

PPIAF Assistance in Ukraine

Ukraine is Europe's second largest country. It is also one of the poorest nations on the European continent with a Gross Domestic Product per capita estimated at \$3,000 in 2010¹. A recent speech delivered by His Excellency Viktor Yanukovich, the President of Ukraine, discussed reforms to attract private investments to the country. He also mentioned the government's plan to implement infrastructure projects in large-scale energy consumption and supply sectors, and in the transport sector². PPIAF support to the government of Ukraine started in 2001 and has focused on strengthening the enabling environment for public-private partnerships (PPPs), and on helping to enhance private sector participation in the energy sector.

Technical Assistance for the Energy Sector in Ukraine

According to the World Bank, the electrical power consumption per capita in Ukraine has drastically declined, from 4,308 kWh in 1990 to 2,449 kWh in 1997. The Ukrainian government has taken various steps to solve the country's energy problems. Along with other technical partners, PPIAF has supported the government of Ukraine's efforts to encourage private sector participation in the energy sector.

In 2001 PPIAF provided advisory assistance to the Ukrainian government to formulate its preferred future electricity supply strategy and to prepare a strategy that would form the basis for privatizing thermal power generation assets. The PPIAF grant was implemented simultaneously with an investment project funded by the World Bank with the aim to improve the technical efficiency of electricity services. The resulting report focused on strategic issues for the introduction of private sector participation in the country's six energy generation companies: Donbasenergo, Dniproenergo, Centrenergo, Zakhidenergo, Dniprohydroenergo, and Dnieshydroenergo.

The report proposed a methodology for retiring unprofitable electricity generating units/plants and provided a greater understanding of the strategic factors that needed to be addressed prior to the introduction of private sector participation in thermal power stations. Based on the findings of the analysis, the study recommended that the government carefully select strategic private investors that not only offered a clear program for the rehabilitation of the power stations of the six energy generation companies, but also agreed to work in the Ukrainian market of electricity and services. Furthermore, the report stressed the need for the government of Ukraine to carry out a comprehensive pre-privatization preparation program for the energy generation companies, with the aim to improve their investment attractiveness by creating conditions for potentially profitable operations. A workshop was held in Kiev on June 21, 2002 to present the final report of the study on the strategic issues related to the introduction of private sector participation in Ukraine's energy generation companies.

The government of Ukraine sold some of its shares in two of the six energy generation companies in 2012. DTEK, Ukraine's largest private coal and power producer, bought a 45% stake in Zakhidenergo for \$242 million in January 2012, and a 25% stake in Dniproenergo for \$147 million³ in March 2012. The Ukrainian government plans to sell 53.3% of Centrenergo and 60.8% of Donbasenergo⁴ to private investors in June 2012.

In 2002 PPIAF approved a complementary grant for advisory assistance to strengthen the policy and regulatory framework and to support changes that would improve the efficiency, management, and operations of Kievenenergo, the heat and power company of the city of Kiev, through increased private sector participation. A thorough analysis of the Ukrainian electricity sector was conducted to review institutional arrangements for supplying heat and electricity in Kiev, examine the issues related to

¹ <http://www.indexmundi.com/facts/ukraine/gdp-per-capita>

² <http://www.president.gov.ua/en/news/17567.html>

³ <http://www.interfax.co.uk/russia-cis-business-and-financial-news-bulletins-in-english/dtek-to-buy-25-of-dniproenergo-shares-for-147-7-mln/>

⁴ <http://www.eavex.com.ua/about-us/press/spf-to-sell-centrenergo-and-donbasenergo-in-june-2012/>

supplying heat by several enterprises, review the issues of supplying heat and electricity by the same enterprise, and provide recommendations for the most efficient institutional set-up and regulatory framework, focusing on the private provision of services and increasing access by the poor. The activity also identified opportunities and ways for increasing efficiency through increased private sector participation in the provision of heat and electricity supply activities.

The study recommended the Kyiv City State Administration revise the existing contract between itself and Kievenoergo on the management and operation of municipally-owned combined heat and power plants and district heating assets; improve the operating efficiency of Kievenoergo; and set up a municipal holding company, which will provide a better organizational structure for increased private sector participation in the company's different business segments. These recommendations were approved by the administration during a final workshop held in Kiev on February 17, 2005. The workshop helped to reach a consensus on the best institutional set-up for Kievenoergo. On December 9, 2011, DTEK, which previously held 47.8% Kievenoergo shares, increased its stake in the company to 72.8% by purchasing additional 25% stake for \$56 million⁵.

In 2004 PPIAF supported advisory services to the Ukrainian National Electricity Regulatory Commission (NERC) for the implementation of critical reforms to the wholesale electricity market, including the design of tariffs and the determination of regulated price elements for generators, licensing of market participants, and drafting of legislation and rules to transform the Ukrainian system from a single buyer to a bilateral contracts model. The activity included institutional strengthening support to the NERC, which focused on monitoring and support for the implementation of the wholesale electricity market concept. This concept was designed and approved in November 2002 by the government of Ukraine to support the development and regulation of a competitive wholesale electricity market. An assessment was also carried out to identify strategies for eliminating barriers to private sector participation in electricity distribution and generation companies in Ukraine.

In addition to the final report, the activity delivered five technical briefing notes, a series of 13 training workshops, and a study tour to Great Britain and Italy for five key staff from the commission. Moreover, the activity produced a strategy for development of the framework to support the implementation and regulation of a full-scale competitive wholesale electricity market of Ukraine. Under this strategy, Ukraine would change its market design for electricity by switching to a bilateral power contracts model from a gross power pool model. Under a bilateral contracts market, participants may either directly negotiate contracts between themselves in what is termed the over-the-counter market, or trade through power exchanges. The strategy also identified mechanisms for calculating market imbalances between demand and supply in the electricity market. It also recommended the use of a soft pricing regime to promote efficiency in system operation, by creating incentives for market participants to trade through the balancing mechanism where this is lower cost for the system as whole.

As for regulation and market monitoring of the proposed system, the strategy recommended ways to manage any manipulation of prices in one market by actions in the other market, and to ensure both markets are competitive. It also recommended that NERC's work be focused on resolving regulatory arrangements and addressing constraints to the establishment of commercial exchanges, rather than seeking to establish a monopoly exchange. In this regard, a study tour was organized for five NERC staff to visit counterparts in Great Britain and in Italy from April 16 to 23, 2005 to strengthen their capacities on issues related to the implementation of a wholesale electricity market. A final workshop was held in Kiev on June 30, 2005 to present the findings of the study and to discuss next steps for the implementation of the strategy. The wholesale electricity market strategy was adopted by the government of Ukraine on September 29, 2008⁶.

⁵ http://www.phoenix-capital.ua/en/press/news_item?id=8504

⁶ http://www.imepower.com/index.php?lang_id=3&menu_id=17&parentmenu_id=2

Results of PPIAF's Activities in the Energy Sector in Ukraine

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • Analysis on the strategic issues related to the introduction of private sector participation in Ukraine's energy generation companies, July 15, 2002 • Analysis on institutional, restructuring, regulatory, and private sector participation options for Kievenoergo, February 2005 • Briefing note on nuclear costs and bidding, November 2004 • Briefing note on financial contract, November 2004 • Briefing note on bilateral contracts, November 2004 • Briefing note on ancillary services, November 2004 • Briefing note on balancing market design, November 2004 • Assessment to identify strategies for eliminating barriers to private sector participation in electricity distribution and generation companies in Ukraine, June 2005
<i>Plans/strategies prepared</i>	<ul style="list-style-type: none"> • Strategy for the introduction of private sector participation in Ukraine's energy generation companies, July 2002 • Strategy for the development of a framework to support the implementation and regulation of a full-scale competitive wholesale electricity market of Ukraine, June 2005
Capacity and awareness building	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> • Workshop in Kiev to present the final report of the study on the strategic issues related to the introduction of private sector participation in Ukraine's energy generation companies, June 21, 2002 • Workshop on Kievenoergo institutional study held in Kiev on February 17, 2005 • Training workshops on bilateral contracts and balancing mechanisms (introductory course) held in Kiev in September and November 2004 • Training workshops on financial contracts and hedging, market monitoring, nuclear cost and bidding, the Russian wholesale electricity market, and ancillary services held in Kiev in November 2004 • Training workshop on promoting green electricity within the wholesale electricity market held in Kiev in January 2005 • Training workshop on bilateral contract and balancing mechanisms (key issues) held in Kiev in January 2005 • Training workshop on SimBal demonstration (balancing market simulation model demonstration) held in Kiev in January 2005 • Training workshop on introduction to "locational" marginal pricing: the New Zealand experience held in Kiev in January 2005 • Training workshop on reciprocity in electricity trade held in Kiev in March 2005 • Training workshop on tariff policy and incentives for state-owned companies held in Kiev in March 2005

<i>Workshops/seminars</i>	<ul style="list-style-type: none"> • Five key staff from NERC participated in a study tour to Great Britain and Italy from April 16–23, 2005 • Final workshop on the strategy for development of the framework to support the implementation and regulation of a full-scale competitive wholesale electricity market of Ukraine held in Kiev on June 30, 2005
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Category	Outcomes
Enabling environment reform	
<i>Plans/strategies adopted</i>	<ul style="list-style-type: none"> • Strategy for the introduction of private sector participation in Ukraine's energy generation companies approved by the Ukrainian government, July 2002 • Wholesale electricity market strategy adopted by the government of Ukraine, September 2008
<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> • National Electricity Regulatory Commission strengthened, 2004–2005
Capacity and awareness building	
<i>Consensus achieved</i>	<ul style="list-style-type: none"> • Consensus reached on the best institutional set-up for Kieveno, February 17, 2005 • Consensus achieved on the strategy for the implementation of the wholesale electricity market strategy, September 2008

Category	Impacts
<i>Additional private investment in sector</i>	<ul style="list-style-type: none"> • \$56 million from sale of 25% stake in Kieveno on December 9, 2011 • \$242 million from sale of 45% stake in Zakhidenergo on January 10, 2012 • \$147 million from sale of 25% stake in Dniproenergo on March 13, 2012

Technical Assistance to Develop PPP Infrastructure Projects

In 2008 Ukraine was nominated to co-host the 2012 European football championship (Euro 2012) in the summer of 2012. The European football championships are the third biggest international sports event after the Olympics and the World Cup. To prepare for this big event, the government of Ukraine developed a "Concept of a National Program for Preparation and Implementation of the European Football Championship 2012 Finals in Ukraine," which lists the required investments and provides an overall estimated financing requirement of \$18–\$22 billion, of which central budget funds are expected to account for \$3 billion.

The Ukrainian government decided to seize the opportunity provided by the Euro 2012 games to accelerate the development of infrastructure projects and services through partnerships between the public and private sectors. Under the Concept Note for the Euro 2012 Program, the Ukrainian government identified priority investments in transportation and tourism sectors for a successful organization of the Euro 2012. Against this background the government of Ukraine requested technical assistance from PPIAF in 2008 to develop a strategy on the best way to attract private investments for Euro 2012 infrastructure projects by providing a realistic picture of what can be expected and recommendations on how to move forward.

The PPIAF-funded study principally aimed to identify Euro 2012 infrastructure projects that would be most suitable for private participation. It included a special focus on airport development projects and on legal and institutional issues related to the implementation of PPPs. The analysis helped to choose two airports (Lviv and Odessa) as candidates for expansion and/or rehabilitation under a PPP scheme.

The creation of a PPP unit was also recommended to help coordinate the PPP activities of federal, state, and regional governments, and governmental sector agencies in the effective execution of PPP projects. The proposed unit should take on a significant “incubator” role in actually developing a selected series of PPP projects through to financial closure to demonstrate innovative risk management engineering and associated project structures under different circumstances. The Ukrainian government has given the green light for the creation of a PPP Center as part of the investment reform currently underway in Ukraine.

A two-day training on PPP investment models for Euro 2012 projects was held in Kiev, December 16–17 2008. Based on the recommendations of the PPIAF activity, the government of Ukraine adopted a law on July 1, 2010. The PPP Law provides for the delegation of public-private cooperation managing duties to a special body within the structure of the state executive branch.

In preparation for Euro 2012, Lviv International Airport is undergoing a \$200 million expansion project, including a 700 meter extension of the existing runway and a new airport terminal capable of handling up to 5.69 million passengers per year⁷. Funding sources for this PPP project included 35% public funds and 65% funds from private investors. The country’s president Viktor Yanukovich is expected to open the renovated airport in mid-2012.

In partnership with local authorities, Odessa International Airport consortium, a multinational consortium which includes Vienna Airport, Spain’s Ineco, Ukraeroproekt, Macquarie International Infrastructure Fund, and the European Bank for Reconstruction and Development, will rebuild Odessa airport at a total cost of up to \$180 million. The project involves construction of runways at a cost of \$100–\$120 million and a new terminal building for \$50–\$60 million. Odessa City holds 22.1% of the capital, with the rest held by the Consortium. Reconstruction works are underway.

Results of PPIAF’s Support to Develop PPP Infrastructure Projects in Ukraine

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> Assessment of PPP investment models for Euro 2012 projects in Ukraine, October 2009
<i>Plans/strategies prepared</i>	<ul style="list-style-type: none"> Strategy for the implementation of investment models for Euro 2012 projects in Ukraine, October 2009
Capacity and awareness building	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> Seminar on PPP Investment Models for Euro 2012 Projects held in Kiev on December 16–17, 2008

Category	Outcomes
Enabling environment reform	
<i>Policies adopted, legislation passed/amended, or regulations issued/revised</i>	<ul style="list-style-type: none"> The government of Ukraine adopted a law on PPPs on July 1, 2010

⁷ <http://www.airport-world.com/news-articles/item/1334-lviv-airport-ready-to-open-new-terminal>

Project cycle-related assistance	
<i>Transactions facilitated</i>	<ul style="list-style-type: none"> • Lviv international airport expansion project, June 2009 • Odessa airport reconstruction project, June 2011

Technical Assistance to Sub-National Entities in Ukraine

PPIAF has approved four grants under its Sub-National Technical Assistance (SNTA) program, three of which have been completed. The ongoing SNTA activity was approved in June 2011 and aims to help develop a corporatization strategy for Naftogaz.

In 2007 PPIAF approved a small grant for a review of Ukraine's legal and regulatory framework with the aim to assess the potential for sub-national financing for infrastructure development. This assessment identified constraints faced by such entities and provided recommendations for enabling market-based financing to sub-national entities in Ukraine. Within the broader framework of the review, the potential for the International Finance Corporation (IFC) to support Ukrainian Railways through the use of its various financial instruments was also assessed. PPIAF's SNTA program increased the capacity of the Ukrainian team in charge of the development of the railways project. So far, the transaction has not occurred yet.

In May 2008 the city of Ivano-Frankivsk, through the European Bank for Reconstruction and Development (EBRD), requested assistance from PPIAF for a capacity building program to enhance municipal creditworthiness. The activity was funded under PPIAF's SNTA program. It aimed to provide guarantees for the city's borrowing of its heating company for priority infrastructure investment; help improve municipal creditworthiness for such guarantees to have desired results; and help the city to design a program that would cost-effectively enhance creditworthiness from the perspective of potential lenders through the use of competitive and transparent procedures for the recruitment and supervision of consultants who will implement the program.

The activity delivered an assessment of the City of Ivano-Frankivsk's current financial standing and a Creditworthiness Enhancement Program. The successful implementation of the program should allow the city to comprehensively improve its financial management and budgeting practices thereby improving the city's ability to attract and manage investments and ensuring the improved creditworthiness and reliability of the city as a guarantor for its subsidiary companies obligations. In June 2010 the EBRD granted a €11.7 million loan to the city's municipal utility company, Ivano-Frankivsk Teplokomunenergo, to finance a green initiative to reduce energy losses and reduce gas and electricity consumption⁸.

Results of PPIAF's Support to Sub-National Entities in Ukraine

Category	Outputs
Enabling environment reform	
<i>Analyses/assessments prepared</i>	<ul style="list-style-type: none"> • A review of the legal and regulatory framework in Ukraine to assess the potential for financing sub-national entities for infrastructure development, February 2008 • Assessment of the City of Ivano-Frankivsk's current financial standing and development of a Creditworthiness Enhancement Program, September 2010
Category	Outcomes
Enabling environment reform	

⁸ <http://www.eib.org/about/press/2010/2010-096-multilateral-carbon-credit-fund-supports-first-municipal-project-district-heating-energy-efficiency-project-in-ukraine.htm>

<i>Institutions created or strengthened</i>	<ul style="list-style-type: none"> • City of Ivano-Frankivsk strengthened, 2008–2010
Project cycle-related assistance	
<i>Transactions facilitated</i>	<ul style="list-style-type: none"> • The EBRD granted a €11.7 million loan to Ivano-Frankivsk Teplokomunenergo to finance a green initiative to reduce energy losses and reduce gas and electricity consumption, June 2010
Capacity and awareness building	
<i>Technical capacity enhanced</i>	<ul style="list-style-type: none"> • PPIAF's SNTA program increased the capacity of the Ukrainian team in charge of the development of the railways project, March 2008

Creditworthiness Improvements for Ukrainian District Heating Utilities

The Government of Ukraine made changes to its legal and regulatory framework to support district heating reforms. The responsibility for district heating price setting is being transferred from local administrations to an independent regulator in an effort to depoliticize price setting. Heat tariffs are also being increased in order to eliminate municipal subsidies. The next step will be for district heating companies to prepare proposals for price setting to reflect the cost of heat supply. With such changes, district heating companies are expected to become financially viable to enable investments, focusing on long outstanding deferred maintenance. These changes would also positively affect their creditworthiness. Moving district heating utilities towards financial self-sufficiency and improved creditworthiness includes other targets and considerations, besides increasing heat prices. Global experience indicates that this transition process puts additional demands on utility management and operations. There are various points at which a creditworthiness assessment is either vital or advantageous for a utility. Most utilities are unprepared to address this issue by themselves, and in the interim the private financing market remains closed to them. Ukrainian district heating companies are at a threshold point that requires tailored training and technical assistance to provide capacity building. They need to have a comprehensive view of what will be required of them to improve their creditworthiness, both in terms of process and documentation. They need to be able to assess their needs, including weaknesses and strengths, and determine how to overcome and maximize these aspects to be able to request financing from local banks. They need to be proactive to obtain access to private sector financing.

In June 2011 the World Bank signed a loan with Ukreximbank, a Ukrainian state-owned bank, to support investments in energy efficiency projects. Funds would be on-lent, on a commercial basis, by Ukreximbank and/or partner banks to finance qualifying projects. While the agreement with Ukreximbank does not restrict the types of enterprises eligible to borrow under the project, one of the World Bank's aims in establishing the line of credit was to make funding available to finance energy efficiency investments by municipalities and municipal service companies. These enterprises have had difficulty obtaining loans for a number of reasons, largely owing to a perception on the part of lenders that they are not creditworthy.

In was in this context that PPIAF assistance was requested in 2011 to assist two district heating companies in Ukraine in improving their creditworthiness to be able to borrow funds for investment projects on the local market. The activity aimed to determine what steps might be taken to improve the creditworthiness of these enterprises, in order to increase the chances that at least part of the funds lent to Ukreximbank might be available to them. The PPIAF-funded study focused on Ukrainian district heating companies, since this sector offers potential for significant improvements in energy efficiency.

The first phase of the study involved determining Ukreximbank's criteria for determining the creditworthiness of borrowers, and selecting and collecting financial and operating data from two indicative heating companies with a view to subsequently assess steps that might be taken to help them

meet Ukreximbank's definition of a creditworthy enterprise. The second phase involved a more detailed analysis of options to enhance creditworthiness, both for the indicative heating companies and more generally for all potential borrowers in the district heating sub-sector. As part of the activity, the PPIAF-supported team cooperated with the U.S. Agency for International Development (USAID), which has been working on a Municipal Heating Reform project in Ukraine, and had thus been engaged with municipal utilities in selected cities.

The two district heating companies selected for the initial phase of the study were chosen together with the Ministry of Regional Development, Construction, Housing, and Utilities based on an agreed set of criteria. The key criteria were that the heating companies should be operating on a near cost-recovery basis, that they had a capital investment program, and that they should be willing to work with the Ministry and the World Bank on improving their creditworthiness. The selected heating companies were Donetskgorteploset, a municipally-owned utility serving the city of Donetsk, and Myrhorodteploenergo, which is owned by the Poltava oblast and serves the town of Myrhorod as well as two small settlements located outside the municipal boundaries. Myrhorodteploenergo is also one of the companies supported by USAID's Municipal Heating Reform project.

The final report "Ukraine: Creditworthiness of District Heating Companies," delivered in June 2012, addressed Ukreximbank's creditworthiness expectations, the key problems faced by the two heating companies (Donetskgorteploset and Myrhorodteploenergo) in meeting these expectations, and potential solutions. It also contained specific recommendations on how to improve creditworthiness for the two companies through improved financial viability and gaining access to investment funds. The report also offered a range of possible actions on the part of the various stakeholders (government, regulator, district heating companies, international financial institutions). Proposed reforms included policy and legislative changes, structural and governance changes, private participation, changes in the regulatory processes, and improvements in the operations and planning functions of the district heating companies.

The final report was a very timely and important exercise. The completion of the PPIAF-funded study coincided with and complemented the public release of a World Bank and Energy Sector Management Assistance Program (ESMAP) report entitled "[Modernization of the District Heating Systems in Ukraine: Heat Metering and Consumption-Based Billing](#)." To reach a wider audience and draw more attention, the conclusions and recommendations of the PPIAF-funded study were presented and discussed during the three public release workshops of the World Bank/ESMAP report: workshop in Kiev on March 20, 2012 held at the World Bank office with approximately 40 participants, including Deputy Prime Minister Sergiy Tihipko; workshop in Myrhorod on March 21, 2012 held at the city hall with approximately 20 participants; and workshop in Donetsk on March 22, 2012 held at the city hall with approximately 30 participants and moderated by the First Deputy Mayor. Presenting the two reports together allowed discussing their conclusions and recommendations not just in Kiev as initially planned for the PPIAF activity, but also in two other participating cities. The audience of the workshops included representatives of the Government of Ukraine, district heating regulator, municipalities, district heating utilities, NGOs, and donor community.

Both the World Bank/ESMAP and PPIAF-funded reports were well-received in Ukraine. To implement the recommendations of the World Bank/ESMAP report and address some of the issues outlined in the PPIAF-funded report, the World Bank initiated the District Heating Energy Efficiency project, which is expected to go to the Board in fiscal year 2014. This project aims to improve the energy efficiency of selected Ukrainian district heating utilities and increase their quality of service. The companies will be selected competitively, using selection criteria that were developed and suggested in the PPIAF-funded study. The competition was announced in July 2012, and 60 companies submitted applications. Donetskgorteploset, the Donetsk company that participated in this PPIAF exercise, is among those that applied. The applications will be evaluated by an independent expert (the selection process for the consultant is about to be initiated). Based on the independent consultant's report, five to seven companies will be selected as finalists.

Results of PPIAF's Activity to Improve the Creditworthiness of Ukrainian District Heating Utilities

Category	Outputs
Enabling environment reform	
<i>Plans/strategies prepared</i>	<ul style="list-style-type: none"> • <i>Ukraine: Creditworthiness of District Heating Companies:</i> creditworthiness improvement plans for two district heating companies, June 2012
Capacity and awareness building	
<i>Workshops/seminars</i>	<ul style="list-style-type: none"> • Conclusions and recommendations of the PPIAF-funded study "Ukraine: Creditworthiness of District Heating Companies" presented and discussed during three workshops: i) Kiev workshop on March 20, 2012; ii) Myrhorod workshop on March 21, 2012; and iii) Donetsk workshop on March 22, 2012

Category	Outcomes
Enabling environment reform	
<i>Plans/strategies adopted or implemented</i>	<ul style="list-style-type: none"> • World Bank District Heating Energy Efficiency project underway to help district heating utilities implement recommendations, 2012

Looking Ahead: PPIAF and the PPP Agenda in Ukraine

In 2009 the Ukrainian government developed a program of economic reforms to mitigate the impact of the global financial crisis. These anti-crisis measures aimed to ensure sustainable economic development, comfortable business climates, and attract investment; as well as to create conditions for economic development of regions, primarily rural areas and self-governing cities. Through the SNTA program, PPIAF may help the Ukrainian government promote strong municipalities and sub-national entities that are empowered to implement their own infrastructure projects through the use of PPPs.