documents if the SMG concession construction is completed, although three years later than originally planned[2]. Progress has been slow due to the need to re-develop the demand study, environmental and social impact assessment, and tariff framework model. Financial close[3] is now expected in Q2-Q3 2023. This status is about six months later than the Decision Support Unit's (DSU) assessment at the beginning of 2022.

The likelihood of timely completion for the SMG intervention is, however, diminishing. This is due to a) the lack of qualified advisers to assist UCM and the National Regulatory Authority for the Electricity Sector (ARE) in the government's final tariff negotiation; and b) the time needed for the recruitment of a new set of technical advisers to replace those previously contracted by Essor). c) Delays may then mean that Essor and FCDO loses its "first mover" reputation if another similar SMG programme progresses to completion sooner.

The REIPP and Green Finance Fund interventions have not progressed since the Essor project completed in January 2022. They are unlikely to deliver any impact without further external support since:

- The REIPP's key hurdle has been the commercial risk of dealing with the Government offtaker SNEL. No agency was willing to provide guarantees. **Essor finished before the intervention reached a tipping point.** The decision to use an offtaker, Africa GreenCo, to mitigate the risks inherent in using SNEL was a creative work-around to the apparently intractable challenges of working with SNEL. However, Africa GreenCo also has hurdles to address before they can move forward (for example, the ability to access the regional energy

[2] PSD Logframe projects NAIC benefits from A2E to start in 2021
[3] Financial close refers to the end of the procurement phase where the contract has been signed, all conditions precedent for financing are met and financing is in place so that the concessionaire can commence construction.

market) and they are yet to pursue board approval. Africa GreenCo advise they require three key issues to be resolved before moving to the next stage: 1) a fair and clear tariff structure from SNEL; 2) a framework for third party access to the grid; 3) a clear plan and roadmap on the transmission and distribution grid development. Further creative problem solving is needed to move forward.

- The Green Finance Fund (GFF) remains at the design stages with a lack of funding cited as a contributing factor. Philae advise development work was slowed at the request of FCDO pending confirmation of funding availability; UCM advise the project requires funding to move forward. In addition, GFF will require substantial collaborative effort across different ministries, which is challenging, and the MoECNWF are likely to require assistance in mobilising and coordinating this as their institutional mandate and technical capacity to develop the climate finance fund idea are limited. The MoECNWF currently anchor a climate finance fund (REDD+) but this is based on forestry projects rather than renewable energy.[4] According to the National Plan for Climate Adaptation[5], the MoECNWF are the overall ministry in charge of adaptation and the Ministries of Finance and Budget are leading the working group on Climate Finance. MoHRE is also critical to the initiative as their projects will need to be certified and / or financed through the fund.
- **The absence of a qualified advisor has reduced the** private sector's confidence and there are perceptions progress has slowed. GlobalEq and GreenCo are not confident that UCM have the capacity to resolve issues without a qualified adviser.[6] For example, in July 2022, Africa GreenCo shared their progress report on the understanding they could travel and meet with the MoECNWF to explain their proposals further but have yet to hear anything. The February 2022 review also referenced this risk:

  > *as per Essor's assessment, whilst UCM has a solid understanding of applicable legislation for IPPs and existing IPP contractual frameworks needed to progress the REIPP work, they do not have the capacity to respond to developers' requests to changes to templates and established processes, to adapt the current set of unbankable contractual frameworks and are not familiar with international standards of IPP agreement. UCM are therefore likely to require additional technical support to unblock these projects.*

- With respect to the **standardised documents:**
  - In line with Essor's transaction approach, Essor determined that a more effective approach to unlocking REIPPs was to focus on each transaction's concession agreement, review them and individually address or renegotiate contentious issues. This differed from the initial idea of developing standard concession templates to be used for multiple transactions. However, time ran out to address all the transaction's issues – particularly the absence of a viable offtaker. As part of its closure activities, Essor produced a briefing note with recommendations on a risk allocation methodology and how the concession templates would need to be developed to implement the recommendations.
  - Similarly, little progress was made in the development of Standard Operating Procedures (SoPs). As part of its closure activities, Essor developed a note setting out the different roles of ARE and UCM in the PPP procurement process. There is no

[4] https://mptf.undp.org/fund/3cd00
[5] Deputy PM's Office, Ministry of Environment and Sustainable Development, National Adaptation Plan to Climate Change 2022-2026, November 2021
[6] This was brought out in the discussions with GlobalEq, GreenCo and Gridworks related to SMG.

evidence that the government has adopted the advice and drafted the SoPs and made any regulatory changes necessary to operationalise the briefing note.

2.2 Lessons Learned

Key lessons from this uneven progress are:

- **The private sector's and development agencies' confidence in the SMG concept is influenced by the progress made even though the SMG concept hasn't yet been 'proven'.** None of the three interventions have yet led to meaningful private sector investment. Yet, the SMG transaction[7] has progressed to a stage where it has showed the market that there was a feasible pathway to private sector investment, and it has allowed other development agencies (notably the World Bank, IFC and AfDB) to build their interventions around this pathway, i.e. use of minigrids to avoid the commercial risk of the offtaker, focus on solar which is more scalable than hydro, concessioning groups of projects, derisking the financial transactions, and providing financing up front. Essor's efforts to socialise the model (learning studies, articles, presentations, workshops) contributed significantly to the success of the SMG.
- **Lack of time to develop and complete the work on the REIPP and Climate Roadmap initiatives undermined their potential impact.** REIPP commenced in September 2019, at that time just over 12 months from the planned end of Essor. Even with Essor's one-year extension, there wasn't enough time to deliver the targeted results. The climate finance project was initiated in March/May 2021, just 9 months before Essor's (post-extension) closure. As the SMG initiative has shown, in a country like DRC, implementation takes time. Time is needed to build consensus, build capacity and understanding (through workshops, diagnostics etc.) and adjust to changing conditions (C19, political transitions, political turbulence). Commencing REIPP and Climate Finance so close to the programmed end of the Essor project would only be reasonable if there was to be a smooth and contiguous follow-on support, either by FCDO or another organisation.
- **Focusing on the transaction, rather than building capability**, Essor has facilitated an international open concessioning process for SMG in DRC using project finance.[8] This has not been done before. Essor has advanced the probability of successful private sector investment in renewable energy to a point that other actors are confident that it will be effective, and has helped to catalyse numerous other SMG initiatives, even though building the SMGs has not yet commenced (see sustainability section).
- **Strong technical support moved all the interventions forward, while lack of qualified technical support is now hindering progress**. With Essor's completion, Philae Advisory's contract also ended and unexpectedly they have not been reengaged by UCM due to a disagreement between UCM and Philae. Instead, an international procurement process for advisers is underway. As a result, UCM lack required technical capacity, and the detailed focus that an adviser can bring. The current lack of advisers has not affected the current progress of the SMG as the concessionaire has been working on their documentation. However, problems could arise if an adviser is not contracted by the time the intervention moves to the stage of renegotiation of the tariff. The absence of an adviser or external project to help drive the other interventions has significantly slowed down their progress.

[7] The 'transaction' was the SMG concession agreement signed between GoDRC and a private sector operator, selected by a transparent and open bidding process.
[8] "Project finance" is where a 'non-recourse' or limited recourse financial structure is used to fund long-term infrastructure, industrial projects, and public services. "Non-recourse financing" entitles the lender to repayment only from the profits of the project which the loan is funding.

- **Innovative programmes require strong technical guidance from within FCDO and therefore FCDO should look for innovation only where they can draw on significant technical competence**. Where programmes follow a well-tested pathway, FCDO can outsource implementation with confidence. However, FCDO will find innovative programmes, like Essor, more difficult to manage and shape, without its own in-house technical skills. For most of the Essor project FCDO were heavily reliant on a third-party monitoring and evaluation contractor (which itself was only procured half-way through the implementation phase). However, for the SMG intervention specifically, FCDO had strong competence in finance and energy and were able to access in-house experts, principally Steven Hunt, the UK Government's Senior Energy Innovation Adviser, to help shape the engagement on the SMG intervention. The climate finance intervention also benefited from technical expertise from FCDO's locally based staff.
- **Capacity building of local expertise should be prioritised.** The A2E workstream's dependence on internationally based consultants increased the sustainability risk of the intervention post-Essor. It is recommended that where possible the development of local capacity, even outside of public agencies (i.e. through hiring locally based experts), should be prioritised. Improvements in the design might have been to work with a local consulting firm so that Philae could try to transfer capacity. This would have been more costly. Earlier annual reviews raised this possibility with Essor who flagged the lack of good local resources as a reason why they could not pursue this option. It is a challenge for many development agencies but should be pursued as a priority.

2.3 Suggestions for future programming

DRC has a huge energy deficit along with well distributed but untapped renewable energy potential. A lack of local financial and technical capacity means there are ongoing opportunities for external support from FCDO. Of DRC's population of 90 million, only 19.1% have access to electricity, which makes it the third largest population in the world without access to electricity. If electrification efforts follow the same pace as during the last decade, 80% of the total population will still live without electricity in the DRC by 2030.[9] Coverage is much worse in rural areas, home to 54% of the population. Investing in renewable energy now could bring significant short-term economic advantages, as well as long-term development opportunities, all while making progress against climate change and other environmental challenges.

Private sector investment in renewable energy is a priority for the DRC. The investment needs of the sector vastly exceed the government's fiscal and perhaps technical capacity, and major efforts to attract private capital and operators are needed.[10]

Recommendation 1 - Future FCDO programmes should continue to support the development of private sector investment in renewable energy, either through the government or working directly with the private sector. This engagement should be guided by a private sector engagement strategy, that is founded on a thorough stakeholder analysis. Possible interventions could be engaging the private sector in setting priorities; designing structured consultation processes; training them on market opportunities; training them on complying with regulations or standards either directly or through their trade associations.

[9] World Bank, Increasing Access to Electricity in the DRC, 2020
[10] ibid

Working with the right government client helped to support a (likely) successful intervention with SMG. Essor selected sites where there was limited political interference (from mining interventions and other large stakeholder interests) and worked closely with UCM, who had some capacity.

Recommendation 2 - Entry points for future FCDO programmes should be considered and assessed based on potential partners' capacity and willingness to engage, and continue to look at areas where there is limited political interference. For example, ANSER[11] - the new rural regulator, is apparently starting to function well, and has been more successful than ARE in attracting resources and funding. FCDO could explore anchoring an engagement in suitable provinces through ANSER, for example, trialling a provincial Climate Finance fund.

Recommendation 3 – For innovative programmes like the A2E intervention, FCDO should ensure that it can draw on inputs from global experts to help to shape and review interventions. This will mitigate the risk of over reliance on a third-party contractor. This could involve either accessing expertise from within the UK Government or by contracting organisations with existing expertise like the IFC or AfDB. FCDO's access to global technical skills in renewable energy and climate finance were of great benefit in shaping the Essor interventions.

Recommendation 4 - **Future programmes should continue to build on Essor's achievements**. This could include:

- Support to ARE or through UCM to manage the concession to completion;
- Work with the provincial governments to support concessioning processes or 'bottom up' negotiation. The mandate for managing concessioning lies with ARE for national projects and ANSER for local projects with UCM providing technical support to both agencies. The SMG project was managed as a national project because the deal involved sites in different provinces. Work on the provinces was previously rejected due to extremely low capacity. However, we recommend that FCDO do not rule it out:
    - As indicated above, ANSER is apparently starting to function well, which may provide new opportunities not available earlier. While there are challenges to working in the provinces, there may be a small number of provinces where FCDO could provide support.
    - For some deals a bottom up, negotiated process may deliver a better solution and this will require working with the provinces. This is because SMG concessioning processes takes time plus the risks for SMG relate more to technical capacity and ability to manage supply chains rather than technology and financing – a global concessioning process tends to favour the latter rather than the former;
- Support to concessioning of hydro mini grids;
- There are also opportunities to help reinstate hydro programmes and continue to work to bring the REIPP intervention to fruition. Both interventions would require collaboration and coordination with other development partner programmes as the areas are somewhat crowded;
- Supporting commercial banks to develop products which stimulate productive uses of electricity to generate demand e.g. to modernise agriculture;[12]
- World Bank has flagged that clean cooking is an area of need and potential which few agencies are supporting. Despite the lack of financial or economic viability, this may be an area where private sector investment, along with grant funding, can provide a better solution

[11] "L'Agence Nationale de l'Electrification et des Services Energétiques en milieux rural et périurbain" - The National Agency for Electrification and Energy Services in rural and peri-urban areas
[12] Rockefeller Foundation is working with the World Bank on a project to stimulate productive uses of energy : https://www.rockefellerfoundation.org/initiative/global-energy-alliance-for-people-and-planet-geapp/

than a government led one. BBOXX are working on a Liquid Petroleum Gas (LPG) pilot and potentially FCDO could see how this could be scaled up.[13]

Recommendation 5 - FCDO should continue to support the Climate Finance Roadmap as there is interest (from Government and the development community) and strategic relevance. The UK government has relevant in-house technical skills and the intervention requires a combination of these resources, funding, and dedicated advice to move forward. In the short term, the Ministry of the Environment, Conservation of Nature, Water and Forests (MoECNWF) is likely to require assistance to mobilise and coordinate as their technical capacity to develop the idea is limited and other agencies are critical for concept development. The MoECNWF are the overall ministry in charge of adaptation, according to the National Plan for Climate Adaptation, and currently anchor a forestry focussed climate finance fund, REDD+.[14] However, the Ministries of Finance and Budget lead the working group on Climate Finance. Ministry of Hydraulic Resources and Energy (MoHRE) will need to shape activities with Renewable Energy projects. Coordination across ministries is often challenging and the MoECNWF will need support to do the necessary coordination across MoF and MoHRE.

[14] Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

3 Overview of interventions & progress since last review

3.1 Update on overall progress against outcomes and impact[15]

3.1.1 NAIC and Beneficiary Numbers

The Net Attributable Income Change (NAIC) and beneficiary impact targets for A2E are based on the delivery of cheaper energy to the beneficiaries of the SMG projects.[16] At the last annual review, in February 2022, benefits were projected to be delivered by 2024. This remains possible and the potential NAIC benefits may now be higher than previously estimated. However, the risks of not achieving completion have also increased.

According to feedback from the concessionaire, the revised feasibility studies suggest that Essor's PSD impact targets for NAIC and number of beneficiaries are reasonable and may be conservative. This is because the targets are based on a NAIC model that uses figures from the original feasibility studies and these figures have changed. Demand is expected to be 20% greater than originally projected.

More demand means more investment and a higher economic and social impact. Variable inputs (solar panels, batteries) are readily available and increased demand is not expected to create a supply constraint; instead, the higher demand is more likely to lead to greater buying power and procurement capabilities, leading to lower development costs (as % of revenue). Number of beneficiaries is likely to increase with a greater proportion of demand from households rather than businesses. From this we can infer that poverty impact will be broadened from original estimates, due to this increased demand.

Costs of both diesel and construction inputs have gone up significantly and yet the concessionaire still projects cost savings of USD 0.60 per kilo watt hour (which is in line with the cost savings in the NAIC model).[17] The NAIC model used an exchange rate of USD1.49 to GBP1; by adjusting the exchange rate to today's value NAIC projections are significantly boosted.

The likelihood of the project reaching its PSD programme impact targets is based on the SMG concession construction being completed for three sites[18] in timely fashion. DSU's assessment of the likelihood of this has not changed much since last year, but the risks of failure are now higher due to a) the lack of qualified advisers to assist UCM and ARE in the government's final tariff negotiation; and b) a changeover of adviser (who may have different opinions to Philae). Given the emergence of other fast developing SMG programmes, Essor will also lose its first mover status in proof of concept. The project's first mover status has been important to the government's and development stakeholders' interest and support. Nevertheless, as at the last annual review, there

[15] During the lifetime of the project, the Essor logframe was adjusted so that the PSD Impact and Outcome indicators varied from the Essor Impact and Outcome indicators. There was significant overlap of the Impact indicators but wide variation with the Outcome indicators. Where relevant, the differentiation of these indicators is labelled in this report by using the shorthand PSD Impact or Outcome indicators and Essor Impact or Outcome indicators.

[16] PSD Impact 1 is the amount of cumulative net attributable income change (NAIC) (£) for all Essor beneficiaries. PSD Impact 2 is the number of beneficiaries achieving NAIC. For A2E, NAIC is defined as cost savings for households and businesses using solar energy versus utilising diesel energy.

[17] These conclusions are based on an interview with the concessionaire and not a review of the feasibility studies or tariff model which we were unable to obtain.

[18] The three sites are 1) Isiro, 2) Gemena and 3) Bumba

remains significant will within the development community and government to bring the project to a successful close even if another SMG project reaches completion first.

3.1.2 Systemic Spill-Over Effects

Essor had a third impact indicator of systemic spill-over effects to the business environment (Essor Impact 1.3). One of the targets was number of new energy projects being developed due to replication of the A2E Public Private Partnership (PPP) models for Independent Power Producers (IPP). The other target related to A2E achieving transformational change as defined by the International Climate Fund (ICF) Key Performance Indicator (KPI) 15 methodology.[19] This was not reported on at the last annual review, but in Essor's final reporting they propose that the reuse of the SMG model can be reported as transformational.[20] They also report that reuse of concessional templates for REIPP is also transformational but there is scant evidence for this.

Feedback from development partners (AfDB, IFC and WB) describe Essor's work as catalytic to the interest in DRC's SMG initiatives.[21] IFC and AfDB cite the importance of Essor's work in educating the market (investors, operators, financial institutions) and government stakeholders like the Ministry of Energy and Hydraulic Resources, Provincial Governments, and other key ministries of the opportunities for SMG through the development of prefeasibility studies, and the management of the tendering process.

Elements of the model are being replicated. In March 2022, IFC announced a partnership with the DRC Government to roll out Solar Mini Grids through a public-private partnership (PPP) process to 100 cities.[22] WB and IFC indicate that their SMG programme, which is in development, is a logical scaling up of Essor's initial pilot. IFC are basing their concessioning templates on those developed by Essor and are being constantly prompted by UCM to do so. They are using prefeasibility studies and stapled financing[23] to limit the finance risk and attract high quality investors. UCM confirms that the IFC project is based on the Essor model, and also one other funded by SEFA (an electrification project of 500 households). UCM comment that more investors and entrepreneurs have come into this area partly due to Essor's engagement.

In November 2021, IFC announced investment in a large-scale power plant with Globaleq.[24] ARE report that IFC seems to have copied aspects of the model (elements of the concessioning template)

[19] https://www.gov.uk/guidance/international-climate-finance; https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/813600/KPI-15-extent-ICF-intervention-lead-transformational-change.pdf

[20] In their last update on the ICF's KPIs (KPI ICF v4_with Adam comments.xls) the following achievements are proposed for ICF KPI 15 for SMG: (1) Following the successful development of a suite of documents to tender large mini-grids in DRC, the Ministry of Environment, Conservation of Nature, Wildlife and Forests (MoECNWF) is now adopting these documents as templates to tender additional mini-grids. Moreover, IFC, as part of the Scaling Mini-grid programme, is building on the templates developed by Essor. (2) For the RE IPP intervention: the adaptation of a revised set of templates for concession contracts and licences in line with the requirements of IPP investors forms a crucial part of the intervention, together with the streamlining of procedures for instructing IPP applications.

[21] Our interview with KfW reports that Essor's early success with SMG concessioning was catalytic in encouraging them to implement a similar model for their ProHdydro project. However, market challenges have recently led them to abandon an open bidding process and go back to direct negotiation.

[22] https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=26877

[23] Stapled financing refers to arrangements during a corporate acquisition where the investment bank advising the selling company also arranges pre-arranged financing for potential buyers. The aim is that this will result in more bidders since potential buyers do not need to search for their own financing.

[24] https://pressroom.ifc.org/all/pages/PressDetail.aspx?ID=2673

proposed by Essor to GlobalEq in their separate REIPP intervention, although the decision to invest was independent of any work undertaken by Essor.

3.1.3 Contribution to climate change mitigation

There is no change to the DSU's last assessment in February 2022 of the likelihood of Essor's new impact indicator 2 (contribution to climate change mitigation) to be reached by its 2023 target date. As per Impact indicators 1.1 and 1.2, the target is based on the delivery of clean energy by SMG, and this will not occur by the end of 2023.

3.1.4 PSD Outcome Indicators

For the PSD Outcome indicators related to A2E, there is a slight regression from what was reported at the Annual Review in February 2022. These indicators assess legal/ regulatory/ procedural changes to the business enabling environment and here Essor included four possible measures, one of which was achieved, and three are still yet to be achieved.

Table 1: PSD Outcome indicators assessment

PSD Outcome: Well-functioning markets, and an enabling business environment that fosters economic opportunities for poor people			
Milestone indicator	2022 Milestone	Status at February 2022	Status at October 2022
PSD Outcome Indicator 3: Cumulative number of procedural changes, additions or removals that reduce time and/or costs for MSMEs and that are supported by Essor.	The PSD/ Essor reconciliation document[25] targets three A2E results against this indicator: the achievement of cost savings in 1) Isiro, 2) Gemena and 3) Bumba due to the delivery of lower cost energy. Target date is 2022.	Not Achieved 0 in 2021. 0 expected in 2022.	No change since Annual Review. The result should be achieved once financial closure has been completed and the installation of the mini grids happens. The expected achievement of the results are delayed at least two years until 2024.
PSD Outcome Indicator 4: Cumulative number of	Essor submits Climate Policy & Finance Roadmap to GoDRC and GoDRC	Not achieved	Not achieved

[25] 11.06.21 2021 Essor & PSD LF v2.xls

BER policy / regulatory / legislative / administrative changes made or prevented that directly benefit businesses and that are supported by Essor.	integrates roadmap into planning.	Essor had submitted the Climate Policy & Finance Roadmap to GoDRC, but GoDRC had not integrated it into its planning.	No change since last review.
	New roadmap for intermediary offtake arrangements in the IPP sector is drafted, agreed and has started to be implemented.	Achieved New roadmap for intermediary offtake arrangements in the IPP sector had been drafted, agreed and implementation commenced.	Achieved Whilst discussions with the off taker had commenced at previous review, progress has slowed. GreenCo report there are challenges with the business model that they are yet to resolve.
	New concession / licence templates on sovereign guarantees for IPP projects are drafted, agreed and have started to be implemented.	Not achieved .	Not achieved No Change: ultimately Philae determined that bespoke concession contracts were required for the projects they had identified. Essor through Philae provided analysis on what needed to be done. Concession templates were not developed.
	New guidelines (SoPs) for project identification and negotiation with IPPs are drafted, agreed and have started to be implemented.	Not achieved	Not achieved. No Change Essor had provided a note on the differing roles of ARE and UCM in the concessioning process.

3.2 Solar Mini Grids Update

3.2.1 Intervention summary

Essor's A2E component launched in mid-2016. The 2016 business case for A2E[26] states that 'the project will focus on the urgent provision of electricity to households, small and medium businesses and collective buildings in selected medium-sized urban centres located in provinces where Solar Photo Voltaic (PV) is the least cost option for rapid electrification'. The intervention was designed to contribute to poverty reduction; economic growth and job creation by lowering costs of electricity to small business; and sustainable development through the replacement of greenhouse gas (through replacing diesel generators with solar energy)

The intervention was conceived as three activities designed to address (i) obstacles to the development of electricity access in provinces; (ii) the lack of framework for the development of solar PV, and (iii) the present lack of a mechanism to operationalise the opportunities open to the provinces to accelerate access to electricity by the 2014 Electricity Law. The three activities were:

1) Organisation of competitive selection of sponsors and investors for renewable electricity access projects for the benefit of the provinces.
2) Support to the Ministry of Hydraulic Resources and Energy (MoHRE) during the interim period leading to the establishment of a fully effective regulator.
3) Support and capacity building to selected provinces for the competitive selection of electricity access projects.

By 2017 at Essor's Mid Term Evaluation (MTE), this design was still in place. The MTE recommended that the A2E component of Essor remain largely as it was with some improvements. The Essor project was placed on a Performance Improvement Plan during 2018 and underwent significant restructuring including more robust M&E processes and linking its activities with a clear Theory of Change.[27] As a result, several non-A2E workstreams were closed and this probably allowed greater focus and resources for A2E. It was around this time that the scope of the A2E workstream reduced to focus on the delivery of Activity 1. It is likely that Essor adjusted its ambition based on the realities of implementation progress:

- By parcelling up sites in three different provinces (for financial structuring reasons), the project could be classified as a national project meaning that Essor could work with the national agency rather than at the provincial level, essentially avoiding the need for activity 3.
- Under the 2014 Electricity Act, the National Regulatory Authority for the Electricity Sector (Agence de Régulation du secteur de l'Electricité - ARE) is the responsible body for negotiation of national energy PPPs. In effect, ARE remained largely non-operational up to the end of the Essor project. In fact, ARE acknowledge that the reason that they were not involved closely in the SMG intervention was due to a lack of capacity, notably an absence of in country leadership.[28] Instead Essor worked with the Unité de Coordination et de Management (UCM), the unit in the MoHRE which has a mandate for undertaking technical studies and providing technical advice for the Ministry. The UCM has benefited from extensive donor support. Essor also identified two agencies working to support these

[26] Essor, Reforms for private sector driven access to solar electricity in provinces, Business Case, February 2016
[27] This was also a recommendation specifically for the A2E workstream. From Essor Mid Term Evaluation 2018: Access to Electricity: 6.2.3: The A2E workstream should continue its activities with few changes. Better performance indicators should be developed.
[28] Interview with ARE September 2022

regulators, noting in a later intervention writeup: 'The project will complement the programmes of USAID and the World Bank, which focus on systematic long term capacity building in the future Rural Electrification Agency (Agence Nationale de Service Energétique Rural - ANSER), and to the regulator (ARE)'. As a result, Essor did not provide institutional support to the ARE but instead directed their support through UCM.

- Considering the trade-off between the shorter-term goal of getting the SMG operational over the longer-term institutional strengthening that is expected to have broader business environment benefits, Essor prioritised the SMG transaction. At that time the ARE was effectively non-operational and therefore not capable of receiving effective capacity building support. Essor would have had to wait until there was at least basic elements of an agency in place (functional leadership and minimal resources) which would have been too late for Essor and slowed down progress by at least four years.

Following the revisions, it was envisaged that by the end of Essor (originally targeted to be January 2021 and later extended to January 2022), the SMG intervention would take advantage of recent changes to the power market to enable private investment.[29] This would in turn help to improve access to electricity and address the power deficit in the DRC, which is a major obstacle to economic growth, job creation and poverty reduction. Enabling private investment in the power market would be achieved by:

- Designing a standardised model which could be replicated at scale;
- Attracting strong market players into a challenging country by reducing the investment risk through:
    - Setting up a robust, balanced yet flexible contractual structure, tailored to the risks and uncertainties inherent to the mini-grid sector;
    - Reaching a critical threshold in the sizing and bundling of the underlying assets that can justify upfront commitments from bidders and project financiers;
    - Providing support to prefeasibility studies at the pre-tendering stage;
    - Support to a competitive and transparent tendering process;
    - Supporting the government to negotiate a robust concession agreement.

Philae provided transactional, technical, and legal support, working closely alongside UCM.

In 2021, a decision was made to extend Essor by 12 months to give the programme a chance to make the interventions sustainable and to bring the SMG project to financial close, as without sustainability or financial close the interventions would have limited, if any, value for money.

On 3 June 2021, the MoHRE and an international consortium, comprising British International Investment-owned GridWorks, Eranove and AEE Power, signed three concession agreements to develop, finance and build the grids, which combined is being reported as one of the largest off-grid PV mini-grid projects in the world. The facilities are expected to come online in 2023/2024 at a total estimated cost of USD 100M. They will have an estimated combined power capacity of 35MWp and 23,100 connections after five years - well above the average for Sub-Saharan Africa. At their peak, the grids are expected to connect around 46,000 households and 3,100 businesses and social institutions (including schools, hospitals, government institutions and civil society organizations), serving half a million people.[30]

[29] Essor, Access to Electricity: Green Mini-Grids Intervention Factsheet, 2022
[30] Essor, Intervention Fact Sheet, 2021

Aside from the overall beneficial impacts this will have on health, education, quality of life, business growth and job creation, increased electrification has been proven to have particularly strong impacts on poor households, women and girls.[31]

This will be reinforced by introducing a social tariff, making electricity much more affordable to poor households. Essor also worked with the MoHRE to integrate gender criteria into the selection process. Over the 20-year concession period, the solar mini-grids are estimated to reduce carbon dioxide emissions by more than half a million tonnes, as solar-powered electricity generation replaces diesel-based generators. The projects will also have a positive local impact by hiring, training and upskilling the local workforce.

3.2.2 Progress Update

The intervention is still on track, but progress is slower than was expected at the earlier review in February 2022 due to the revised design of the feasibility studies (responding to rising costs of inputs), which then delayed delivery, and challenges with the tariff model, which is being reworked by Nodalis, a consulting firm procured for UCM by AfDB. The feasibility studies have been completed and the tariff model is expected to be agreed by the end of 2022.

As mentioned in the last annual review:

> *Whilst the intervention continues to move forward to financial close, delivery risks remain, the main one being inadequate government capacity to manage and implement the intervention. Essor has been working to mitigate these risks but there remain significant challenges that can best be managed with a partner who can provide technical and intervention management support … Based on feedback from stakeholders, UCM are not yet capable of managing the negotiations without significant support. UCM are likely to require technical support to manage the commercial/ financial negotiations required to get to financial close.*

Essor had dealt with this risk by securing funding for Philae to continue their advisory support using AfDB's SEFA funds. However, this mitigation strategy has fallen through, and Philae Advisory is no longer the adviser to UCM. Instead, UCM are conducting an international competitive procurement process (required by their funder AfDB) for another adviser which commenced, according to one stakeholder, in June.

To date, the hiatus has not slowed project progress as the concessionaire has been working on the feasibility studies (completed) and awaiting the outcome of the tariff framework review by Nodalis (to be completed by the end of 2022) and other materials required for the tariff negotiation. Once completed, the concessionaire and government will commence negotiation on the tariff, a necessary precondition for financial close, now expected in Q2-Q3 2023. If a new adviser has not been contracted by the time this process finishes and the tariff framework review completed and any changes agreed, it will, in the view of the concessionaire, slow down progress significantly.

UCM are confident that the adviser will be in place to support negotiations. However, even if they succeed in appointing a new adviser, the lack of continuity will slow progress and may risk throwing up questions/ issues on the work already delivered, which may result in further delays and rework.

Issues in the agreement have slowed things slightly (e.g., the tariff basis, the demand study, the site selection in Gemena), but donor feedback is that this is to be expected given this project was so

[31] Deloitte Report, 2014, "Women, energy, and economic empowerment – Applying a gender lens to amplify the impact of energy access", Deloitte University Press.

innovative. These challenges are part of the learnings from Essor and are informing the design of their own programmes.

The risk of local disruption, identified in the final Essor Annual Report, is moderate. The concessionaire reports that two of the sites are well chosen, but Gemena has some inhabitants which will make development of this site challenging. The concessionaire is working on their strategy to manage this and to build local support for the development (another of the risks mentioned in the Annual Report).

Connection costs of USD 1,000 are mentioned in the final Essor Annual Report as a high risk to affordability. This figure is more than double that used in the final NAIC VfM model to estimate cost savings. However, the present evaluation would no longer judge this as a major risk:

- These costs look too high: the VfM model is showing connection costs of USD425 and this is confirmed by ex-members of the project;
- The connection costs will not be borne completely by the beneficiary – previous demand studies capped the connection fee at USD100 and this subsidy will be covered by the tariff agreed for the duration of the concession.
- Grants or subsidies will have a significant impact on lowering connection costs and the tariff: Essor's original model was very conservative assuming just USD12m in grants.
- Gridworks have factored all of this into their latest demand studies which indicate that demand will be 20% more than expected, with significantly more household connections than originally planned.

The exact figures will be confirmed once the negotiation is complete and the concessionaire has confirmed financing. Based on the information available, affordability is no longer judged to be a significant risk.

Table 2: Essor SMG Outcome indicators assessment

Essor Outcome 1. Conditions are in place for the Mini-grid PPP to reach financial close		
Milestone indicator	**Status at February 2022**	**Status at October 2022**
Outcome Indicator 1.1. GoDRC and concessionaire sign Mini-grid PPP concession agreement.	Achieved	No change. Agreements were finally signed in June 2021
Outcome Indicator 1.2. Essor and GoDRC agree sustainability plan for mini-grid PP intervention.	Not achieved	No change to result but the circumstances have changed as appointment of Philae as adviser has fallen through and instead UCM are procuring an alternative.

Outcome Indicator 1.3. Concessionaire submits feasibility studies, tariff model and financial models for mini-grid PPP.	Not achieved	No change. The Concessionaire has completed the feasibility studies. Nodalis's report into the tariff framework will be delivered next quarter. Once this is completed tariff negotiations will commence.
Outcome Indicator 1.4. Mini-grid PPP reaches financial close	Not achieved	Financial close further delayed. In the last assessment, financial close was projected to be completed in 2022. According to stakeholders, financial close is unlikely to be completed until mid to late next year (Q2 – Q3 2023).

3.3 Stranded Renewable Energy Independent Power Producers

3.3.1 Intervention Summary

UCM requested Essor's support to develop an investment guide that would be used by both the DRC government and the private sector. It was designed to leverage the experience of the SMG concession, and the good working relationship developed between Essor and the Ministry. Essor commenced their work in September 2019 with a four-month study on financing tools and various guarantee mechanisms available to the renewable energy market in the DRC.[32]

Having developed this analysis, Essor then reviewed blocked projects to identify the systemic challenges preventing their development. In the end, the intervention was designed to address three major barriers for the IPP sectors.[33] The barriers identified and Essor's targeted activities to address them were:

- **An inefficient market structure**, meaning that the model by which the state utility purchases power for a long-term period is not bankable due to its lack of creditworthiness. To tackle this inefficiency and create liquidity in the power market, Essor was to develop a roadmap to attract credible private investors as intermediary power off-takers[34] for independent power production.
- **Non-bankable documentation with no standard or bankable risk allocation** for IPP projects, including appropriate Government of DRC (GoDRC). To address this, Essor was to develop new policy and operational frameworks that enabled Government and RE IPP projects to clearly identify how IPP projects' risks are shared amongst stakeholders, and to develop templates of concessioning documents.
- **Uncertain negotiation and contractual processes** meant that investors to date have lacked clear guidance from the GoDRC on who their points of contact should be and the processes for negotiating with the government. To address the fragility of existing processes and policies, Essor sought to facilitate the adoption of a clear framework for project identification and negotiation for IPP developers, clarifying the respective roles of each GoDRC institution for sector planning, design and management of tender procedures, project award, etc.

By March 2020, 6 months after inception of this intervention, Essor concluded that the best approach to address these challenges would be to identify several renewable energy projects that had been stuck, and work with them to unlock these fundamental challenges. This is referred to as a transactional approach, like the approach used for the SMG intervention (see Annual Report 2020): *'it was recommended that the authorities would switch to a transactional approach focusing primarily on the short-term success of the most advanced and serious projects, upon which they could piggy-back to standardise and optimize their approach towards the private investors' community.'*

3.3.2 Progress Update

Intervention progress has slowed since February 2022. It was already behind schedule at the last review. The following reasons have been suggested for the lack of progress:

[32] Essor's 'Cartographie des Instruments Financiers dans le Domaine des Énergies Renouvelables' which mapped financing and guarantee instruments available to either IPP developers or the DRC Government (March 2020)
[33] Essor, Renewable Energy Independent Power Producers Intervention Factsheet, January 2022
[34] An offtaker is an entity that purchases power from energy producers at a negotiated rate for a specified term.

- There are significant challenges to moving forward with these blocked projects. Weak confidence in the credit worthiness of the National Electricity Company (Société Nationale d'Electricité - SNEL) represents a significant financial risk which Essor had sought to mitigate through an arrangement with Africa GreenCo. Other significant challenges also exist such as construction and political risks.[35] Political will, and concentrated effort and capacity is needed to resolve these problems.

Box 1: Société Nationale d'Electricité (SNEL)

SNEL is the national utility, which up until 2014 had a de facto monopoly on the production, distribution and transmission of power. World Bank writes SNEL "is caught in a vicious cycle of mounting commercial losses, deteriorating assets and mounting debt".[36] On-grid (as opposed to off-grid like SMG) power producers will require a commercial arrangement with SNEL at least for the purchase and distribution of power. SNEL significantly increases the commercial risk for private sector investors due to its financial difficulties and the high potential for SNEL to default.

- **Essor finished before the intervention reached a tipping point.** The decision to use an offtaker, Africa GreenCo, to mitigate the risks inherent in using SNEL was a creative work-around to the apparently intractable challenges of working with SNEL. However, Africa GreenCo has hurdles to address before they can move forward (for example, the ability to access the regional energy market) and they are yet to pursue board approval. Africa GreenCo advise they require three key issues to be resolved before moving to the next stage: 1) fair and clear tariff structure from SNEL; 2) a framework for third party access to the grid; 3) a clear plan and roadmap on the transmission and distribution grid development. The project still requires some creative thinking to move forward.
- **The absence of Philae is being felt.** The private sector (GlobalEq and GreenCo) is not confident that UCM have the capacity to resolve issues without a qualified adviser.[37] There is a perception that progress has slowed. For example, in July, Africa GreenCo shared their progress report on the understanding they could travel and meet with the MoECNWF to explain their proposals further but have yet to hear anything. The February 2022 review also referenced this risk:

  > *as per Essor's assessment, whilst UCM has a solid understanding of applicable legislation for IPPs and existing IPP contractual frameworks needed to progress the REIPP work, they do not have the capacity to respond to developers' requests to changes to templates and established processes, to adapt the current set of unbankable contractual frameworks and are not familiar with international standards of IPP agreement. UCM are therefore likely to require additional technical support to unblock these projects.*
- With respect to the **standardised documents:**
  - In line with Essor's transaction approach, Essor determined that a more effective approach to unlocking REIPPs than developing standard concession templates, would be to focus on each transaction's concession agreement, review them and individually address or renegotiate contentious issues. Time ran out to address all the issues – particularly the absence of a viable offtaker. Essor produced a briefing note

[35] See Essor's various notes on risks including *Memorandum - Risk allocation position applicable to priority projects in the electricity sector in the DRC*, August 2021
[36] World Bank, Increasing Access to Electricity in the DRC, 2020
[37] This was brought out in the discussions with GlobalEq, GreenCo and Gridworks related to SMG.

with recommendations on a risk allocation methodology and how the concession templates would need to be developed to implement the recommendations.

- Similarly, little progress was made in the development of Standard Operating Procedures (SoPs). Instead, Essor developed a note setting out the different roles of ARE and UCM in the PPP procurement process. There is no evidence that the government has adopted the advice and drafted the SoPs and made any regulatory changes necessary to operationalise the briefing note.

It is arguable that their transactional strategy was the most appropriate one to achieve their intended goal. However, as soon as Essor became aware that sovereign guarantees would not be forthcoming to support SNEL, the risks of the project became much higher and at that point, just a year out from the end of the project, it was unlikely a workaround would be found before the project concluded.

Ultimately the government sees this initiative as mostly unsuccessful. If they had provided more traditional capacity building development support, alongside the transaction approach, Essor could have left the government with a useful product (standard concessioning templates and operating guidelines on how to invest in RE in DRC). This would have left the government with a useful output, but also would have required more resources (budget, different skills, time).[38]

Table 3: Essor RE IPP Outcome indicators assessment

Essor Outcome 4. GoDRC and other partners adopt new policy and operating frameworks that unblock RE IPP projects		
Milestone indicator	**Status in February 2022**	**Status in October 2022**
Outcome Indicator 4.1. Offtaker, GoDRC and IPPs agree and start implementing new roadmap for intermediary offtake arrangements.	**Achieved** In April 2021, GreenCo submitted a draft roadmap to UCM. This was followed by ongoing discussions on cooperation between GreenCo and UCM from May-Oct. In Sep. 2021, MoHRE and GreenCo agreed to an action plan to work towards signing an MoU. GreenCo said they were keen to move forward subject to Board approval. A business case is being prepared for presentation to their board in first quarter 2022.	**Achieved but** with slight reversal of progress on previous update.[39] GreenCo report that progress has slowed, they are waiting to resolve key issues with UCM and are also awaiting feedback on their progress report to them in June. Board approval has not yet been sought.

[38] UCM referenced this in our discussions with them.

[39] Achievement of this indicator was defined by Essor in the following way (see 11.06.21 Logframe Annex): 'Roadmap' – Plan to implement intermediary offtake model in the DRC; 'Start implementing roadmap' – document is used to launch discussions between UCM and intermediary offtaker.

Outcome Indicator 4.2. Offtaker, GoDRC and IPPs adopt and start using new concession / licence templates on sovereign guarantees for IPP projects.	**Not achieved**	**Not Achieved** No change since review.
Outcome Indicator 4.3. GoDRC adopts and starts using new guidelines (SoPs) for project identification and negotiation with IPPs	**Not Achieved**	**Not Achieved** No change since review.

3.4 Green Finance Fund

3.4.1 Intervention Summary

Between March and May 2021, a new intervention and outcome was conceived.[40] This was Essor Outcome 5: Strengthened Clean Energy Ecosystem in the DRC with targets related to UK Government's International Climate Finance (ICF) KPIs.[41] Outcome targets 5.1, 5.2 and 5.3 expressed other Essor outcome targets in ICF KPI terms and were predicated on the financial close (Outcome indicators 5.2 and 5.3 which measure the amount of private and public sector finance raised for clean energy) and eventual delivery of the SMG concession (Outcome 5.1 which measures the impact of the SMG implementation in terms of clean energy installation capacity change up to 2043). The late introduction of this new outcome was partly driven by the desire to scope out new initiatives ahead of the United Nations Climate Change Conference, more commonly referred to as COP26, held in November 2021 in Scotland.

A new intervention also emerged at this time: the development of a Green Finance Fund with the following objectives: "to strengthen the DRC's capacity to proactively mobilise green finance; to develop opportunities for the private sector for profitable climate projects; and, to maximise (beyond climate issues) social, biodiversity, development impacts in order to increase government tax revenues".[42]

This roadmap set out the steps needed to set up a Green Finance Fund, which would act as a national market intermediary between renewable energy project developers and international investors. It aimed to raise the DRC's visibility on the international market in promoting the 'made in DRC' carbon credit. More specifically, it would raise green funds from Development Finance Institutions (DFIs), philanthropic institutions and private companies against the monetisation of carbon credits (i.e. selling the carbon credits). The investments into the fund could take various forms, such as green bonds, green loans, grants, or concessional debt. Technical assistance (TA) could also support the carbon credit market by providing technical assistance and supporting certification to renewable energy project developers. Providing access to an additional finance stream would reduce the commercial risk of the projects.

The roadmap was presented to the Government in October 2021, with a further update completed in December 2021.

3.4.2 Progress update

Projected results for indicators 5.1, 5.2 and 5.3 will change at financial close of the project as they are based on the eventual terms agreed by the concessionaire.

For Indicator 5.4, the methodology of measurement was not explained in the latest available logframe definitions. However, there is a document dated December 2021, "ICF KPI 13 Scorecard for Climate Finance Roadmap Intervention", which scores Essor's progress using criteria from the ICF methodology. Essor reviewed the DRC's progress using this scorecard twice; in July and December 2021, with the project failing to reach the final target set.[43]

[40] No mention is made of the intervention in the Q1 2021 Activity report but it appears in the May 2021 logframe and Q2 2021 Activity report
[41] https://www.gov.uk/guidance/international-climate-finance
[42] Essor Q2 Activity Report 2021
[43] Essor, ICF KPI 13 Scorecard for Climate Finance Roadmap Intervention, December 2021

Whilst the scorecard shows progress (largely based on the work Essor has completed on the design for a Climate Finance Fund), there is limited progress on the Climate Finance Fund itself. At the closure of the Essor project, it was assumed a steering committee would be set up to oversee and guide implementation of the roadmap but there is no evidence this has happened. The MoECNWF has been appointed the lead ministry on the project, and a focal point person appointed, but no further progress has been made.

Government sources say that lack of funding is the roadblock. As well as funding, more work is needed to communicate and develop the idea. Most people we spoke to had not heard of the intervention but were very positive about its potential. One person suggested it replicated the Mwinda fund, an initiative to electrify rural areas, which it does not.[44] This lack of knowledge suggests more work should be done to raise awareness and educate stakeholders on the initiative.

Lastly, the MoECNWF are likely to require assistance in mobilising and coordinating as their institutional mandate and technical capacity to develop the climate finance fund idea are limited. They currently anchor a climate finance fund (REDD+) but this is based on forestry projects rather than renewable energy.[45] According to the National Plan for Climate Adaptation[46], whilst the MoECNWF are the overall ministry in charge of adaptation, the Ministries of Finance and Budget are leading the working group on Climate Finance. Coordination across ministries is often challenging and the MoECNWF will need support to do the necessary coordination across Finance and the MoHRE.

Table 4: Essor Green Finance Fund Outcome indicators assessment

Essor Outcome 5. Strengthened clean energy ecosystem in the DRC[47]		
Milestone indicator	**Status February 2022**	**Status October 2022**
Outcome Indicator 5.1 / ICF KPI 7. Clean Energy: Installed capacity (MW) because of ICF Target for year 16-20 (projection for 2043) Installed Peak PV (MWp): 44 Installed Batteries (MWh): 92 Installed genset (MW): 17	**N/A.**	This outcome is projected to be achieved in 2043. Indicator 5.1 is based on the eventual delivery of the SMG concession. Calculated targets were based on the prefeasibility studies conducted by Essor in 2018 and in any case are not projected to be achieved until 2043. If needed these projected results can be recalibrated at financial close, based on the recently completed feasibility studies conducted by the Concessionaire, and the outcome of the tariff negotiation.

[44] https://www.africaintelligence.com/central-africa/2021/02/08/world-bank-takes-lead-in-financing-mwinda-fund-to-electrify-rural-areas,109640950-art
[45] https://mptf.undp.org/fund/3cd00
[46] Deputy PM's Office, Ministry of Environment and Sustainable Development, National Adaptation Plan to Climate Change 2022-2026, November 2021
[47] Calculation of these targets is found in the Essor document 'Relevance of Essor's Access to Electricity (Mini-grids) Intervention for UK ICF Commitments'

Outcome Indicator 5.2 / ICF KPI 11. Volume of public finance mobilised for climate change purposes because of ICF Target for Dec. 2021: GBP 45,084,538	**Achieved**	Achieved
Outcome Indicator 5.3 / ICF KPI 12. Volume of private finance mobilised for climate change purposes because of ICF Target for Dec. 2021: GBP 14.4M	**Achieved**	Achieved
Outcome Indicator 5.4 / ICF KPI 13. GoDRC integrates climate change into planning. This outcome is associated with the new Green Finance Fund intervention. This outcome indicator is based on ICF KPI 13. The scorecard for this KPI measures progress by the government in the following areas: Climate change integration into planning; Institutional coordination of climate change integration; Priority planning to address climate change. Indicators for this outcome will be based on the Scorecard from the ICF KPI 13 Methodological Note. The scorecard will be filled out in Q3 2021	**Not achieved**	No change to previous update.

4 Responses to Evaluation Questions

4.1 Relevance – A2E EQ1

- A2E EQ1 - *To what extent was the A2E component and the interventions it supported (Solar Mini-Grids, Stranded RE IPPs, and Green Finance Fund) appropriately designed to meet the needs of stakeholders and target beneficiaries?*

The A2E intervention was designed to contribute to poverty reduction, economic growth, and job creation by lowering the costs of electricity for small business; and sustainable development through the replacement of greenhouse gas (through replacing diesel generators with solar energy). This would be done by attracting private sector investment into the renewable energy market. These objectives and the Theory of Change to achieve them, remain relevant and coherent.

Energy development continues to be a high priority for the DRC.[48] The DRC has a huge potential for renewable energy development. Investment in renewable energy is an objective in the National Development Plan 2019-2023[49] and has been mentioned in various speeches by the President as a priority. The IMF[50] highlights the need for private sector investment to close the funding gap and singles out electricity generation as a priority area to boost economic development. Other agencies, whilst highlighting the need for private sector investment, recommend a hybrid approach to addressing the credit worthiness of SNEL and other distribution weaknesses, including the development of mini grid solutions using renewable energy.[51] The World Bank references (positively) Essor's project in their report on access to electricity.[52]

The development of the Climate Finance Fund fits loosely into Essor's ToC through its intention of mobilising innovative sources of finance. The need for more work in this area is explained by the IMF,[53] who comment that the DRC can benefit from the development of climate finance, especially the international carbon credit schemes, providing that the significant capacity challenges can be addressed. Some progress has already been made indicating that there is political will. For instance, in January 2022, the DRC met The REDD+ Environmental Excellence Standard (TREES) and will issue REDD+ carbon credits with full government ownership by the end of 2022. Essor's Climate Finance Fund idea differs from REDD+ in that it is focused on renewable energy projects rather than forestry. Essor's idea, therefore, is complementary and can benefit from the experience of the REDD+ fund.

Generally, the agencies involved indicate that A2E interventions were appropriate and well timed, with UCM commenting that the project benefited all ministries involved in energy. By carrying out studies, and through the process of bringing the project to market, Essor were able to educate the key market stakeholders (government, investors, operators, IFIs and donors) about the challenges and opportunities in SMG,[54] building market awareness. UCM commented: 'Today, the electrification of the DRC is one of the priorities of the President of the Republic. Essor's support has already put the DRC on the map for international investors who are more open to investing in the Congo.' Such

48 IMF Country Report 22/210, July 2022 (p20)
49 https://www.undp.org/fr/drcongo/publications/plan-national-strat%C3%A9gique-de-d%C3%A9veloppement
50 IMF Country Report 22/210, July 2022 (p20)
51 For example, UNDP National Development Strategy Plan 2019 – 2023, IFC Country Private Sector Diagnostic, 2022, World Bank Country Partnership Framework 2022
52 World Bank, Increasing Access to Electricity in the DRC,2020
53 IMF, Climate Finance IMF Issues
54 Referenced in this evaluation study's meetings with DFIs as well as UCM.

awareness raising supported UCM's efforts to gain commitment within government and support from the development community.

Essor's approach was innovative. Essor adopted a transactional approach, which focused on the success of the SMG transaction, upon which they could then standardise and optimise the various documents and approaches. This differs from the classic BER approach of building institutional and regulatory capacity first (as described in the design). This was demonstrated by their approach to the concession documents: Essor negotiated and reviewed concession documents extensively through the concessions process, worked with UCM rather than ARE (the regulator), with a focus on reaching financial closure rather than the long-term capacity building of UCM or ARE.

As a result, the intervention became reliant on Philae Advisory, PWC's contractor. The sustainability plan for the intervention involved raising funds to continue to engage the company, but this has fallen through due to disagreements between Philae and UCM. UCM complain that they had little control over Philae, because they were unable to influence Philae's recruitment. These niggling issues may have led to the decision not to continue with Philae. However, it is not uncommon for agencies like Essor to assume responsibility for the recruitment and management of consultants although the World Bank, which provides most of the support to UCM, normally helps the government to procure themselves. The problem of accountability can be addressed by having an agreed workplan, with clear expectations on results that will be delivered, which is made official through an exchange of letters if an MoU or agreement cannot be signed.

There are some reservations about lack of sustainability as several interviewees commented that Philae's contract should have lasted until the SMG financial close. However, overall, most interviewees acknowledged the effectiveness of Essor's approach. By focusing on the transaction rather than building capability, Essor has been able to do something that had never been done before, which was to facilitate an international open concessioning process for solar mini grids in the DRC using project finance. As outlined in the sustainability section, Essor demonstrated proof of concept and helped to catalyse numerous other SMG initiatives, even though building the SMGs has not yet commenced.

4.2 Effectiveness – A2E EQs 2-4

- A2E EQ2 - *To what extent has the A2E component continued to progress towards achievement of its objectives? Has progress had the desired impact of improving livelihoods and the RE business environment?*
- A2E EQ3 - *Stranded RE IPPs: to what extent has the GoDRC been able to progress Essor's three strategies to resolve challenges to investment: a) use of roadmap for intermediary offtake arrangements; b) use of templates for licensing/ concession; c) implementation of a clear framework for negotiation?*
- A2E EQ4 - *Green Finance Fund: to what extent has the GoDRC adopted and progressed the Green Finance Fund? What effects has this resulted in?*

Much of the information to answer these questions has also been provided in the individual intervention's sections. To date, the interventions have not had the impact of improving livelihoods as energy is not yet delivered, mainly due to over ambitious timelines outlined in the business case, and which underpinned the results framework as demonstrated below

The business case scoped out a pilot with two projects, scaling up to 50 SMG projects. If we just look at the time for the pilot, the table below describes what was planned and what happened.

Table 5: Assessment of A2E Business Case expectations

Business Case estimate	What happened
Essor would take under 6 months for scoping work	According to the MTE in mid-2018, the scoping work was launched in mid-2016, and completed in January 2017, which is just over the business case estimate.
5 months to prepare and launch the tender	The tender took 1 year and 8 months to launch, with the Request for Quotations (RFQ) launching in September 2018. Reviewing the tasks carried out in that time, the delay looks to be due to over optimistic planning rather than slow implementation, According to the Essor 2017 Annual Report, in 2017 Essor: • Carried out preliminary screening of six geographical sites out of an initial pool of 27 to establish their suitability for mini-grids, including site visits and other analysis and selected three pilot project sites, and gained formal approval from GoDRC to pursue prefeasibility studies; • Completed the procurement of a respected firm to undertake the three pre-feasibility studies (to start in 2018) • Secured buy-in from key external stakeholders, including IFIs (e.g. the IFC or USAID) and key experts in the field of mini-grids; On-boarded external stakeholders including potential financiers and private developers; • Established a preliminary business model and key terms of the concession agreement, tested to the market and started the commercial, legal and financial structuring of the projects. In early 2018, Essor believed they were 'on track' to complete the selection of the bidders by the end of 2018. In retrospect again, this looks ambitious as before launching the tender, they had to complete the demand studies

	and reflect the results in their final model, prepare the RFQ documentation, have the documentation agreed by the Government, and launch the RFQ. The RFQ process was in fact launched in September 2018 with the final Request for Proposals (RFP) launched in April 2019.
6 months to award the concession and licences to the pilot	The tendering process took over two years from launching the RFQ to signing the concession agreement, and is not finally concluded with discussions still pending on tariffs (see earlier comment). Again, slow progress was partly a factor of over optimistic planning. • After issuing the RFQ, Essor supported the GoDRC to carry out the preselection of qualified candidates, and then launch the RFP to the 8 candidates shortlisted in April 2019 • The closing date for proposals was first set for July 2019 and subsequently pushed back to March 2020. Over that time Essor received hundreds of comments and questions on the bidding documents, from the 8 shortlisted bidders, and after, from the law firm appointed by DFIs to review the documentation. Essor met 5 shortlisted bidders in June 2019, arranged a site visit in 2019 and again met with the now 4 prospective bidders in November 2019. • In January a revised concession agreement was sent to UCM to share with the prospective bidders. On 2nd July 2020 (1 year and 3 months after the RFP was launched), full proposals were submitted to Essor/UCM by two bidding consortiums. • On 24th November 2020, the winning bidder was announced and, after more negotiation, supported by Philae, between UCM and the winning bidder, the Concession Agreement was initialled in April 2021. • In May 2021 the Public Tendering Unit provided a no objection to the agreement, and the concession agreements were then redesigned into a standard format. The agreement was finally signed in June 2021. • However, the financial close is yet to be completed, pending agreement on the tariff and completion of final prefeasibility studies. These prefeasibility studies were completed in the past quarter (July-September 2022) and the tariff framework will be finalised this quarter (October-December 2022). • As well as completing these negotiations, in their final Annual Report 2021, Essor advise that UCM will have to arrange waiving of conditions of the Concession Agreements (including: permits and authorisations; agreements on fiscal incentives); agreements with SNEL on stopping local activity; and, eventually, handing over assets); Philae advise that this is a cumbersome exercise but does not require significant technical skills.

	• The concessionaire assumes financial close will take place in early 2023. Why did this phase take so long? Finalising the RFP took longer than expected. The tendering process was carried out through a political transition. The election took place in December 2018, with the new President sworn in in January 2019. It then took time to confirm Ministers in post and this slowed decision making on the preselection and the launch of the RFP. The major delay, however, was in the negotiations and approvals which took place between announcing the winning bidder in November 2020 and signing the agreement in June 2021. This was not foreseen in previous plans.[55] In fact, the 2020 Roadmap assumes that it would take 13 months from announcing the bidder to financial close, including 4 months for prefeasibility studies, and 13 months to renegotiate the agreement and get the necessary authorities and permits. The concessionaire believes the original basis of the tariff model was incorrect, and this is being addressed through the revision being carried out by Nodalis. However, revising the tariff model has only slowed things by two or three months so far. The other delay to financial closure has been the time spent carrying out of final prefeasibility and demand studies, and the Environmental and Social Impact Assessment which have taken over 12 months to be submitted. In summary, it is not feasible to complete this negotiation within the 6 months scoped out in the project business case, given the innovative and ground-breaking nature of Essor's intervention.
Delivery of electricity benefits start in 2018	In 2017, delivery of electricity was expected by 2021.[56] By October 2019[57] energy was projected to flow by 2022 and at the point of this evaluation it is expected 2024, 6 years later than originally targeted. This long delay is mainly due to over ambitious planning.

As far as the business environment is concerned some improvements have been made:

- The three constraints that the SMG intervention sought to address were: (i) obstacles to the development of electricity access in provinces; (ii) the lack of a framework for the development of solar PV, and (iii) the lack of a mechanism to operationalize the opportunities open to the provinces to accelerate access to electricity by the 2014 Electricity Law. The second has been improved by the work of Essor, and the first and third have been partially addressed directly by Essor, and through the various projects that are replicating the model. Capacity building for the regulators ARE and ANSER was not provided, for reasons identified above. Nevertheless, Essor's demonstration effect will lead to substantial improvements and further support to ARE and ANSER as resources flow into the sector.

[55] See Essor A2E Roadmap 2021-2023, September 2020
[56] Essor, Project Management and Reporting Tool_v38.xls, 2017
[57] Essor, 2019 Draft VfM Report, October 2019

- The three constraints the REIPP intervention set out to address were: (i) an inefficient market structure; (ii) non-bankable documentation with no standard or bankable risk allocation for IPP projects; and (iii) uncertain negotiation and contractual processes. These constraints have not been removed. Some progress has been made, but the impact is not yet being felt by the private sector.

4.3 Effectiveness – A2E EQ5

- A2E EQ5 - *What are the key factors hindering progress so far? What factors have helped to push forward progress?*

The original business case for A2E set out assumptions and issues, some of which have held true, and some Essor were able to mitigate (which are set out in Appendix 1).

Public agency capacity issues (1 - SMG) - One of the major risks the Business Case identified was the impact of low capacity of the regulators (ARE and ANSER) and the provinces to manage the SMG concession. This risk was a significant one and Essor were able to largely mitigate it by: a) focusing their support through UCM and b) structuring the deal in a way which avoided having to work closely with the provincial governments.[58] Having to build capacity in multiple provinces would have dramatically increased the complexity, cost and risk of the project and likely tipped the A2E component into failure. Having only one client (UCM) based in the national capital helped their progress.

Public agency capacity issues (2 – SMG vs. RE IPP) - Likewise, the Business Case identified the risk of negotiating with SNEL for the offtake of energy. Deciding to work on SMGs avoided this risk, and therefore removed a significant hurdle. Once the project moved into the REIPP intervention, SNEL once more became a significant risk and roadblock which has not yet been resolved. Their original risk mitigation as set out in the Business Case (*Terms of off-take will be established as part of the USAID and World Bank projects under implementation, under their component for medium-size hydro, to be extended to other forms of renewable energy*) has not materialised.

Stakeholder interest (1 – SMG) - The A2E SMG intervention has heightened donor, investor, and possibly government, interest and confidence in the renewable energy sector and the role of the private sector. There is significant interest in Essor's success because it is the first private sector SMG concessioning project and proves that this model is possible. Essor have already demonstrated concept to a point because they have successfully managed a professional concessioning process almost to its financial conclusion. The final milestone is the successful delivery of clean energy. Agencies and government are still very motivated to support this successful conclusion. For example, if more finance is needed, the Essor SMG is likely to be able to raise it. However, if IFC or another SMG project gets to the end first, then Essor becomes less important to prove this concept.

Stakeholder interest (2 – SMG) Essor influenced the level of interest by (i) parcelling up three sites into one project, which enabled project financing and made the package more attractive to international financial institutions (IFIs), like AfDB; (ii) engaging with these IFIs to increase their knowledge and confidence; and (iii) conducting technical studies that provided new information on the opportunities and challenges. For instance, the site prefeasibility studies increased qualified investors' confidence that the deal could be bankable, and therefore made it more attractive to bid for. Essor's negotiation of financing up front further de-risked the project. Essor's marketing process

[58] Specifically, by putting the three projects, covering three provinces, into one package, making it a national project.

raised investors' awareness and the development community's awareness of the sector and the potential opportunity. As identified above, this structuring removed the need to work with the provinces as the transaction was managed as a national project, and hence reduced the intervention's complexity and risk.

While the Climate Fund and the REIPP intervention have benefited from strong interest in renewable energy and private sector engagement of climate finance, they have not moved forward due to other factors.

Confidence in pathway to a successful transaction (1 – SMG) - A factor that has helped the SMG intervention, which is not present for the other two interventions, is confidence in the pathway forward. Even though the Essor model has not yet delivered energy, the successful SMG concessioning process managed by Essor showed the market that there was a feasible pathway to private sector investment, and it has allowed other development agencies (notably the World Bank, IFC and AfDB) to build their interventions around this pathway, e.g. concessioning groups of projects, de-risking the financial transactions, providing financing up front.

Confidence in pathway to a successful transaction (2 – REIPP, Roadmap) - REIPP does not have an agreed pathway to a successful transaction and actors lack confidence in the government's ability to attract private sector investment in this sub sector. Similarly, despite the presentation of the Climate Finance roadmap at the end of the project, understanding and awareness of the initiative amongst stakeholders is weak or absent (except UCM). As a result, there is no common understanding on the way forward and much detail to be developed before the Roadmap can be operationalised.

Multiple government stakeholders (REIPP, Roadmap) - These interventions (Climate Finance Roadmap and REIPP) are also possibly hindered by the interests of multiple government agencies. The evolving mandates/ roles and capacity of ARE, ANSER and SNEL require cross-agency coordination in the MoHRE which is hindering progress on REIPP. For the Climate Finance Roadmap, the mandate lies across several ministries and cross-ministerial coordination is normally very challenging for governments, particularly governments in fragile environments like the DRC, and this is also affecting progress.

Insufficient programming time (REIPP, Roadmap) - The limited amount of time for Essor to support REIPP and the Climate Finance Roadmap before it closed is also a factor. REIPP commenced just over two years before Essor finished and the climate finance intervention just nine months before project closure. As the SMG intervention experience has shown, projects take time to implement in the DRC. More time is needed to build consensus, build capacity and understanding (through workshops, diagnostics etc.) and adjust to changing conditions. Commencing REIPP and the Climate Finance Roadmap so close to the programmed end of Essor was only reasonable if there would be follow-on support, either by FCDO or another external organisation.

Availability of high-quality technical support (SMG, REIPP, Roadmap) - For all the interventions, strong technical support has moved them forward and lack of qualified technical support post-Essor is hindering the government's own progress on the interventions. Partly this a problem of technical capacity, but also challenges of prioritisation and focus. A qualified adviser adds value in several ways, including:

- Providing expert insights and guidance not available within the Ministry. Over the medium to long term, greater technical capacity should be built locally. Efforts were made by Essor through the placement of international advisers within the UCM, who provided training and handholding support, but this finished some time before the end of the project (with the resignation of Stephen Clarke).

- Reducing the risk of the transaction since a qualified adviser is likely to be more responsive than the government. Delayed responses increase the commercial costs and risks of an engagement. Firms reported that liaising with Philae resulted in faster response times.
- Providing a bridge, and increasing trust, between the investor and the government. Numerous interviewees[59] mentioned that the presence of Philae increased their confidence in the transaction: Philae were able to 'speak their language', respond appropriately to their feedback and were invaluable in the negotiations.
- Providing some security to government officials making potentially contentious and difficult decisions. In the DRC environment, there is often little incentive and some risk for an official to make innovative decisions; while there can often be financial incentives to make bad decisions, particularly in areas like the concessioning process. Advisers, particularly if supported by the development community, strengthen the position of the government team.

Engagement of high-level global expertise (SMG, REIPP, Roadmap vs Essor's BER component) - Scoping and developing the engagement of technical support required high-level technical expertise. FCDO have strong competence in finance and energy and FCDO accessed in-house experts, such as Steven Hunt, the UK Government's Senior Energy Innovation Adviser, to help shape the engagement. This was particularly important for the SMG intervention. The climate finance intervention also benefited from the Essor team collecting inputs from experts locally. This technical expertise strengthened the programme according to Philae. This contrasts with Essor's BER workstream which lacked the focus and clarity of the A2E workstream and would have benefited from greater challenge from global experts.

Engagement with the private sector (SMG, REIPP) - Generally, Philae were able to engage closely with the private sector through the marketing of the SMG intervention, and later through negotiation with REIPPs and those engaged in bidding for the SMG concession. They also consulted with the private sector in the development of the roadmap. In a fragile country with many priorities and limited resources, close engagement with the private sector will assist prioritisation, and provide another avenue of advocacy to the government. Essor raised private sector engagement as one of the positive factors for their intervention.

[59] As consulted for this evaluation study as well as the Annual Review in 2021.

4.4 Sustainability – A2E EQs 6-11

- A2E EQ6 - *To what extent have the results of the A2E component of Essor in terms of improvements to the business environment been sustained? What (if any) has been the result of sustained improvements?*
- A2E EQs7-9 - *For the Solar Mini Grids intervention:*
  - *Are conditions in place for a successful private concession?*
  - *Does the GoDRC have capacity to manage the investment and legal aspects of the PPP?*
  - *Is the private concession model replicable and is there evidence of a demonstration effect from the solar mini grids tendering process?*
- A2E EQ10 - *For the stalled RE IPP intervention:*
  - *What prospects are there of Essor's intervention leading to any stalled RE IPP projects being unlocked post Essor?*
- A2E EQ11 - *For the Green Policy and Climate Finance intervention[60]:*
  - *How likely is it that the climate finance roadmap will be adopted (and ultimately implemented) by the GoDRC?*

Much of the information to answer these questions has also been provided in Section 4. However, it is presented again here to answer the specific Evaluation Questions.

The main improvement in the business environment to date has been increased confidence and interest in relation to SMGs, as outlined in the previous section. Implementation, which is necessary to realise the benefits for businesses and communities is still some way off. It is too early to determine the extent to which this increased confidence will be maintained or grow as there remain several challenges ahead. However, already we can say that the SMG concession model is replicable and already some projects that build on the model are in development.

While progress has slowed since Essor's completion, the SMG intervention is still progressing, and it is likely the project will reach financial closure.

While the conditions are in place for a successful private concession, the GoDRC lacks the capacity to manage the investment and legal aspects of the PPP. There are emerging implementation challenges. The new regulator, ARE, is expected to negotiate the tariff and then manage the implementation of the contract post-financial close but lacks the capacity to do so. UCM will assist in the tariff negotiation (assuming their new adviser is in place).

The REIPP and climate finance interventions are unlikely to be successful without additional technical support. Essor finished before these interventions reached a tipping point, that is commitment from the key stakeholders on the pathway forward and access to the resources to enable completion.

- For REIPP, Essor had not yet been able to resolve issues such as how to manage the creditworthiness of SNEL (a solution had been identified, Africa GreenCo, but a number of challenges remain to be resolved as discussed further below); and agreement on other risks in the transactions: Essor had presented a risk allocation framework[61], but this has yet to be tested in a transaction or fully agreed by the government.

[60] Called variously in the documentation Climate Finance and Policy roadmap, or Climate Finance Roadmap. We are using the term from the intervention description developed by Essor: Climate Finance Roadmap
[61] Essor, Mémorandum - Proposition d'allocation des risques applicable aux projets prioritaires dans le secteur de l'électricité en RDC, August 2021

- For Climate Finance Roadmap – many issues are yet to be resolved, including financing, leadership and agreeing the detail of how the fund will operate. It has been accepted in principle, but that is not the same as a clear commitment.

The most significant challenge is the creditworthiness of SNEL.[62] Essor tried to address this through two interventions:

- Essor's risk allocation framework (developed within the activities to support standard concessioning documents) proposed that the government stand as guarantor.
- Essor facilitated discussions with Africa GreenCo, a commercial offtaker, who signed an MoU with UCM. Africa GreenCo could absorb the commercial risk of sales to SNEL for a fee. For their business model to work, they require access to regional power networks to mitigate the risk of SNEL being unable to purchase their power, but they have not been able to move this forward.

Government and development agencies have thus far refused to stand as guarantor to SNEL and there are no prospects in the short term of this being resolved. Essor's workaround with GreenCo has potential but requires some creative thinking to overcome challenges to move forward.

4.5 Lessons Learned – A2E EQ12

- A2E EQ12 - *What lessons can be learned from the experience of the A2E component to improve the effectiveness of PSD interventions in the DRC and similar contexts elsewhere? What worked well and what did not?*

Lesson 1 – Avoid over-reliance on a single technical adviser (whether an individual or specialist firm). In the short to medium term, technical advisers working closely alongside government officials can help project progress. However, reliance on a single adviser (individual or firm) may limit longer-term sustainability, as agencies become over reliant on individuals and fail to build their own in-house capacity. There is also a risk when the overall project's management agency (in this case PwC) does not drive the intervention and manage the client relationship which can lead to niggling problems not being appropriately managed and resolved.

It is recommended that programme leadership agree the advisory assignment objectives and plans with the client and procure to meet their needs. To mitigate the risks of over-reliance on one adviser, the process could include reviews by technical experts (either from FCDO or in-house), and/or include activities or ways of working to build local capacity of the host agency.

Lesson 2 : Innovative programmes require strong technical guidance from within FCDO and therefore FCDO should look for innovation only where they can draw on significant technical competence. Where programmes follow a well-tested pathway, FCDO can outsource implementation with confidence. However, for innovative programmes like Essor, FCDO will find them difficult to manage and shape without their own inhouse technical skills. Without such skills, they risk relying on a third party contractor almost completely. In Essor's case, FCDO was able to draw on its global climate and finance team to help shape and review the intervention.

Lesson 3 – Transactional approach (i.e. prioritising delivery over institutional capacity building) was effective given the timing and innovative nature of the SMG intervention. Use of a transactional approach was relevant for the SMG concessioning because of the timing: the regulator ARE had just been formed and for much of the project remained inactive; there was little confidence from the market, or development community that private investment could be brought into the DRC. However, going forward, interest is strong, the sector is now quite crowded, and institutional and regulatory capacity building is commencing. As a result, any new intervention in the sector should integrate and coordinate with other sector development programmes to a greater degree than before. The lesson is that programmes can take a transactional approach, institutional approach, or hybrid one based on their suitability for the situation at the time.

It is recommended that for future programmes an assessment should be done early of the feasibility and likely success of different approaches and a decision taken on which is most likely to result in desired outcomes given the context. Future FCDO programming will also need to be cognisant of changes in the level and type of support in the SMG sector and the need to coordinate and integrate further efforts.

Lesson 4 – Capacity building of local expertise should be prioritised. The A2E workstream's dependence on internationally based consultants increased the sustainability risk of the intervention post-Essor. It is recommended that where possible the development of local capacity, even outside of public agencies (i.e. through hiring locally based experts), should be prioritised. Improvements in the design might have been to work with a local consultant placed in UCM so that Philae could try to transfer capacity. This would have been more costly. Earlier annual reviews raised this possibility with Essor who flagged the lack of good local resources as a reason why they could not pursue this option. It is a challenge for many development agencies but should be pursued as a priority.

Lesson 5 – Innovative, ambitious projects require sufficient time to achieve a sustained impact. The Business Case projections were extremely optimistic, with the model estimating it would take only two years (2016 to 2018) for beneficiaries to benefit from new access to energy. In fact, this is only likely to occur in 2024 at the earliest, six years later than originally targeted. The table in the sustainability section shows how ambitious the target was originally.

Given this experience, it is unclear why Essor commenced two further highly ambitious interventions within the 12 months of the targeted end of the project. Even with a one-year extension, REIPP was unable to reach its targets. It is possible that Essor tried to set stretch targets rather than realistic targets, as designing projects with long project implementation times can remove pressure from the team and the client, and delay project implementation. It is also possible that Essor were encouraged to launch these interventions given that FCDO were at the time planning an earlier continuation of support to the sector post-Essor than has proved to be the case (the earliest a new FCDO PSD programme would start is now assumed to be mid-late 2023, nearly two years after the end of Essor).

4.6 Recommendations for Future Programming – A2E EQs 13-14

- A2E EQ13 - *What are the relevant lessons that could inform FCDO's future programming for green growth in the DRC?*
- A2E EQ14 – *How could further FCDO support to the renewable energy sector support green economic growth in the DRC?*

Recommendation 1: **FCDO should adopt a longer-term programmatic approach,** seeking targets and results within the life of the project, but also extending their ambition and scope across several projects and longer timeframes. Where there is significant uncertainty about how an intervention will be completed or sustained beyond a project's lifetime, whether by a successor project or another funder, FCDO should take particular care in approving or encouraging the launch of new interventions towards the end of a project's implementation period.

Recommendation 2 - Future FCDO programmes should continue to support the development of private sector investment in renewable energy, either through the government or working directly with the private sector. This engagement should be guided by a private sector engagement strategy, that is founded on a thorough stakeholder analysis. Possible interventions could be engaging the private sector in setting priorities; designing structured consultation processes; training them on market opportunities; training them on complying with regulations or standards either directly or through their trade associations.

Working with the right government client helped to support a (likely) successful intervention with SMG. Essor selected sites where there was limited political interference (from mining interventions and other large stakeholder interests) and worked closely with UCM, who had some capacity.

Recommendation 3 - Entry points for future FCDO programmes should be considered and assessed based on potential partners' capacity and willingness to engage, and continue to look at areas where there is limited political interference. For example, ANSER[63] - the new rural regulator, is apparently starting to function well, and has been more successful than ARE in attracting resources and funding. FCDO could explore anchoring an engagement in suitable provinces through ANSER, for example, trialling a provincial Climate Finance fund.

Recommendation 4 – **For innovative programmes like the A2E intervention, FCDO should ensure that it can draw on inputs from global experts to help to shape and review interventions.** This could involve either accessing expertise from within the UK Government or by contracting organisations with existing expertise like the IFC or AfDB. FCDO's access to global technical skills in renewable energy and climate finance were of great benefit in shaping the Essor interventions.

Recommendation 5 - **Future programmes should continue to build on Essor's achievements**. This could include:

- Support to ARE or through UCM to manage the concession to completion;
- Work with the provincial governments to support concessioning processes or 'bottom up' negotiation.
- The mandate for managing concessioning lies with ARE for national projects and ANSER for local projects. The SMG project was managed as a national project because the deal involved sites in different provinces. Work on the provinces was previously ruled out due to

[63] "L'Agence Nationale de l'Electrification et des Services Energétiques en milieux rural et périurbain" - The National Agency for Electrification and Energy Services in rural and peri-urban areas

extremely low capacity. However, now we recommend that FCDO consider it as an option due to the following:

  - As indicated above, ANSER is apparently starting to function well, which may provide new opportunities not available earlier. While there are challenges to working in the provinces, there may be a small number of provinces where FCDO could provide support.
  - For some deals a bottom-up, negotiated process may deliver a better solution and this will require working with the provinces. This is because SMG concessioning processes take time plus a global concessioning process tends to favour companies which can better handle the financing and technology risks rather than the key risks for SMG: skills, ability to manage supply chains and regulatory risks..

- There are also opportunities to help reinstate hydro programmes and continue to work to bring the REIPP intervention to fruition. Both interventions would require collaboration and coordination with other development partner programmes as the areas are somewhat crowded;
- Supporting commercial banks to develop products which stimulate productive uses of electricity to generate demand e.g. to modernise agriculture.[64]
- World Bank has flagged that clean cooking is an area of need and potential which few agencies are supporting. Despite the lack of financial or economic viability, this may be an area where private sector investment, along with grant funding, can provide a better solution than a government led one. BBOXX are working on a Liquid Petroleum Gas (LPG) pilot and potentially FCDO could see how this could be scaled up.[65]

Recommendation 6 - FCDO should continue to support the Climate Finance Roadmap as there is interest (from Government and the development community) and strategic relevance. The UK government has relevant in-house technical skills and the intervention requires resources and dedicated support to move forward. In the short term, the Ministry of the Environment, Conservation of Nature, Water and Forests (MoECNWF) is likely to require assistance to mobilise and coordinate as their technical capacity to develop the idea is limited and other agencies are critical for concept development. The MoECNWF are the overall ministry in charge of adaptation, according to the National Plan for Climate Adaptation, and currently anchor a forestry focussed climate finance fund, REDD+.[66] However, the Ministries of Finance and Budget lead the working group on Climate Finance. Ministry of Hydraulic Resources and Energy (MoHRE) will need to shape activities with Renewable Energy projects. Coordination across ministries is often challenging and the MoECNWF will need support to do the necessary coordination across MoF and MoHRE.

[64] Rockefeller Foundation is working with the World Bank on a project to stimulate productive uses of energy : https://www.rockefellerfoundation.org/initiative/global-energy-alliance-for-people-and-planet-geapp/
[65] Consideration of additionality is needed given that BBOXX has previous secured FCDO grant funding via Elan and indirectly through FCDO's support to Shell Foundation.
[66] Reducing Emissions from Deforestation and Forest Degradation in Developing Countries

Annex 1 – Business Case and Intervention Summary assumptions

A1.1 Did the issues and assumptions of the original business case and intervention summaries hold true?

The original PSD Business case did not envisage the A2E intervention, instead outlining the establishment of a flexible facility which would adapt flexibly to a complex environment. The business case stated that '*this facility will form a key aspect of the complexity-based approach by implementing interventions on business environment reform, access to finance and anti-corruption on an as needed basis*'.

The A2E Business case in 2016[67] set out a number of assumptions either explicitly or implicitly in the text:

Table 6: Assessment of A2E Business Case assumptions and risks

Assumptions	Evidence
The DRC government is willing to accelerate the implementation of the Electricity Law of 2014.	**This held true,** at least as far as concessioning in the renewable energy sector is concerned**.** The government established the two entities described under the act - ARE and ANSER. Although ARE has remained dysfunctional, many of its activities are being supported by UCM. The evidence that the Government supported the development of PPP concessions is shown by the successful concessioning of the Essor projects, and rollout of further PPP initiatives in the energy sector.
The private sector confirms their interest in investing and managing small solar PV projects and are satisfied with the risk sharing proposed by DRC government under the tenders.	**This held true**: Essor was able to facilitate a successful concessioning process with qualified candidates, leading to the signing of a concession agreement.
The tariff applied by mini grids is set by market forces.	**This is too soon to tell but is likely true:** Gridworks, the Essor concessionaire, have yet to complete their tariff negotiation which would demonstrate that it is being set by market forces.
The connection rate reaches 50 percent after one year of operation.	**This is too soon to tell.**
Female- and male-run MSMEs are equally able to benefit from additional access to electricity.	**This is too soon to tell.**
Other assumptions implicit in the business case	
Without the project other electrification projects would not be developed in the site locations, and small urban centres in the	**Likely to be true**: to be confirmed from the demand studies.

[67] Essor, Reforms for private sector driven access to solar electricity in provinces Business Case, February 2016

provinces would continue to produce electricity from diesel with a high emission of GHG and at higher cost.	
The project will complement the programmes of USAID and the World Bank, which focus on systematic long term capacity building in the future Rural Electrification Agency, (ANSER), and to the regulator, ARE.	**This held true** although not for the reasons in the business case. Essor did not work with ARE and ANSER but instead worked directly with UCM who are tasked with providing technical support to the rest of the MoHRE (which includes ARE and ANSER). Complementarity was therefore easier to achieve.
The project's approach of organising periodic tenders for a total of 500 MW of solar PV capacity and to request bidders to come with their projects will attract more interest from potential sponsors/investors, as they have the choice of the size, location and structure of their projects, while ensuring maximum value for money for DFID by maximising interest from the private sector.	**This was not tested** as the SMG intervention did not move past an initial pilot stage of two sites. A2E changed its strategy with the SMG intervention bundling up 3 sites into one package in order to get higher quality bidders and attract project financing, implying that a smaller number of larger projects was more attractive to international bidders than a large number of smaller projects.
Project effectiveness will be ensured by entrusting the transition from the project outputs to the outcome to the private sector which has a very strong incentive to implement as rapidly as possible the connection programme	**Too soon to tell.**
Assumptions about delivery approach: To minimise international transport costs the project will deploy a compact team of experts with a strong presence in the field and employ local experts for the field work in the provinces, to the greatest extent possible.	**Not pursued** possibly because Essor adjusted its scope to focus on working with the federal and not provincial authorities.
Assumptions about triggering effects on the business environment: The project will contribute to improve business climate by supporting the enforcement of transparent procedures for the assignment of concessions and licenses for private investors in renewable energy.	**Not achieved:** this would have been one of results of a successful REIPP intervention.
Risks raised in the Risk Register	
Delay in deciding on the mode of entry in the market of investors blocking the launching of tenders.	**This did not occur.** Essor were able to structure the project and then design the market entry approach without significant delay.
Delay in design and funding of financial support mechanisms for renewable energy projects.	**This did not occur.** By structuring the deal as project finance, Essor were able to access funding from a range of established finance mechanisms.
Lack of cooperation from the Ministry of Environment for the mobilization of Green Finance to buy-down the cost of solar PV based projects.	**Essor mitigated this risk** by accessing IFI funding mechanisms, avoiding the need to rely on Green Finance

Terms of off-take by SNEL for grid-connected solar PV projects prove difficult to establish under terms satisfactory to sponsors.	**This risk materialised:** Essor avoided this issue by focusing on Solar Mini Grids, thus sidestepping the need to deal with SNEL. SNEL only became an issue once Essor pursued the REIPP project.
Lack of interest of the market in solar PV in provinces.	**This risk did not materialise:** Essor addressed this issue as per the risk mitigation strategy in the business plan through the use of mini roadshows to market the projects. As a result, there was enough market interest to get 8 shortlisted qualified bidders.
Shortage of competent staff in MOEH.	**This risk materialised** and Essor dealt with it as per the mitigation strategy by providing ongoing TA to UCM within the Ministry of MoHRE
Establishment of the regulator delayed.	**This risk materialised** and Essor dealt with it as per the mitigation strategy, although beyond the 3-year timeframe, by providing ongoing TA to UCM within the MoHRE
There were a range of risks identified under the heading: Support and capacity building to selected provinces for the competitive selection of electricity access projects	**These risks were avoided** thus far by parcelling up the projects across provinces which gave the mandate for managing the PPP to the Federal government, and not the provincial authorities.