

The Role of Public-Private Partnerships (PPPs) in Scaling Up Financial Flows in the Post-Kyoto Regime

The climate change agenda requires adequate financial flows in the near future in order to support mitigation and adaptation efforts and the low-carbon development of emerging and new economies. The potentials of Public-Private Partnerships (PPPs) – as a risk-sharing structure bringing private funds on the table – are presented in the new climate change context. This article discusses and provides recommendations on PPPs as a good financing model to mainstream climate change into the development agenda of emerging and less-developed economies.

DOI: 10.12910/EAI2015-015

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Introduction

The 17th UNFCCC Conference of the Parties (COP), held in Durban in 2011, reaffirmed the urgency of adequate financial flows in order to support both mitigation and adaptation efforts. On this occasion, convened Parties confirmed the commitment to reach the financial goal of USD 100 billion investments per year by 2020 from developed to developing countries.

For the first time this year, in its Fifth Assessment Report IPCC includes a specific chapter on cross-cutting investment and finance issues and states, with medium evidence and high agreement, that: *Resources to address climate change need to be scaled up considerably over the next few decades both in developed and developing countries.*

Recognizing that a global effort is needed to enhance

ambition and close the current gap effectively, participants in the COP highlighted several ways in which this could be achieved, including the role of national governments, international cooperation, the private sector and how to mobilize resources.

In a period of shrunk public resources, the emphasis given to the potential role of the private contribution appears obvious.

As a form of cooperation between the private and public sectors, the public-private partnerships are not a new phenomenon or a new way of doing public policy. Incorporating the technical expertise, innovation, financial capability, cost-effectiveness and economic efficiency of the private sector when providing public goods and services is not an idea of the last century.

The involvement of private sector in the traditional public policy investment has encountered different degrees of acceptance and resistance during the world development history. There has been a golden age of concessions contracts in Europe during the century following the industrial revolution; it was the time of the expansion of cities, the development of public services for water and energy supply, and the construction of big transport networks.

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PPPs are strictly connected to the infrastructural development of countries. Countries like Italy, Spain and France, they have all utilised the PPP model in order to develop their national transport system, the quality of which is often used as criterion to judge the country's competitiveness. Data from the Private Participation in Infrastructure (PPI) project database of the World Bank and the Public-Private Infrastructure Advisory Facility (PPIAF) shows a steadily growth of investments in infrastructures in the developing countries (Fig. 1).

Notwithstanding the low recovery faced by the developed countries, developing nations are expected to continue to grow and will need massive investments in energy, urban systems, transport, agriculture. There is scope for developing countries to invest in a low-carbon future without sacrificing their growth.

This article focuses on PPPs opportunities in developing countries and on the role that PPPs can play in meeting their development goals.

The PPPs data analysis

In order to present the current evolution of PPPs we used the most comprehensive database available, the Private Participation in Infrastructure (PPI) Database (<http://ppi.worldbank.org/index.aspx>). The PPI Database is managed by the World Bank and the Private-Public Infrastructure Advisory Facility (PPIAF). The PPI database offers a collection of more than 6000 infrastructure projects in developing countries. Its purpose is to identify and disseminate information on private participation in infrastructure projects in low- and middle-income countries, as classified by the World bank, recording data on the contractual arrangements used to attract private investment, the sources and destination of investment flows, and information on the main investors.

We analysed a representative sample of 4324 PPP projects operating in sectors that are affected by climate mitigation and adaptation policies, such as the energy, water and transport sectors. The selected sample include 4,324 projects for total investment commitments of USD 1,212,935 million (see figures and tables below).

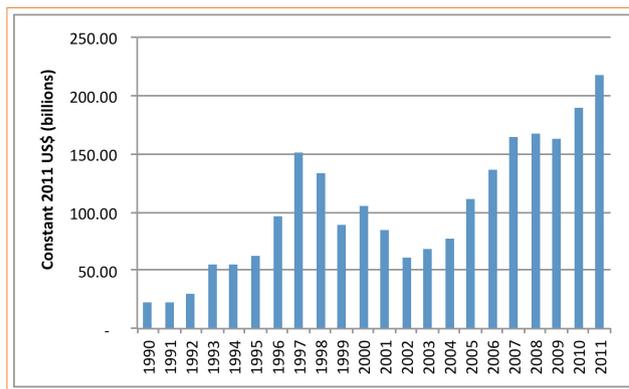


FIGURE 1 Investment commitments to PPI in developing countries, 1990-2011

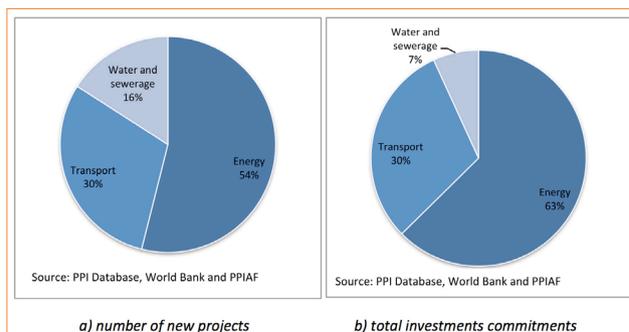


FIGURE 2 Total PPPs sample by sector
Source: PPI Database, World Bank and PPIAF

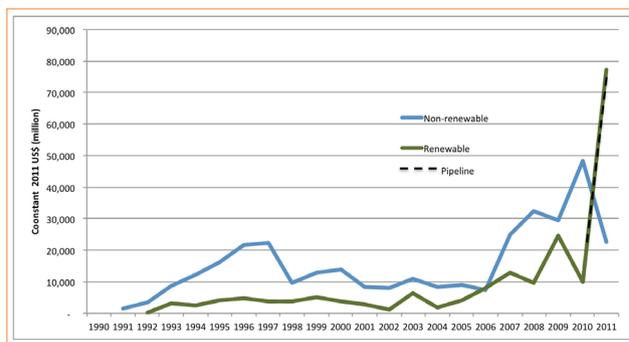


FIGURE 3 Renewable and non-renewable PPP energy projects in the electricity generation segment (total annual investment commitments, including pipeline projects)
Source: Authors sample based on PPI Database, World Bank and PPIAF

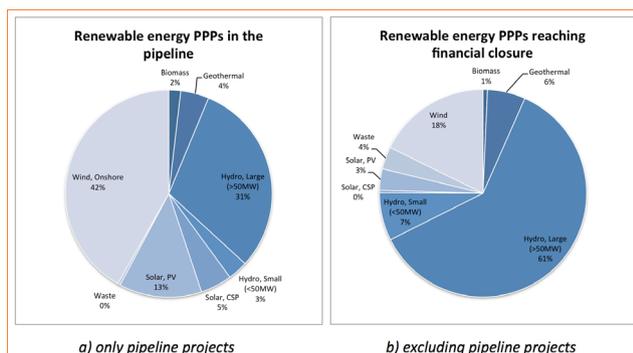


FIGURE 4 PPPs investments in renewable energy generation by energy sources
 Source: Authors sample based on PPI Database, World Bank and PPIAF

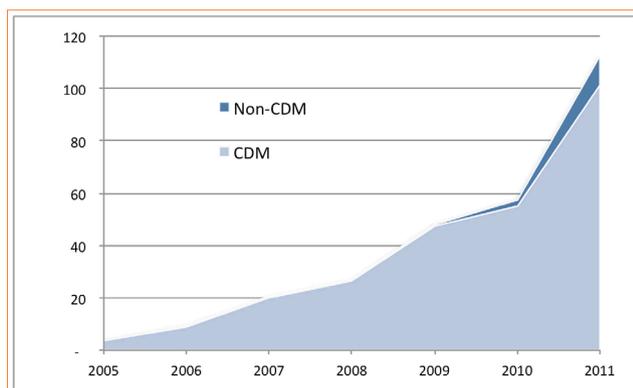


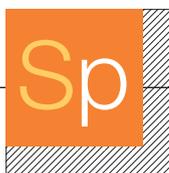
FIGURE 5 Installed capacity (GW) of PPP and CDM projects in renewable energy in 2005-2011
 Source: Authors sample based on PPI Database, World Bank and PPIAF

As expected, in terms of numbers of projects the energy sector represents by far the largest share of the sample, followed by the transport sector (Fig. 2). The in-depth analysis of trends and characteristics of the selected sample provided us with the following main findings:

- The analysis performed of the two decades panel data presented global evidence that international climate agreements are among the key drivers of PPP energy investments in developing countries.
- In particular, the energy sector represents an important arena for the PPP private players; these, in turn, can represent an important resource for the policy makers involved in the deployment or in the definition of a developing country’s climate agenda.
- Future energy investments in electricity generation segment in the renewable sector will exceed investments in the fossil fuel energy sectors, thus showing the evidence of a progressive switch toward low-carbon sources of energy (Fig. 3).
- PPPs in renewable energy have been traditionally used for the construction of large hydro-projects (>50MW); looking at the future trend (Fig. 4), private investors in pipelines projects seem to prefer to be engaged in PPPs in the wind power sector, followed by large hydropower plants. Results are consistent with the Energy Technology Perspectives drawn by IEA, which foresees a shift from hydro- to wind power in the renewable sources development in non-OECD countries.
- The presence of PPP CDM projects shows the role played by the carbon market in stimulating private investments in the renewable sector (Fig. 5).

PPP contract type	Energy		Transport		Water and sewerage		Total	
	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment
Concession	202	125,406	792	204,082	295	52,943	1,289	382,431
Partial divestiture	290	116,420	57	18,909	24	11,203	371	146,532
Greenfield project	1,823	517,548	428	141,191	318	17,425	2,569	676,164
Lease contract	17	494	26	5,760	52	1,554	95	7,807
Total	2,332	759,867	1,303	369,941	689	83,126	4,324	1,212,935

TABLE 1 Selected PPPs projects by contract type and sector (number of projects and total investment commitments in constant 2011 USD million)



Region	Energy		Transport		Water and sewerage		Total	
	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment
East Asia and Pacific	745	182,100	352	102,184	410	39,159	1,507	323,443
Europe and Central Asia	408	113,710	58	23,418	33	4,170	499	141,299
Latin America and the Caribbean	631	249,786	461	151,200	212	35,046	1,304	436,032
Middle East and North Africa	38	28,520	27	7,873	13	4,033	78	40,426
South Asia	377	153,755	315	68,309	7	391	699	222,455
Sub-Saharan Africa	133	31,995	90	16,958	14	327	237	49,280
Total	2,332	759,867	1,303	369,941	689	83,126	4,324	1,212,935

TABLE 2 Selected PPPs projects by region and sector (number of projects and total investment commitments in constant 2011 USD million)
Source: Authors sample based on PPI Database, World Bank and PPIAF

Status	Energy		Transport		Water and sewerage		Total	
	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment	No. of projects	Total Investment commitment
Canceled	63	17,402	61	26,132	47	23,464	171	66,998
Concluded	39	6,633	46	3,712	15	705	100	11,050
Construction	447	194,694	242	82,161	169	8,756	858	285,611
Distressed	27	24,560	12	4,183	12	5,731	51	34,474
Merged	55	149	-	-	-	-	55	149
Operational	1,349	461,551	942	253,752	446	44,470	2,737	759,774
Under development	352	54,878	-	-	-	-	352	54,878
Total	2,332	759,867	1,303	369,941	689	83,126	4,324	1,212,935

TABLE 3 Selected PPPs projects by status and sector (number of projects and total investment commitments in constant 2011 USD million)

As a complement to the numerical analysis we analysed best and worst case studies, which helped us to provide further recommendations:

- The climate change issue shall be mainstreamed into the PPPs decision making process.
- Climate policy instruments shall include PPPs to promote the right investment for the right objective.
- The integration of climate and PPP communities and practices shall be promoted.
- A better integration of databases, and the creation of a specific climate PPPs focus would help future research and dissemination of the lessons learned.
- Climate does not change PPPs good governance rules.

Conclusions

There is a vast literature on PPP's management principles on one side, and a huge literature is emerging on the climate finance needs, on the other. However, if we exclude the today mature discussion on the Kyoto Protocol market-based mechanisms, only limited efforts have been made to investigate existing business models capable to attract the private party into investment activities, characterised by high public interest and higher business risk, like the climate mitigation and adaptation projects.

The PPP business model, by its nature, brings private and public parties together in a long-term formal union, where both parties cooperate during the whole life of the project. Such form of cooperation therefore represents a good framework in order to involve the

private sector (usually acting with a shorter time frame) in climate-related investments that require a long-term perspective.

PPPs – which have been extensively used in the past to promote the countries' infrastructure development – today represent an interesting business model that needs to be more extensively explored in its capacity to serve the implementation of the climate mitigation and adaptation agenda of developing nations.

In the near future, policy makers will take more and more into account the opportunities offered by PPPs to best combine the public and private interests, while the climate action plans will represent for private investors a new “good business” opportunity to bring their ingenuity and innovation.

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further readings

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