

The G20 and Climate Change – Beyond Goal-Setting at Brisbane

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Introduction

The United Nations continues to face major collective action problems in addressing climate change through the on-going negotiations associated with the 1992 Framework Convention. In light of these challenges, there has been a push in recent years to identify complementary venues of smaller groups like the G20 to identify discrete areas for cooperation such as phase-out of fossil fuel subsidies and hydrofluorocarbons (HFCs) as well as new agreements to increase automobile fuel efficiency.¹

This paper seeks to identify some of the major challenges associated with the G20 as a venue for progress on climate change.

Background

While the smaller size of the G20 compared to the UN process is a potential advantage, G20 members still possess heterogeneous interests, with potentially stark divisions on climate change between advanced industrialized countries and rapidly developing countries, as well as between fossil fuel producers and consumer countries.

In addition to smaller size, the G20 as a leaders' forum can also link agreements on climate change to leaders' interests in good relations with other countries, thereby elevating the issue out of the domain of technical bureaucracies that might otherwise be opposed to action.

These meetings serve to coordinate action. They produce nonbinding political communiqués, and implementation is therefore subject to domestic political dynamics as well as the reputational pressure delivered by other states and transnational actors. Having an issue come up in the G20 might still be valuable even if it lacks a strong system for enforcement and

implementation. By bringing up an issue in the G20 and other forums, an idea can get traction and buy-in, creating the pressure and support for action in other venues with more established track records on implementation.

The G20 already has something of a mixed track record associated with climate policy, having committed in 2009 to phase-out of “inefficient” fossil fuel subsidies and again in 2013 to phase-down of hydrofluorocarbons (HFCs), chemicals implicated in causing climate change that are used in industrial processes such as refrigeration. While states have shown little sign of implementing the commitment to phase-out fossil fuel subsidies, G20 governments in 2013 reaffirmed their pledge. As this brief argues, the prospects for success with HFCs appears better than that for fossil fuel subsidies.

This short paper seeks to explain why these two arenas appear to have different trajectories and what lessons advocates for more robust G20 action on climate change should learn accordingly.

Fossil Fuel Subsidy Phase-out

In 2012, the IEA estimated that consumption-based fossil fuel subsidies amounted to \$544 billion.² One 2009 estimate suggested that subsidies to producers of fossil fuels might be another \$100 billion per year,³ of which OECD countries were responsible for about \$20 billion.⁴ Most of the analytical work on this topic focuses on consumption-based subsidies of fossil fuels, which may be a function of their relatively larger magnitude.

Because these subsidies are a significant drain on public treasuries and encourage overconsumption and production of fossil fuels, it was thought that measures to phase out fossil fuel subsidies could be an area ripe for progress both for fiscal and environmental reasons.

In 2013, the IEA estimated that partial phase-out of subsidies would reduce consumption of greenhouse gases by some 360 Mt by 2020, some 12% of the total possible greenhouse gas emissions reductions achievable by that date.⁵ By eliminating subsidies, the IEA estimated that by 2050, greenhouse gas emissions would be 10% below business-as-usual scenarios.⁶

However, there has been little to no progress to date. As IEA data shows, consumption-based fossil fuel subsidies have increased, largely along with rising fossil fuel prices and increased consumption of heavily subsidized fuels. In 2012, consumption-based fossil fuel subsidies totaled more than five times the subsidies for renewables.⁷

*Consumption-Based Fossil Fuel Subsidies (nominal dollars)*⁸

2009	2010	2011	2012
\$312 billion	\$409 billion	\$523 billion	\$544 billion

Figure 2.12 ▶ Economic value of fossil-fuel consumption subsidies by fuel



Note: Electricity subsidies include only those resulting from under-pricing of fossil fuels consumed in power generation.

Source: IEA, *World Energy Outlook 2012*, 70

The G20 has had a difficult time phasing out these subsidies for several reasons.

Politically Sensitive

First, consumption-based fossil fuel subsidies are politically important in a number of countries, with the poor not being the primary beneficiaries in terms of the share of subsidies received. One study found that in developing countries the bottom 40% only received some 15-20% of the subsidies.⁹

Reducing or phasing them out, as Indonesia and Nigeria witnessed in 2012 and 2013 respectively, can lead to political instability, both for their impact on the poor but also from richer, more politically influential populations. As the IEA reported, a number of states, including China and India, are trying to rein in such subsidies to reduce the fiscal burden on the state but these changes are politically tricky.¹⁰

Subsidies by Non-Members

Second, states that are not part of the G20 including Iran and Venezuela are responsible for a significant share of these subsidies. In 2011, the state with the leading quantity of consumption-based subsidies was Iran, responsible for more than 15% of the global total in that year (some \$82 billion of \$523 billion in subsidies).¹¹

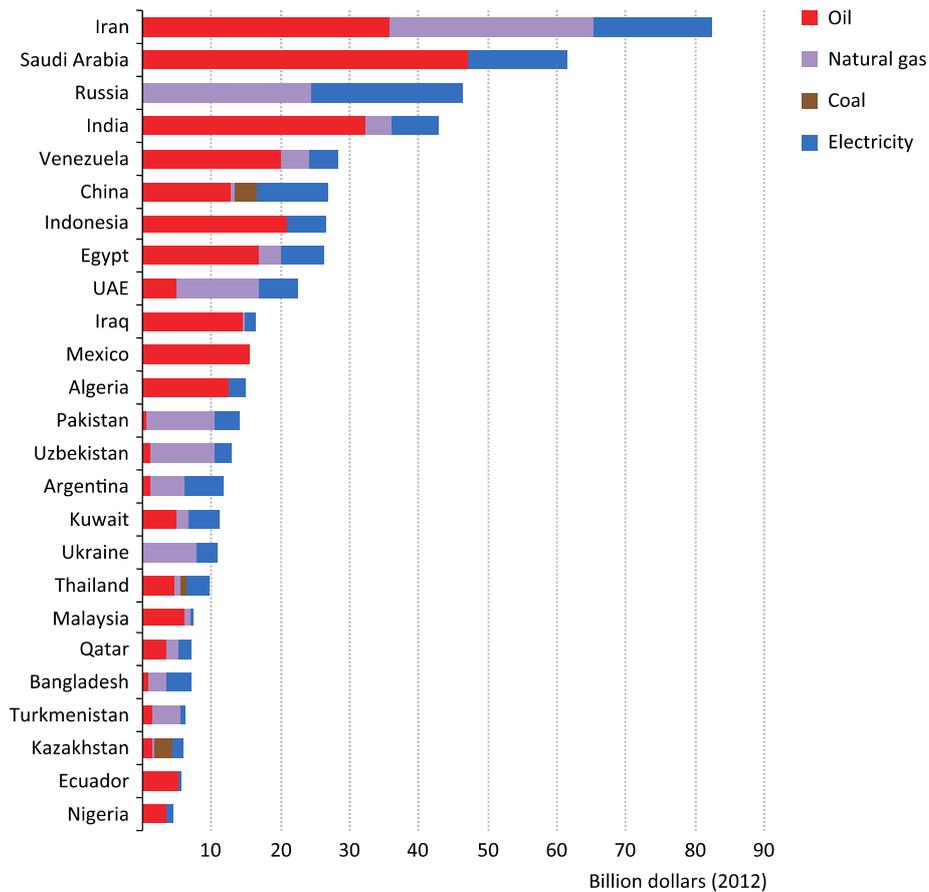
Oil-Exporters Main Subsidizers

Third, most oil-exporting states heavily subsidize their fossil fuels. In 2012, net energy-exporters accounted for about 75% of the global total of consumption-based fossil fuel subsidies.¹² Such subsidies are concentrated in the Middle East, responsible for some 34% of subsidies in 2011.¹³ The subsidies amounted to about \$500 per person in the UEA, Iraq, and Iran and more than \$1500 per person in Qatar, Saudi Arabia, and Kuwait.¹⁴

Since many of these are authoritarian regimes, low prices for oil and cooking gas are often politically important for domestic stability. Thus, Saudi Arabia and Russia were the second and third largest sources of subsidies in 2011 at \$61 and \$40 billion respectively. In terms of value, none of the traditional advanced industrialized countries, other than Russia, were among the top 25 consumption subsidies for fossil fuels in 2012.¹⁵

The OECD estimated that production and consumption subsidies amounted to between \$55 and 90 billion per year for all 34 OECD countries.¹⁶ While not an insignificant amount of money, the intended reach of the G20 fossil fuel subsidies phaseout may be much less than advertised, given the large share of subsidies generated by non-members.

Figure 2.18 ▶ Economic value of fossil-fuel consumption subsidies by fuel for top 25 countries, 2012



Source: World Energy Outlook, 2013, p. 95

In 2013, the G20 announced an enhanced mechanism for voluntary peer review of fossil fuel subsidy phase-out.¹⁷ However, it is unclear if this mechanism, based on small groups of countries working together to identify the challenges and opportunities for phasing out subsidies, has any better chance of success than before.

The G20 does not have an enforcement mechanism for keeping promises. In the face of domestic political obstacles, peer pressure from other states and transnational actors is likely a weak motivation for states to want to phase out fossil fuel subsidies. While the savings to public expenditures remains an important self-interested rationale for states to want to address subsidies, the political obstacles remain.

One potential solution would be change of venue for subsequent implementation. The International Energy Agency (IEA) is a more natural home for this kind of work based on its

technical expertise and also has some capacity to influence state behavior based on its influence over strategic oil reserves. Indeed, IEA reports have informed the understanding of the nature of the issue.

Unfortunately, the IEA's membership is even more exclusive than the G20 as it essentially represents the 28 advanced industrialized democracies of the world. Neither India, China, nor Russia is a member (let alone Saudi Arabia or Iran).

Perhaps more explicit attempts to bring the fossil fuel phase-out under the aegis of the IEA with a consultative process for non-members will ultimately yield fruit. Still, there might be a need to recognize that different states may be able to deliver on phase-out at different speeds. The IEA's own relatively green 450 scenario anticipates that the Middle East will still be offering a 20% subsidy on fossil fuels as late as 2035.¹⁸

Hydrofluorocarbons

At the September 2013 G20 summit, leaders made a commitment to phase-down hydrofluorocarbons and to incorporate implementation of that commitment under the hugely successful Montreal Protocol, the primary agreement responsible for phasing out ozone-depleting chemicals. That agreement if fully implemented would result in the reduction of 90 gigatons of CO₂ equivalent between 2013 and 2050, about two years of global greenhouse gases currently.¹⁹

Hydrofluorocarbons are chemicals used in refrigerants; they were originally designed to replace ozone-depleting chemicals but their rapid adoption meant that their climate impact grew beyond initial expectations. Unlike carbon dioxide, which stays in the atmosphere for 100 years, HFCs stay in the atmosphere for about 14 years. By one estimate, HFC emissions in 2050 could account for 20-40% of the warming potential of carbon dioxide.²⁰

The G-2 to the G20

The G20 agreement built on the earlier bilateral agreement between the U.S. and China achieved in June 2013.²¹ Since China (along with India) is one of the major sources of HFC

emissions, China's willingness to agree to a phase-out facilitated a collective response at the G20 later in the year.

Timing and 2013

India's bureaucracy and business community are thought to oppose action on HFCs and there was considerable pushback on both the agreement and the commitment to incorporate the commitment under the aegis of the Montreal Protocol.²²

In October 2013, the effort to amend the Montreal Protocol to incorporate HFCs phase-out was resisted by India, which forced a delay for a year in the decision.²³ Though that decision put off implementation for a year, there is more optimism that with more time, political support for this initiative will eventually yield success. This may be contingent upon financial incentives, technical assistance on the costs and feasibility of a transition beyond HFCs, and possibly efforts to encourage Western companies to share intellectual property if that is thought to be a barrier to the uptake of new technologies.

Because the Montreal Protocol is a legally binding treaty with a record of success, enforcement mechanisms, and incentive structures to encourage country buy-in, there is every reason to be hopeful that this initiative will ultimately bear fruit.

In 2014, one promising venue for consolidating support for the HFC measure is the World Economic Forum, which will be giving HFC phase-down a major emphasis in its January meeting and has a joint working group with the United Nations Secretary General on the topic.

Lessons Learned

The upshot of these two episodes is that the G20 has to be careful about the initiatives that it supports for action on climate change.

Self-Interest

States largely take on international commitments that are in their self-interest and for which collective action problems can be overcome. States with large fossil fuel subsidies have

important domestic political reasons for not removing them, and barring some major fiscal crisis (which Iran may be facing), they will be hard-pressed to remove or reduce them.

Enforcement

G20 agreements are more likely to be successful when they can be linked to regimes that have greater enforcement capability. The Montreal Protocol, the WTO, and the Security Council are among the few international bodies that have such demonstrated capability. The HFC agreement enjoys such a connection while fossil fuel subsidies do not.

Sequencing

The ability to realize wider G20 support for the phase-down of HFCs may have been contingent on the prior G-2 agreement between the United States and China, the two largest producers of HFCs. While this particular combination of countries may not be appropriate for all aspects of climate change, it may generally be useful to pursue agreement by the two or three countries most responsible for a particular piece of the problem before enlisting other states.

Timing

Timing and ripeness may be important parameters for thinking about whether or not climate initiatives pursued through the G20 can be successful. The HFC agreement needed more time to build buy-in by India between the September 2013 and November 2013 meeting on the Montreal Protocol. The next year's G20 preparations should ensure that India's calculation of self-interest in supporting HFC phase-down is more consensually positive, which might require some positive incentives to facilitate India's bureaucracy to commit.

Responsibility

Any new initiatives pursued by the G20 on climate change should also consider the G20's responsibility for the problem. Pursuing fossil fuel subsidy phase-out through the G20 when major parties responsible for those subsidies are not members is potentially problematic.

Looking ahead, the G20 organizers should consider these five factors – self-interest, enforcement, sequencing, timing, and responsibility – before making a political commitment to pursue new areas for advance, as another area of big promises and inadequate implementation would undermine the credibility of the body.

Summary of Recommendations

Fossil Fuel Subsidies Phase-out

- Direct implementation efforts through IEA consultative process that includes IEA members and non-members
- Acknowledge reality of slower implementation, particularly by fossil fuel exporters

HFC Phase-Down

- Identify incentives that would encourage more robust domestic support in India and other major economies to support the HFC phase-down
- Consolidate political support for HFC phase-down under the aegis of the Montreal Protocol before next year's meeting of the parties to the Montreal Protocol (October/November) through venues like the World Economic Forum.

Notes

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² International Energy Agency, *World Energy Outlook 2013* (Paris: OECD Publishing, November 2013), 55, <http://www.iea.org/w/bookshop/add.aspx?id=455>.

³ IEA et al., *Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative*, June 16, 2010, 4, <http://www.oecd.org/env/45575666.pdf>.

⁴ Oil Price International, "OECD Country Subsidies" (Oil Price International, January 25, 2012), <http://priceofoil.org/content/uploads/2012/05/OECD-Country-Subsidies-01-25-12.xlsx>.

⁵ International Energy Agency, *World Energy Outlook 2013*, 81.

⁶ Environment News Service, "G-20 to Phase Out Super Greenhouse Gas, Fossil Fuel Subsidies," *Environment News Service*, September 6, 2013, <http://ens-newswire.com/2013/09/06/g-20-to-phase-out-super-greenhouse-gas-fossil-fuel-subsidies/>.

⁷ International Energy Agency, *World Energy Outlook 2013*, 55.

⁸ International Energy Agency, *World Energy Outlook 2010 Factsheet* (Paris: OECD Publishing, 2010), <http://www.worldenergyoutlook.org/media/weowebiste/2010/factsheets.pdf>; International Energy Agency, *World Energy Outlook 2011 Factsheet*. (Paris: OECD Publishing, 2011), <http://www.worldenergyoutlook.org/media/weowebiste/2011/factsheets.pdf>; International Energy Agency, *World Energy Outlook 2012* (Paris: OECD Publishing, 2012), <http://www.worldenergyoutlook.org/publications/weo-2012/>; International Energy Agency, *World Energy Outlook 2013*.

⁹ IEA et al., *Analysis of the Scope of Energy Subsidies and Suggestions for the G-20 Initiative*, 5.

¹⁰ International Energy Agency, *World Energy Outlook 2013*, 97.

¹¹ International Energy Agency, *World Energy Outlook 2012*, 70–71.

¹² International Energy Agency, *World Energy Outlook 2013*, 95.

¹³ International Energy Agency, *World Energy Outlook 2012*, 70.

¹⁴ International Energy Agency, *World Energy Outlook 2013*, 506.

¹⁵ *Ibid.*, 95.

¹⁶ OECD, *An OECD-Wide Inventory of Support to Fossil-Fuel Production or Use* (Paris: OECD Publishing, 2012), <http://www.oecd.org/site/tadffss/PolicyBrief2013.pdf>.

¹⁷ G20, *Methodology for G-20 Voluntary Peer Reviews on Inefficient Fossil Fuel Subsidies That Encourage Wasteful Consumption*, 2013, www.g20.org/load/783530379.

¹⁸ International Energy Agency, *World Energy Outlook 2012*, 42.

¹⁹ Environment News Service, “G-20 to Phase Out Super Greenhouse Gas, Fossil Fuel Subsidies.”

²⁰ Arunabha Ghosh, “More Lethal Greenhouse Gas,” *The Times Of India*, October 25, 2013, http://articles.timesofindia.indiatimes.com/2013-10-25/edit-page/43394465_1_hfcs-carbon-dioxide-montreal-protocol.

²¹ Andrew Revkin, “With CO2 Cuts Tough, U.S. and China Pledge a Push on Another Greenhouse Gas,” *Dot Earth Blog*, June 8, 2013, <http://dotearth.blogs.nytimes.com/2013/06/08/with-co2-cuts-tough-u-s-and-china-pledge-a-push-on-another-greenhouse-gas/>.

²² Bilal Biwany, “Will India Be Next to Join the HFC Movement?,” *Major Economies and Climate Change Research Group*, October 8, 2013,

<http://blogs.utexas.edu/mecc/2013/10/08/will-india-be-next-to-join-the-hfc-movement/>; Sarang Shidore, “A Spirited Indian Debate on Joining Action on HFC’s Under the Montreal Protocol,” *Major Economies and Climate Change Research Group*, November 11, 2013, <http://blogs.utexas.edu/mecc/2013/11/11/a-spirited-indian-debate-on-joining-action-on-hfcs-under-the-montreal-protocol/>.

²³ Alex Morales, “India Blocks Talks to Cut Greenhouse Gases Using Ozone Treaty,” *Bloomberg*, October 23, 2013, <http://www.bloomberg.com/news/2013-10-23/india-blocks-talks-to-cut-greenhouse-gases-using-ozone-treaty.html>.