



Cheaper oil: A turning point in Paris climate talk?



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ABSTRACT

The 2015 Paris climate conference is designed to achieve a legally binding agreement on climate change for the first time in over 20 years; however, the participants face a much tougher task in striking a new deal after the disappointing preparatory climate change talks in Lima. However, falling oil prices have created more room to maneuver for the forthcoming global climate talks than previously thought. Average global oil prices have plunged from USD 110 per barrel in June 2014 to approximately USD 60 per barrel in May 2015. With the sharply falling oil prices and the downward pressure on gas and coal prices, both the removal of fossil fuel subsidies (FFS) and the implementation of a carbon tax could be conducted without raising energy costs. A growing body of research suggests that removing FFS and implementing a carbon tax could significantly reduce carbon emissions. Thus, the approximately 50% drop in oil prices has provided a window of opportunity to reduce carbon emissions by removing FFS and internalizing climatic externalities worldwide. As this window will not last forever, both these measures should be implemented quickly and be considered central to the Paris climate change conference. Compared with the lack of success in the previous two decades of climate diplomacy, these two measures constitute technical and economic factors that will make a difference in the 2015 UN climate change conference.

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1. Introduction

In 2011, negotiators from 194 countries reached an agreement at the 17th annual Conference of the Parties (COP17)—known as the

Durban Platform for Enhanced Action—which establishes measures to complete a global climate pact with “legal force” in Paris in 2015 that will take effect by 2020. Thus, the 2015 Paris climate talks are expected to bring the patchwork of binding and non-binding arrangements into a new comprehensive climate protocol that includes all countries [1–3]. The 2014 Lima climate change conference was the last preparatory meeting ahead of the scheduled Paris climate change conference. However, the outcome of the Lima conference is being

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called “modest” [4], “weak” [5], and “the bare minimum” [6] despite the fact that China and the United States (US)—the top two carbon polluters that contribute approximately 40% of the global carbon emissions—reached an agreement to limit carbon emissions. The chaotic preparatory climate talks in Lima have signaled that the 2015 Paris conference will face a much tougher task in reaching a new, global climate accord.

Brent crude oil prices, the benchmark for world oil prices, have slumped from a high of USD 115 a barrel in mid-June 2014 to approximately USD 60 a barrel in May 2015 [7]. The approximately 50% drop in oil prices has affected the global economic system to reshape the world. Indeed, a growing body of literature continues to analyze the impact of the sharp decline in oil prices on the economy and geopolitics at the global, regional, and national scales [8–17]. In this paper, the authors contend that, paradoxically, the 50% drop in oil prices offers an opportunity to dismantle fossil fuel subsidies (FFS) and tax carbon emissions, thus helping countries reach an international carbon price commitment at the 2015 Paris conference.

2. Literature review

Numerous theoretical and empirical studies [18–80] have sought to identify how FFS and carbon tax influence carbon emissions and to explain how to reform FFS and implement a carbon tax.

2.1. Setting an appropriate energy price to reduce carbon emissions

2.1.1. Quantifying the influence of FFS on carbon emissions

In the early 1990s, pioneering research by Burgess [34], Burniaux et al. [32], and Larsen and Shah [31,33,35] had begun to quantify the influence of fossil fuels on carbon emissions. Since then, numerous researchers have conducted similar studies. The studies that attempted to quantify the influence of FFS on carbon emissions concluded that FFS reform would reduce the impact of carbon dioxide (CO₂) emissions—though the reduction amounts vary widely (see Table 1). For example, Burgess [34] estimated that the reduction in CO₂ emissions by removing FFS in the electricity sectors of China, India, and the US was approximately equivalent to the United Kingdom's (UK's) total annual carbon emissions [34]. Burniaux et al. [32] found that eliminating FFS could foster an 18% reduction in greenhouse gas (GHG) emissions globally by 2050 [32]. Larsen and Shah [31,33,35] determined that by 2010, removing FFS could lead to reduction in carbon emissions by 7% worldwide and by 10% in non-member countries of The Organisation for Economic Co-operation and Development (OECD) [33,35]. Krause [30] reported that a combination of removing FFS and internalizing climatic and non-climatic externalities could reduce carbon emissions in Western Europe by 40–50%, relative to the base year, over the next three to four decades. The International Energy Agency (IEA) [42] reported that removing FFS in China, India, Indonesia, Iran, Kazakhstan, Russia, South Africa, and Venezuela could reduce primary energy consumption by 13% and lower CO₂ emissions by 16%. Furthermore, the OECD

[50] report showed that removing FFS in a number of non-OECD countries could lead to a 10% reduction in global GHG emissions by 2050. Moreover, the IEA [38] report demonstrated that by 2020, the removal of consumption-related FFS between 2011 and 2020 would reduce global CO₂ emissions by 6.9%.

2.1.2. Policy recommendations for FFS reforms

Recent years have witnessed a shift in FFS research toward policy recommendations for reforming FFS. In 2009, the IEA, OPEC, OECD, and World Bank released their landmark joint report entitled “Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative” [39].

Exploring the politics of subsidy creation and reform, Victor [28] argued that successful subsidy reforms often require broader reforms and improvement in public administration to create mechanisms that can compensate political losers. Laan and Beaton [29] examined fossil fuel reforms in France, Ghana, and Senegal and provided six policy recommendations for fossil fuel reforms in other countries. Further, Laan [27] argued that transparency is the cornerstone of FFS reforms. Lang et al. [26] analyzed the opportunities, strengths, and weaknesses of progressive FFS reform and concluded that a collaborative approach between a range of organizations was needed, with country champions driving the process. Shenoy [24] analyzed the reasons for India's previous unsuccessful attempts at FFS reforms: ineffective kerosene subsidies, and political factors. Van de Graaf and Westphal [22] reported the limited ability of the G8 and G20 economic powers to act as global energy governors and offered some concrete policy recommendations for the G20 leaders to fully utilize their forum's potential. Keen [23] provided some recommendations for FFS reform: (1) communicating the shortcomings of subsidies; (2) real-locating some budgetary savings; (3) protecting the most vulnerable households; and (4) removing the subsidies as a first step. In addition, del Granado et al. [21] reported that the impact of FFS reforms on household welfare in developing countries is substantial and approximately neutrally distributed across income groups: a USD 0.25 decrease in the per liter subsidy results in a 5% decrease in income for all groups. They further revealed that the highest income quintile captured six times more in FFS than the bottom quintile. Based on a review of the governments involved in supporting other countries to reform their FFS and the approaches undertaken, McFarland and Whitley [20] provided seven policy recommendations for future FFS reforms: (1) building on skills, expertise, and networks; (2) supporting coordination and collaboration; (3) improving transparency; (4) raising the profile of the triple-win results of FFS reforms; (5) learning from previous efforts; (6) focusing on local issues; and (7) using climatic financial resources to support FFS reforms.

In 2009, the G20 leaders committed to “rationalize and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption” [36]. Thus far, (i.e., spring 2015), approximately 53 countries have committed to removing FFS over the medium term. Despite this commitment, FFS continue to grow, reaching approximately USD 544 billion in 2012 [81]. In our view, the biggest barrier to FFS reforms is the concern that removing FFS

Table 1
Summary of the emission effects of fossil fuel subsidy reforms from selected research.

Time	Researchers or reporters	Change in CO ₂ emission caused by removal of fossil fuel subsidies
1990	Burgess [34]	Carbon reduction in US, China and India equivalent to UK' total emission
1992	Burniaux et al. [32]	Global emission 6% below base case in 2000, 18% below base case in 2050
1992–1995	Larsen and Shah [31,33,35]	Global carbon emission reduced by 7.0% in 2010 relative to baseline emission
1999	IEA [42]	Lower CO ₂ emissions for these eight major developing countries by 16%
2009	OECD [50]	10.0% below base case by 2050
2010	IEA [38]	6.9% below base case by 2020 through cut consumption-related FFS

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