

Case Study: Coc San Hydro Plant Viability Gap Funding

Tags: Investment, Infrastructure, Energy, Hydro, PPP, Case Study

This case study explores the Viability Gap Funding (VGF) financing instrument provided by the Technical Assistance Facility (TAF) to the Private Infrastructure Development Group (PIDG) project development and financing facilities.¹ VGF helps PIDG facilities offset part of the up-front preparation costs of pro-poor private infrastructure investments in challenging environments that prevent projects towards attracting debt financing and hence reaching financial close. To illustrate how VGF is operationalized this case study analyses VGF provided by TAF to the InfraCo Asia Development (IAD) supported project of Coc San hydropower plant in Vietnam. This case study illustrates key challenges and opportunities of PIDG facilities using TAF VGF funding associated with the complexity and high risk nature of the instrument.

The Technical Assistance Facility (TAF) platform

TAF is a technical assistance (TA) preparation and financing facility within the PIDG family established in 2004 to support other PIDG facilities and hence contribute to the overall PIDG mission of facilitating “*private investment in the infrastructure sector in developing countries, with the objectives of promoting economic growth and reducing poverty.*” TAF activities range from providing TA – including advice, training for institutional strengthening and capacity building - to financing up-front capital grants (e.g. output-based aid [OBA], VGF) to address issues of *commercial* viability in *economically* viable projects.² Economic viability is determined by a robust cost-benefit analysis, incorporating econometric modelling, which imputes a monetary value to the economic and social benefits attributable to a project, including jobs created and the improvements to health and education outcomes that are not reflected in the financial returns to the investors.

A recent independent evaluation³ found that TAF has been effective in supporting PIDG facilities to alleviate key bottlenecks to pro-poor projects reaching financial close. TAF has provided flexible TA and innovative financing products (OBA, VGF) to support PIDG facilities through its lean grant approval/disbursement processes. Moreover, given that TAF is a dedicated platform mandated to support only the PIDG facilities, there is limited potential risk of duplicating activities of other project preparation platforms in the market.

The Viability Gap Funding (and the TA linked to its access)

The Viability Gap Funding (VGF) is an innovative financing support tool (de facto a ‘subsidy’) that has been provided by TAF since 2012 to PIDG facilities to fund part of their up-front costs of preparing pro-poor private infrastructure investments by providing grant funding, which can be disbursed following financial closure.⁴ VGF is designed to make pro-poor projects that are projected to be economically justifiable over the long term, commercially and financially viable for investors.

To assess the case for VGF, TAF undertakes a three stage preparation, appraisal and approval process (de facto the TA linked to the VGF scheme):

- i. Preparation of a detailed concept note and a financial model to support a VGF application by quantifying the potential pro-poor and gender/climate change benefits; TAF can make grants of up to \$70,000 to cover these costs (increased from \$25,000 until 2015);
- ii. TAF assessment of the VGF application, including presentation of the cost-benefit analysis by a Panel of Experts (PoE)
- iii. TAF donor approval of the VGF application.

¹ The PIDG is a multi-donor platform composed of several facilities that aim to mobilise private sector investment for infrastructure in developing countries by providing project preparation and development expertise and specialised financing.

² TAF website, Available at: www.pidg.org

³ CEPA, *TAF Evaluation*, April 2016, Available at: www.pidg.org

⁴ The VGF ‘gap’ is between the revenues needed to make a project commercially viable and the revenues likely to be generated by user fees paid mostly by poor customers. Although the economic benefits of a private investment project may be high, in situations where the incomes of end users are low it may not be possible to collect sufficient user fees to cover costs. PIDG, *What is viability gap funding?*, 2014.

Moreover, TAF has developed additional mitigation measures to limit the risks associated with the use of VGF grants:⁵ i) VGF grants are only disbursed after investors have committed equity to the project; ii) VGF disbursements also track debt drawdowns, to benefit from lender due diligence and performance monitoring; iii) Limit of the size of VGF grants to ensure that private capital is genuinely at risk to performance (15% of the project's capital costs, or a maximum of \$3 million – although TAF donors are flexible with this criterion); and iv) The use of an independent PoE to review and evaluate all VGF applications and determine the likely long-term viability of subsidised projects. With regards to the latter, the TAF technical advisor highlighted that the PoE has proven to be an effective governance arrangement. The PoE is independent of the boards and management of all PIDG Facilities and act as “trustee” of the VGF donors. The panel rigorously assesses VGF applications (on eligibility – strong emphasis on pro-poor benefits, grant size; risks associated – see Evaluation Sheet in Annex II, Table 4), which may moderate with PIDG Facilities' commercial focus on “deal generation”.

TAF is currently scaling the VGF programme (as approved by donors during 2015 as part of the TAF/DevCo scale up) for pro-poor, highly developmental projects. Larger VGF grants will also be considered if justified and facilities will be consulted more regularly on potential VGF opportunities. During 2016 TAF has approved two VGF applications (plus another to be approved and another in the pipeline) surpassing the three VGF applications approved during 2012-15. Of these old VGF applications, two were not successful (projects not reaching financial sector for project-related reasons). The TAF evaluation welcomed the enhanced focus on VGF but also recommended that the PIDG and TAF donors consider making a portion of larger VGF grants (over \$1 million) for completed projects refundable to mitigate against the risk of excessive equity returns as a result of VGF support. However, the TAF technical advisor cautions that requiring grants to be refundable would disincentive the use of the tool, which the project financing facilities already consider as procedurally burdensome.

Coc San hydropower project in Vietnam – the intervention

Context: During the late 2000s, electricity demand in Vietnam grew at a rate of 10-14% per annum and it was forecasted to continue to grow at a steady high pace in the years to come, creating huge demand for increased generation capacity. With an **estimated hydropower potential** of around 200,000 MW and with only about 13,000 MW been developed (2013), hydropower development was at the top of the Government of Vietnam (GoV) agenda. Hydropower accounted for about 44% of energy generated, followed by oil and gas thermal with 34% and coal with 19%. In order to encourage the development of renewable energy below 30 MW the Ministry of Industry and Trade obliged the state company - Vietnam Electricity (EVN) - to buy the bulk of its power at tariffs set by the Electricity Regulatory Authority of Vietnam.

The project : The Coc San project, a 29.7 MW run of river plant, located in the Lao Cai province, Vietnam, was initially developed by a local company, the Lao Cai Renewable Energy Vietnam Joint Stock Company (LCRE).⁶ However, the project was stalled in 2011 as LCRE ran out of capital and could not attract long term debt financing when only 15% of the project had been completed.⁷ Prospective Vietnamese lenders had declined providing financing due to the high leverage of the project company, insufficient due diligence and safety issues.

During 2012, InfraCo Asia Development (IAD), a PIDG facility, through its project developer Nexif (InfraCo) Management Pte. Ltd. (NexifIM), identified the project and become a majority shareholder of LCRE through its wholly owned subsidiary Viet Hydro Pte. Ltd. Subsequently, IAD revitalised the project around by taking several steps to improve the bankability of the project. These included: i) commissioning an environmental and social impact assessment (ESIA) to meet IFC standards; and ii) restructuring the construction arrangements and revising the contract terms with the EPC – engineering, procurement, construction - contractor. As a result,

⁵ There are different kinds of risks associated with VGF i) a fragile project may not reach financial close – therefore the TA provided by TAF on preparing and evaluating the project is lost; ii) a project fails after financial close (and after VGF grant disbursement), with TAF losing the TA and VGF grant funding. ; iii) a VGF-supported project becomes more profitable than expected at the time of grant approval – leading to unexpected high equity returns for the PS operator/manager; iv) increased fiscal stress leading to a country's deteriorating creditworthiness if the size of the grants to individual projects does not consider the potential impact on the country's fiscal health; and v) level of cost-effectiveness of grant-based blending schemes, TAF, *Managing risks associated with VGF grants*.

⁶ At that time shareholders of LCRE and sponsors of the project were Colben Energy Holdings (Vietnam) Ltd (VCEH), a subsidiary of Singapore-based Asiatic Group (Holdings) Ltd and two Vietnamese companies, the Vietnam Infrastructure Development and Finance Investment Company (VIDIFI) and HVD Construction and Investment Consultant (HVD).

⁷ CEPA, *TAF Evaluation*, 2016.

IAD secured \$23 million non-recourse long-term debt facility from Saigon and Hanoi Commercial Bank (SHB) plus a \$10 million bridge loan from InfraCo Asia Investments (IAI) – another PIDG facility, which, together with TAG VGF and other equity finance, enabled the project to reach financial close (December, 2014). The plant became fully operational in May 2016. According to stakeholders' interviews in the TAF evaluation, IAD plans to exit the project once construction is completed, by selling down its equity stake, in line with its mandate as project developer rather than long-term investor.

TAF support through VGF: TAF supported the development of the Coc San project by a VGF grant of USD \$5 million⁸ to allow the project become financially viable, as the tariff regime and available carbon reduction credits on their own did not allow resulting revenues to cover the costs of a project which had significant development impact. The VGF grant was approved by TAF Donors in April, 2013 with disbursements made in November, 2014 (\$1.8 million) and July 2015 (\$3.2 million).⁹

As is the case of all VGF applications, TAF provided TA support to IAD so it could hire an independent consultant to develop a concept note to inform the VGF full application. This was evaluated by the PoE that granted approval provided that the TAF technical adviser manager reviewed: i) a pro-poor development plan included in the ESIA to ensure that the poor within the region actually benefited from the project; ii) the loan documents and/or other relevant documents to ensure that the VGF drawdowns reflect the PIDG's interests; and iii) the project's structure and financial models are reasonable and consistent and in line with the concept note.¹⁰

Coverage of gender and inclusion (G&I) and climate and environment (C&E): Although TAF VGF scheme has not been designed to target poor and vulnerable groups, it screens infrastructure projects to ensure they have a strong pro-poor focus. The VGF Evaluation Work Sheet (See Annex II, Table 4) assesses VGF applications against several pro-poor criteria. For instance, in the case of the Coc San project, as a condition of VGF support, a pro-poor development plan (called the Community Development and Livelihood Restoration Programmes) was included in the environmental and social impact assessment (ESIA) to ensure that the region, which is remote and relative poor, benefited directly from the project.

The TAF VGF scheme does not specifically target any climate and environment objectives. It is noted that due diligence compliance with IFC international ESIA standards have led to an estimated reduction of around 76,000 tonnes per annum greenhouse gas emissions across the program compared to business as usual.

Evidence of economic development contribution

According to stakeholders interviewed in the TAF evaluation, "*the overall success of the project relied heavily on securing TAF VGF*". Although the success of the project in attracting private sector investment and reaching financial close was generally attributed to IAD, TAF played an instrumental role in making an economically sound project to become commercially and financially sustainable to the private sector investors.

Main outcomes achieved (still to be verified by the PIDG through post completion monitoring. It is expected that the project will contribute to enhance Vietnamese growth through improved infrastructure provision (and yield other trickle down economic benefits through various pathways) as follows:

- \$30.94 million of private sector finance leveraged;
- 130,000 people benefiting from improved access to reliable and affordable power;
- Employment generated: i) 250 temporary jobs created during construction and ii) 40 permanent jobs created for the operations and maintenance of the plant;
- Reduction of carbon emissions by about 76,000 tons per annum.

Key success/challenges in delivery

⁸ TAF Donors granted special approval permission as the grant was above the \$3 million subsidy threshold.

⁹ The construction for the project restarted in December 2013, one year before financial close was reached, which explains why the first grant disbursement occurred before this date.

¹⁰ CEPA, 2016

The Coc San project demonstrates that VGF can be an innovative and effective instrument in mitigating some of the up-front financial risks of economically attractive infrastructure projects. It also highlights the need for TA support to access the requested VGF, necessary to complete the detailed application process.

The TAF's experience of extending TA support to access VGF financing over the past five years indicates that it is complex and risky. First, if a project fails before financial close, all TA funding directed towards developing the VGF concept note, completing the subsequent VGF application and using a PoE to assess the VGF application, is lost.

Second, even once a project reaches financial close, due to the fact that VGF funding is disbursed up front and is not performance based, the project may never be actually implemented and built. This could happen due to a range of extraneous reasons including operator failure, the government failing to honour relevant obligations or natural disasters, as a result of which the TA funding and the VGF subsidy is lost (See Section 2 for more details).

The TAF VGF scheme has been designed in a way that mitigates some of the above VGF (and related TA) risks by putting in place a rigorous VGF grant preparation, appraisal and approval process to identify ex-ante potential problems with contractor performance and contract sustainability that can be recognised. Nevertheless, TAF experience with VGF until 2015 has been mixed. Of the three grants approved to date only Coc San has been disbursed and achieved its intended outputs. The remaining two grants failed to reach financial close because of external reasons. The subsequent VGF applications approved during 2016 will provide further evidence to validate the effectiveness and relevance of this instrument and the TA related to accessing it.

Innovative features of the TAF VGF scheme

The innovative features of the VGF intervention are as follows:

- **The design of the VGF scheme:** The current VGF instrument reflects considerable pioneering development work by the TAF technical advisor including an iterative process of designing and testing of measures to limit the risks of misuse of VGF grants and consultation with PIDG operating facilities to market the instrument and make it more user-friendly;
- **Preparatory work towards preparing the VGF grant application:** TAF provides additional early assistance to facilitate PIDG facilities accessing VGF grants. In the case of Coc San, a TA grant of \$25,000 was provided to IAD to support development a concept note to inform the VGF application;
- **Pro-poor focus** of the project supported by a VGF grant: The evaluation matrix used to assess VGF applications gives a strong emphasis on pro-poor aspects (affordability, equity etc.) of the project that VGF will support. Pro-poor benefits of the interventions have to be well articulated in the VGF application. For instance, in the case of the Coc San, a pro-poor development plan was included in the ESIA to ensure that the poor within the region actually benefited from the project;
- **Rigorous procedure for the evaluation of VGF applications.** This is conducted by a PoE composed of three senior experts that is independent from the Board and management of the PIDG facilities. The TAF Technical Advisor submits proposals to TAF donors in the form of a summary memo, incorporating the PoE conclusions on the justification for a subsidy.

Conclusions

- Crucial to the success of any VGF scheme, it is the **preparatory work** (provided in form of TA) that needs to be undertaken to mitigate some of the risks associated with VGF:
 - **Adequate time and resources** should be allocated to the development of the concept note and its associated financial model, as this will provide the basis for justification of the subsidy in the grant application.
 - The manager responsible for the VGF scheme shall have **in-depth experience** in the structuring financing for infrastructure projects with private sector participation to assess the first stage of the approval process (concept note);

- **Effective cooperation** between the facility that is supporting the project and the VGF funding provider is essential to: i) identify the right size of the subsidy that would attract private debt financing without de-risking too much the private sector; ii) ensure an effective disbursement process of the VGF; and iii) monitor expected outputs of the project.
- With the right governance structure and associated processes defined in the approval process of the VGF scheme – i.e. independent PoE evaluating VGF applications – high development impact projects, where main mitigation actions for project/VGF risks have been identified, can be selected to benefit from VGF.