Background Paper
The Learning Generation

Unexpected Allies
Fossil Fuel Subsidy Reform and Education Finance

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Unexpected allies: Fossil fuel subsidy reform and education finance

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### Acronyms and Abbreviations

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<th>Description</th>
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<tbody>
<tr>
<td>ADB</td>
<td>Asian Development Bank</td>
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<tr>
<td>APEC</td>
<td>Asia-Pacific Economic Cooperation</td>
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<tr>
<td>BLT</td>
<td>Bantuan Langsun Tunai</td>
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<tr>
<td>BOS</td>
<td>Bantuan Operational Sekolah</td>
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<tr>
<td>BSM</td>
<td>Bantuan Siswa Miskin</td>
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<tr>
<td>CIS</td>
<td>Commonwealth of Independent States</td>
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<tr>
<td>DfID</td>
<td>UK Department for International Development</td>
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<tr>
<td>EDA</td>
<td>Emerging and Developing Asia</td>
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<td>GDP</td>
<td>Gross Domestic Product</td>
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<td>IEA</td>
<td>International Energy Agency</td>
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<td>ILO</td>
<td>International Labour Organization</td>
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<td>IMF</td>
<td>International Monetary Fund</td>
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<tr>
<td>KIP</td>
<td>Kartu Indonesia Pintar</td>
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<tr>
<td>LEAP</td>
<td>Livelihood Empowerment Against Poverty</td>
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<td>MDGs</td>
<td>Millennium Development Goals</td>
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<tr>
<td>MENAP</td>
<td>Middle East, North Africa and Pakistan</td>
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<tr>
<td>NDC</td>
<td>National Democratic Congress</td>
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<tr>
<td>NGO</td>
<td>Non-Governmental Organisation</td>
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<tr>
<td>NPA</td>
<td>National Petroleum Authority</td>
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<td>ODA</td>
<td>Official Development Assistance</td>
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<tr>
<td>OECD</td>
<td>Organisation for Economic Co-operation and Development</td>
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<tr>
<td>OPEC</td>
<td>Organization of the Petroleum Exporting Countries</td>
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<tr>
<td>PEP</td>
<td>Partnership for Economic Policy</td>
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<tr>
<td>PSIA</td>
<td>Poverty and Social Impact Analysis</td>
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<tr>
<td>SCM</td>
<td>Subsidies and Countervailing Measures</td>
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<td>SDGs</td>
<td>Sustainable Development Goals</td>
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<td>SOEs</td>
<td>State-Owned Enterprises</td>
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<tr>
<td>TOR</td>
<td>Tema Oil Refinery</td>
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<tr>
<td>UN</td>
<td>United Nations</td>
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<tr>
<td>UNDESA</td>
<td>United Nations Department of Economic and Social Affairs</td>
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<tr>
<td>UNESCO</td>
<td>United Nations Educational, Scientific and Cultural Organization</td>
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<tr>
<td>UNICEF</td>
<td>The United Nations Children’s Emergency Fund</td>
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<tr>
<td>USAID</td>
<td>U.S. Agency for International Development</td>
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<td>WDI</td>
<td>World Development Indicators</td>
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<td>WTO</td>
<td>World Trade Organization</td>
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Executive summary

Despite the urgency of transitioning to low-carbon societies, global fossil fuel subsidies are still significant, estimated at $646 billion in 2015 (Coady et al., 2015a). At the same time, governments have made high level commitments to increase public spending on working towards the Sustainable Development Goals (SDGs), including that on education. The government spending gap to reach universal, good quality education in low and lower-middle income countries by 2030 is estimated at $39 billion a year between 2015 and 2030 (United Nations Educational, Scientific and Cultural Organization (UNESCO), 2015a).

The environmental, economic and social costs of fossil fuel subsidies have led more than 30 countries to make efforts to remove them in 2013 and 2014, with more recent efforts at reform benefiting from the low oil price. Governments that have undertaken reform often recognise that fossil fuel subsidies present a significant budgetary cost and crowd out public spending in other areas, including health and education (Ebeke and Ngouanda, 2015). Furthermore, while energy subsidies are often introduced with the primary aim of protecting the poor, there is widespread evidence that the largest share of subsidies accrues to the rich rather than the poor, given that high-income households display higher levels of energy consumption (Coady et al., 2015b). For countries with high fossil fuel subsidies and limited government resources, subsidy reform may therefore provide an attractive policy to free up scarce government resources and increase expenditure on other public policies, including education.

Although the need for subsidy reform and elements of its processes have received extensive attention from the research community, the specific procedures for mitigating the adverse impacts of reform and using the fiscal space created through subsidy phase-out have received less attention. This is particularly important, as removing fossil fuel subsidies is likely to have a negative impact on the purchasing power of low-income households if parallel measures to protect the poorest are not undertaken. These measures include increased public spending on social protection, education and health. A number of studies have provided lessons for successful reforms (Whitley and van der Burg, 2015; Beaton et al., 2013; Sdralievich et al., 2014). However, few studies have reviewed whether the promises made in the reform process, including those related to education, have been met, and, if so, how.

For the Global Commission on Education, this study therefore evaluates the links between fossil fuel subsidy reforms and promised increases in expenditure on education. This study identifies promises to increase expenditure on education as part of fossil fuel subsidy reform efforts across eight countries, including: Angola, Ghana, Egypt, Indonesia, Morocco, Niger, Peru and the Philippines. Further, it provides two case studies of experiences that Ghana and Indonesia have had with linking subsidy reforms to increasing expenditure on education and other measures that have had indirect benefits for education, such as (conditional) cash transfers.

These experiences in Ghana and Indonesia indicate that plans to increase expenditure on public policies, including funding for education as part of the reforms, can help to increase public support. They also highlight that, despite some issues with the effective implementation of programmes, increased expenditure on education and (conditional) cash transfers have helped to cushion some of the immediate and longer-term impacts of subsidy reform on low-income households. This has been achieved through near-term reductions in education costs and improvements in school enrolment and attendance, which over time could lead to improved prospects for employment and income.

Unsurprisingly, the common elements for successful fossil fuels subsidy reform are also relevant for related efforts linked to measures to support education. These include: extensive research and analysis, stakeholder consultation and communication, a ‘whole of government’ approach, and the need to
mobilise resources to support reforms upfront. In addition, Ghana and Indonesia’s experiences with reforms illustrate some of the challenges associated with increasing support for education alongside fossil fuel subsidy reforms:

- While the impact of an increase in energy prices is immediate, the wider benefits of reforming subsidies only materialise over time. Along with this, increasing expenditure on social policies, particularly services such as health and education, takes time to deliver results. This lag between the costs and benefits of reform implies that increased expenditure on education, by itself, is often not sufficient to offset the impact of reforms. Plans to increase public spending on education might therefore need to be linked to other complementary measures that provide more immediate benefits, such as cash transfers.

- Increased expenditure on education will not reduce the impacts of fossil fuel subsidy reforms on households without children who go to school. Because of disparities between those groups that are reached through various measures to compensate those affected by the reforms, wider complementary measures are required to ensure that different groups are reached.

- Unsurprisingly, the way in which the money is spent matters. The positive results of increasing expenditure on education and other procedures able to provide indirect benefits for education (such as cash transfers) will be contingent on the effectiveness of the specific measures supported. In addition, a consideration of how the increase in expenditure on a particular education measure will fit within a wider government strategy for education will be warranted. If resources are mainly directed to improving access to education and are not matched by increased expenditure on resources including books and training of teachers, the quality of education might be undermined. Where education programmes are limited or ineffective, strengthening or expanding other existing other social services might be more manageable alongside subsidy reforms.

- The volatility of reforms (enacted and removed, often in conjunction with election cycles and fluctuations in international fuel prices) highlights that, while savings from reforms may be used to increase expenditure on selected social welfare policies, these funds may not always provide a reliable source of income. While comprehensive, gradual, long-term reforms are difficult to organise, they provide a more sustainable approach for both managing the impact of reforms on poor households and realising long-term benefits. Nonetheless, it is also possible to argue that the promise of increasing expenditure on social policies, including education, could potentially also help to prevent backsliding. Governments may have to sustain the fossil fuel subsidy reforms to be able to afford the promised increases in expenditure on social policies alongside the reforms in the longer-term.

Whether governments have an opportunity to link support to education to fossil fuel subsidy reforms depends on a number of national conditions. These include the potential financial gains from reforming fossil fuel subsidies, institutional capacity, the scale and effectiveness of expenditure on education and other programmes.

In countries where there are opportunities to link the fossil fuel subsidy phase-out efforts to increasing expenditure on education or other measures with indirect benefits for education, organisations with a mandate to improve education can engage in the reform process at a national level. They can do so by conducting and communicating research into:

1) comparing public support for government expenditure on education or related programmes with that for expenditure on fossil fuel subsidies

2) the role that expenditure on education and measures with indirect benefits for education can play in reducing the adverse impacts of price increases on low-income households as part of wider compensation packages
3) the larger redistribution benefits of increasing expenditure on education, using the fiscal space created by fossil fuel subsidy reforms.

Where plans to increase public expenditure on education are a well-managed part of fossil fuel subsidy reform processes, such restructuring has the potential to provide significant benefits for not only access to education, but also its quality.
Introduction

The economic, social and environmental costs of fossil fuel subsidies have prompted a number of governments to undertake reforms. Around 30 countries increased domestic fuel prices or announced the removal of consumption subsidies in 2013 and 2014 alone (Merrill, 2015a).

Recent reforms have been facilitated in part by the recent fall in oil prices, which has reduced some of the political obstacles to ending particular consumption subsidies. Historically, reform has often been prompted by the need to reduce fiscal deficits and the burden that subsidies place on government budgets, as well as the potential to put these resources to more efficient use within the economy. While fossil fuel subsidies are often introduced with the stated objective of protecting the poor, the biggest share of fossil fuel subsidies typically accrues to rich households, rather than those with a low income, making them a costly pro-poor policy.

Subsidy reform can therefore provide governments looking to mobilise and scale up resources for public services with an attractive policy. Increasingly, reforming subsidies to free up resources for more effective government spending is also supported at the international level, including through G20 commitments and the SDGs.

Although the need for subsidy reform and elements of its processes have received extensive attention from the research community, the specific procedures for mitigating the adverse impacts of reform and using the fiscal space created through subsidy phase-out have received less attention. This is particularly important, as removing fossil fuel subsidies is likely to have a negative impact on the purchasing power of low-income households if parallel measures to protect the poorest are not undertaken. These measures include increased public spending on social protection, education and health.

As part of a wider analysis of opportunities to increase global finance for education for the Commission on Financing Global Education, this report therefore focuses on fossil fuel subsidy reform efforts that have been linked to a promised increase in expenditure on education. This involves looking at two case studies of reform in Ghana and Indonesia and considering:

- how the promise of increasing expenditure on education has been communicated in the reform process
- how plans to increase expenditure on education were included in the reform plans
- whether and how increased expenditure on education has been delivered to support education
- what role international and regional organisations have played in the reforms.

The report is broken down into the following sections:

1: Introduction to the scope and scale of fossil fuel subsidies.

2: Overview of the impact of fossil fuel subsidies, looking particularly at the burden they place on government budgets and their distributional impact.

3: Summary of international commitments and principles linking fossil fuel subsidy reform and finance for education.

4: Outline of a number of identified cases where fossil fuel subsidy reforms have been linked to increased expenditure on education, with case-studies of experiences with reform in Ghana and Indonesia.

5: Summary of cross cutting findings and lessons learned for a) countries seeking to mobilise resources for education as part of subsidy reform processes and b) organisations seeking to support these efforts.
1. Scope and scale of fossil fuel subsidies

Historically, fossil fuel subsidies have been introduced for public policy objectives, such as improving social welfare and energy security. For example, production subsidies have been introduced to temporarily sustain jobs in the oil and gas sectors and increase domestic revenues from them. Along with this, consumption subsidies have been introduced to lower or stabilise the price of fuels or electricity to increase the purchasing power of the poor.

These may have provided convincing rationales for subsidising fossil fuels in the past. However, today, an enhanced understanding of the economic, social and environmental costs, as well as alternative mechanisms for providing social assistance, provides a strong case for their phase-out.

Despite this, the benefits of fossil fuel subsidy reform and their distribution – particularly in the short term – will strongly depend on the approach taken and complementary measures adopted to reduce the impact of price increases on low-income households and certain sectors. These will be considered in section 3, after a discussion of the interconnected economic, social and environmental costs of fossil fuel subsidies (section 2).

Subsidies for fossil fuels, such as oil, gas and coal, take several forms and are provided along the full value chain, from exploration to production, distribution and consumption. While definitions of subsidies vary according to different contexts (GSI, 2010), the definition adopted under the World Trade Organization’s (WTO) Subsidies and Countervailing Measures (SCM) agreement is the most widely accepted definition, agreed by over 150 Member States. The SCM agreement defines a subsidy as ‘any financial contribution by a government, or agent of a government, that confers a benefit on its recipients in comparison to other market participants’.

Financial contributions included in this context are:
- all government financial contributions or direct support
- transfer of risk through provision of debt, equity and guarantees
- forgone revenue through tax breaks
- provision of infrastructure, goods and services below market value.

5) royalty breaks and investment in infrastructure (WTO, 1994).

Examples of subsidies to producers of oil, gas and coal are:
- tax breaks for investment in oil and gas fields
- the government assumption of occupational health and accident liabilities.

Meanwhile, subsidies to the consumption of fossil fuels include:
- government regulated fuel prices below international prices
- tax exemptions for fuels used in electricity generation or agriculture.

Although there have been recent improvements in the measurement of fossil fuel subsidies, with estimates for different groups of countries compiled by the International Energy Agency (IEA), International Monetary Fund (IMF) and Organisation for Economic Co-operation and Development (OECD) and based on different methodologies, substantial gaps remain due to limited transparency at the national level. A full accounting of global energy subsidies (to fossil fuels, nuclear power and renewables) has never been completed. As a result, it is likely that global estimates are well below current levels of support.
For the purpose of this study, we reference IMF data on fossil fuel subsidies, which were estimated to total $908 billion globally in 2013, and a lower $646 in 2015, partly due to the low international oil price, but also subsidy reform efforts (estimates that do not cover the wider harmful impacts of fossil fuel subsidies on society, including on climate and health, which the IMF estimates incur a wider cost of $4.8 trillion in 2013 and $5.3 trillion in 2015). Although the IMF’s estimates focus on consumption subsidies, and likely under-estimate support to fossil fuel production, they provide the largest number of comparable national approximations covering 150 countries. It is perhaps worth noting that, until recently, most of the work on fossil fuel subsidies, apart from the OECD’s inventory, did not include subsidies to the production of fossil fuels. A recent study by Oil Change International (OCI) and the Overseas Development Institute (ODI), however, suggests that these subsidies are also substantial – estimated at almost $450 billion per year from the G20 countries alone (Bast et al., 2015).
2. Costs of fossil fuel subsidies – including on fiscal space for public spending

The economic, social and environmental costs of fossil fuel subsidies, when fully accounted for, outweigh their benefits, particularly as they are often not efficient measures for achieving stated policy objectives. There are less costly, better targeted alternatives that can achieve the same objectives (Whitley and van der Burg, 2015).

Full-cost accounting has helped spur a greater understanding that subsidising fossil fuels is not sound policy and can actually inhibit sustainable economic development through the following impacts:

- Creating a significant burden on government budgets and crowding out public spending in other areas such as education and health.
- A disproportional benefit to high-income households and accordingly subsidising fossil fuels, which is a costly, inefficient policy for protecting the poor.
- Undermining the competitiveness of alternative, low-carbon energy sources and technologies, thereby discouraging energy savings and energy efficiency.
- Increasing the risk of stranded assets linked to environmental regulation and competitiveness from other energy resources, by encouraging exploration for and production of unburnable carbon.
- Generating negative impacts on the environment and health, including through the increase of greenhouse gas emissions that exacerbate climate change and air pollutants that reduce quality of life and cause premature deaths through indoor and outdoor air pollution.

Whitley and van der Burg’s 2015 study provides further detail on the economic, social and environmental costs of fossil fuel subsidies. Given the focus of this paper, this section concentrates on the first two impacts listed above – subsidies as an inefficient measure to protect the poor and the burden of fossil fuel subsidies on fiscal space.

While protecting low-income households is an often-stated objective of subsidies to fuel products and electricity, there is widespread evidence that the largest share of subsidies accrues to the rich rather than the poor, given higher levels of energy consumption by high-income households. A review of the distributional impacts of energy subsidies in forty-five countries in Africa, South and Central America, Asia and Pacific and the Middle East and Central Asia has found that the richest 20% of the population captures more than six times more in subsidies than the poorest 20% and that subsidies for gasoline and liquefied petroleum gas (LPG) are particularly regressive (Coady et al., 2015b). The study indicates that, on average, only 7% of total worldwide fuel consumption subsidies (for gasoline, LPG, and Kerosene) reach the poorest 20% (Coady et al., 2015b). In particular, the consumption of fossil fuels in poorer households in Africa, Asia and the Pacific is low and thus the benefits of subsidies in these regions primarily accrue to high-income households (Coady et al., 2015a).

In addition to fossil fuel subsidies not always reaching the poorest segments of the population, they do not always achieve the often-stated objective of lowering prices. For example, inefficiencies in electricity production and distribution, as well as across the transport sector, can lead to an increase in energy costs despite subsidies (Whitley and van der Burg, 2015). Other factors preventing fossil fuel subsidies from reaching their stated objectives include corruption and the sale and adulteration of fuels on the black market (Kitson et al., 2016).

Fossil fuel subsidies also crowd out public spending, including health and education costs, meaning they can come at the cost of pro-poor spending elsewhere in the budget (Ebeke and Ngouanda, 2015). Based
on analysis of energy subsidies across more than a hundred countries, Ebeke and Nguoana (2015) found that public spending on education and health is on average 0.6% of GDP lower in countries where energy subsidies are 1% of GDP higher. This effect is even stronger in net-oil importing countries and those with weaker domestic institutions and narrow fiscal space.

As discussed in the previous section, the IMF (2015) estimates the costs of global fossil fuel subsidies stood at $908 billion in 2013 (Bast et al., 2015). This is 23 times the government spending gap on education. Meeting the objective of reaching universal, good quality education in low and lower-middle income countries by 2030 is estimated to require an additional $39 billion a year between 2015 and 2030, on top of available domestic resources (UNESCO, 2015a). It is estimated that this spending gap will persist despite an average increase in government spending on education as a share of GDP between 1995 and 2013 worldwide (Shakira et al., 2016).

In 2013, governments spent an average of 4% of GDP on education worldwide. This compares unfavorably to average government spending on consumption subsidies in 40 developing countries, where support for fossil fuels accounts for up to 5% of GDP and between 25% and 30% of government revenues (IEA, 2014).

These global averages mask significant regional and national variations in both fossil fuel subsidies and expenditure on education. Fossil fuel subsidies are especially costly in Emerging and Developing Asia (EDA), the Middle East, North Africa and Pakistan (MENAP), and the Commonwealth of Independent States (CIS), where they amount to between 16 and 18% of GDP (Coady et al., 2015a) (see Figure 1). National expenditure on fossil fuel subsidies is as high as 19.3% of GDP in Iran, 18% in Libya, 16% in Turkmenistan and 15% in Venezuela (IEA, 2015). These subsidies take up a high share of government expenditure. In Middle-Eastern, oil exporting countries they accounted for more than 25% of government expenditure between 2009 and 2014 (IEA, 2015).

Government expenditure on education ranges from 5.2% in Latin America and the Caribbean, 4.9% in East Asia and the Pacific and a lower 4% in South Asia (WDI, 2016). At the national level, government expenditure ranges from a low of 2% in Bangladesh, Madagascar, Uganda and the Democratic Republic of Congo, to a comparatively high 6.2% in Belize and Jamaica, 6.7% in Kyrgyz Republic and Mozambique and 7.7% in Malawi (World Development Indicators (WDI), 2016).

There are a number of countries providing high levels of fossil fuel subsidies to consumers and a comparison between expenditure on fossil fuels and education as a share of GDP shows that, these are equivalent to, or exceed, expenditure on education (see Figures 2 and 3). Many aid-recipient countries are also subsidising fossil fuels at levels that far exceed the Official Development Assistance (ODA) they receive (see Figure 4).
Figure 1: Fossil fuel subsidies in USD billion and as a percentage of GDP by region

Source: Coady et al, 2015
Figure 2: Public spending on fossil fuel subsidies exceeds spending on education (% of GDP) (2013)

Source: IMF (2015); WDI (2016)

Figure 3: Regional average spending on education and on fossil fuel subsidies (% of GDP) (2013)

Source: IMF (2015); WDI (2016)
A direct comparison between fossil fuel subsidies and education might not seem meaningful; in practice, it is not always feasible or desirable to directly transfer resources from one policy objective to another. However, reform experiences show that such comparisons can offer a useful way to draw attention to the scale of fossil fuel subsidies and their opportunity costs for education alongside other public services (Jakob et al., 2015). This can, in turn, increase support for reform efforts and even alter the balance between politically influential groups that want to keep fossil fuel subsidies in place and those who support reforms (Jakob et al., 2015).

The following section outlines current global commitments to subsidy reform and education finance, as well as the range of countries that have sought to link these two critical issues for sustainable development.
3. Global commitments and principles linking fossil fuel subsidy reform and finance for education

3.1. Global goals linking subsidy reform and finance for education

Fossil fuel subsidy reform and increased support for education are both priorities for the sustainable development agenda.

Recognising that fossil fuel subsidies ‘encourage wasteful consumption, reduce energy security, impede investment in clean energy sources and undermine efforts to deal with the threat of climate change’, the G20 agreed to phase out ‘inefficient fossil fuel subsidies while providing targeted support for the poorest’ in 2009 (G20, 2009). Asia-Pacific Economic Cooperation (APEC) countries and the EU soon followed with similar commitments, which have been reiterated each year. In addition, the Paris Agreement on climate change, adopted in December 2015, calls upon its parties to ‘make finance flows consistent with a pathway towards low greenhouse gas emissions and climate resilient development’.

The SDGs, adopted by the 193 members of the United Nations in September 2015, include the restructuring of taxation and phasing out fossil fuel subsidies as a means of implementing Goal 12 to ‘ensure sustainable production and consumption patterns’. As such, the SDGs identify subsidy reform and taxation as measures to generate savings with which a number of underlying goals, including those that are educational, could be financed (Merrill and Chung, 2014). The fourth SDG concerns education and sets out the objective to ‘ensure inclusive and equitable quality education and promote lifelong opportunities for all’ (United Nations Department of Economic and Social Affairs (UN DESA), 2015).

Also adopted in 2015, the Addis Ababa Action Agenda on Financing for Development similarly commits to rationalising fossil fuel subsidies, including the restructuring of taxation to reflect their environmental impacts (United Nations (UN), 2015). It also commits to scaling up investments and international cooperation to provide free, equitable, inclusive and high quality education. It also pledges to increase the number of scholarships available to students in developing countries. However, unlike the SDGs it does not recognise the opportunity to use savings from subsidy removal for commitments in other areas.

3.2. Principles linking subsidy reform and finance for education

Alongside these global commitments, an increasing number of countries have implemented fossil fuel subsidy reforms, with varying degrees of success. Historically, reform efforts were mostly driven by the budgetary costs of fossil fuel subsidies and, more recently, governments have used the opportunity to advance reforms presented by low oil prices.

Irrespective of the specific driver of reform, evaluations of reforms have shown that several specific elements of a subsidy reform process can contribute to it being effective and increase the chances of the reforms being sustained over time. These include:

- a ‘whole of government’ approach
- research and analysis
- consultation and communication (before, during and after reform)
- mobilising resources (before and during the reforms, to support their processes);
- complementary measures (to reduce the impacts of resulting price increases on sectors and households)
- phasing-in reforms, linking them to wider sectoral or economic reform processes (Whitley and van der Burg, 2015; Beaton et al., 2014; Sdralevich et al., 2014).
Subsidy reform is most closely linked to education finance in the development and communication of complementary measures to compensate affected households and sectors.

Complementary measures

Support at the household level is necessary to improve equity and protect the poorest, who are often most affected by prices rises resulting from subsidy reform (OECD, 2006). Low-income households often spend a higher proportion of their income on energy and other products that may increase in price as a result of the reforms (such as transport and food). This could also have direct and indirect implications for education: a reduction in household incomes might mean that low-income households can no longer afford school fees or the costs of lighting (through fuel or electricity) needed for studying at night (Cooke et al., 2014; IEA, 1999). Where subsidy reforms have led to malnutrition through high food prices and reduced purchasing power, there can also be an impact on concentration and learning in low-income households.

Programmes that provide support at the household level are known collectively as social safety nets or social-assistance transfers. These include direct transfers, such as cash benefits, or near-cash transfers, such as vouchers or smart cards. These safety nets also provide indirect transfers, such as fee waivers or subsidies to help households maintain access to essential services including health, education and public transport (IEA, OECD, Organization of the Petroleum Exporting Countries (OPEC) and World Bank, 2010). Different compensation packages and measures have been used to offset the impact of fuel price increases on the poor as part of subsidy reform processes. These include the distribution of efficient light bulbs (in Ghana), targeted cash transfers and the expansion of the coverage of health insurance (in Indonesia) (Whitley and van der Burg, 2015). Because these measures are typically far better targeted than fossil fuel subsidies, they usually provide more efficient instruments for achieving distributional objectives than holding down energy prices below levels warranted by their market costs and social and environmental impacts (Fay et al., 2015).

Fossil fuel subsidies also often become embedded in the operations of sectors, industries and firms. As a result, reform processes tend to need to be carefully designed so that these groups are able to adapt to new economic circumstances. Complementary measures should aim to improve the competitiveness or viability of those who stay in the sector, as well as supporting those who want to leave the industry or diversify into other activities and considering the potential of the private sector to create new opportunities in response to changing conditions (OECD, 2007). These measures for sectors, industries and companies can include education programmes such as skills development and retraining (OECD, 2007).

Mobilising resources upfront

Subsidy reform can provide significant fiscal space and additional government revenue that often far exceeds the upfront costs of reform. However, these positive impacts on government budgets are felt only after reforms have been implemented (Koplow, 2014). As a result, most governments will need to mobilise resources prior to reform to develop the complementary measures necessary to mitigate any negative impacts of reforms. These resources could be mobilised both domestically and internationally (Whitley and van der Burg, 2015). If complementary measures can be developed through the existing social security system, this can reduce costs and simplify administration. Where the existing social security system is not sufficiently targeted or tailored to the sector affected by subsidy reform, the development of new institutions and systems may be required and could be linked to support at the household and sector level (OECD, 2007).
**Communication strategy**

Widespread communication is also critical for increasing acceptance and sustainability of subsidy reforms. Communication plans should focus on both the high costs of fossil fuel subsidies and planned complementary measures, such as increases in public expenditure in other areas, including education. Enhancing the understanding of the costs of fossil fuel subsidies by, for instance, comparing subsidies to public spending on education (see Section 2) and highlighting their distributional impact and wider harmful impacts on health and environment can also help to increase public and political support for reforms. Public announcements of any planned complementary measures, such as growth in public expenditure in other areas can also help to increase support for the reforms. Furthermore, transparency in reform plans and processes is critical for ensuring that governments are held accountable for promises made to gain public acceptance of reforms.
4. Case studies of fossil fuel subsidy reforms linked to increased support for education

While a number of countries have used the promise of increasing public expenditure on education in the reform process (see Table 1), few studies have examined whether governments have delivered upon this promise and, if so, how and to what extent. The case studies below explore the links between fossil fuel subsidy reforms in Ghana and Indonesia, along with measures that a) provide direct support for education (public spending on education programmes) or b) can improve education outcomes indirectly (wider cash transfers). They consider:

- how the promise of increasing expenditure on education has been communicated in the reform process
- how plans to increase expenditure on education were included in the reform plans
- whether savings have been used to support education and, if so, how
- what role international and regional organisations have played in the reform process.

Table 1: Overview of fossil fuel subsidy reforms linked to education finance²

<table>
<thead>
<tr>
<th>Country</th>
<th>Country income grouping³</th>
<th>Targets of subsidy reform</th>
<th>Link between subsidy reform and education</th>
<th>Stage of reforms</th>
<th>Institutions providing support</th>
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| Indonesia | Lower-middle income | Fuel (kerosene, gasoline, diesel) and electricity | - Reduction of school fees formed part of reforms in 2005.  
- Expansion of cash assistance was provided under the Bantuan Siswa Miskin (BSM) poor students programme alongside subsidy reforms in 2013.  
- A 14% increase in the budget of the Ministry of Education followed reforms in 2015, including links to a special programme to increase coverage of a programme to help poor students. | Ongoing | IMF, World Bank and Global Subsidies Initiative (GSI) |
| Ghana | Lower-middle income | Fuel (diesel, gasoline, kerosene, LPG) and electricity | - Reforms in 2005 were linked to a reduction of fees for state-run primary and secondary schools. | Ongoing | IMF, UNICEF, PEP, World Bank |
| Angola | Upper-middle income | Fuel (kerosene, diesel, gasoline and LPG) | - The IMF action plan for fuel subsidy reforms in Angola recommends using savings for | Ongoing | IMF |

² We have not conducted an in-depth review of all these cases and can therefore not confirm whether these reforms have actually led to increased expenditure on education.

³ This is according to the World Bank classification of countries and lending groups for 2016. It is worth noting that many of the reforms have taken place before 2016.
higher health and education spending.

<table>
<thead>
<tr>
<th>Country</th>
<th>Income Level</th>
<th>Sector</th>
<th>Subsidies &amp; Reforms</th>
<th>Status</th>
<th>Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>Egypt</td>
<td>Lower-middle income</td>
<td>Fuel (natural gas, diesel, fuel oil, LPG and electricity)</td>
<td>Reforms of fuel subsidies in 2014 were expected to save about $7 billion. The government announced that it would reinvest almost half of this in health and education. Budget allocations to health and education (pre-university and university) are expected to increase to 3% and 6% of GDP, respectively by 2017.</td>
<td>Ongoing</td>
<td>World Bank, UNICEF, PEP, GSI</td>
</tr>
<tr>
<td>Niger</td>
<td>Low-income</td>
<td>Fuel</td>
<td>A reduction in subsidies on fuel products created space for a 19% increase in social spending in the 2012 budget compared to 2011. This was used to increase the public wage bill to accommodate the recruitment of 4000 teachers in early 2012.</td>
<td>Suspended since 2013</td>
<td></td>
</tr>
<tr>
<td>Peru</td>
<td>Upper middle-income</td>
<td>Fuel (fuel price stabilisation fund)</td>
<td>An APEC peer review of Peru’s FF subsidies recommends the removal of the VAT exemption to promote economic development in the Amazon and for it to be replaced with targeted social and regional development programmes focusing on education, health, infrastructure and transport.</td>
<td>Ongoing</td>
<td>APEC</td>
</tr>
<tr>
<td>Morocco</td>
<td>Lower middle-income</td>
<td>All fuels (apart from LPG) and fuel oil for power generation</td>
<td>Fuel subsidy reforms were accompanied by a strengthening of existing programs as well as their targeting to vulnerable groups. This included the Tayssir education programme, which was expanded in coverage.</td>
<td>Completed in Dec 2015, though subsidies to LPG and power producers persist</td>
<td>GSI</td>
</tr>
<tr>
<td>Philippine s</td>
<td>Lower middle-income</td>
<td>Fuel and electricity</td>
<td>VAT in 2005 was extended to energy products and a proportion of the revenue raised was devoted to health and education programmes.</td>
<td>Completed since 2001, though some targeted subsidies persist</td>
<td>IMF</td>
</tr>
</tbody>
</table>
4.1. Fossil fuel subsidy reform and education finance in Ghana – two key episodes

Ghana has a turbulent history of fossil fuel subsidy reforms, which began in the early 2000s (see Table 2). The first attempts at reform, between 2001 and 2004, were undertaken because fuel subsidies became financially unsustainable as international prices increased. In addition, the subsidised fuel prices had contributed towards the state-owned refinery, Tema Oil Refinery (TOR), becoming heavily indebted. As part of an IMF Poverty Reduction and Growth Facility programme, Ghana increased petroleum prices by 91% in a one-time episode in 2001, which was followed by the introduction of an automatic pricing mechanism (Laan et al., 2010).

These early reform efforts were not supported by information campaigns and only had limited measures to support low-income households (Bacon and Kojima, 2016). Due to a lack of communication around the reforms and support for those facing higher energy prices, rising energy prices angered consumers and led to protests. In response to the protests and rising international oil prices, as well as a depreciating currency, the government suspended fuel price adjustments and reinstated subsidies at the end of 2002 (Laan et al., 2010; Alleyne et al., 2013). As a result, subsidies to fuels increased to 2.2% of GDP in 2004 and the state-owned refinery received government loans worth 1% of GDP (Bacon and Kojima, 2006; Laan et al., 2010).

The following section outlines how two later episodes of fossil fuel subsidy reforms in Ghana (in 2005 and 2013) were more successful due to the introduction of complementary measures to reduce the impact of the reforms on low-income households, including support to education. However, the primary objective of these fuel subsidy reforms has been to reduce the deficit. This means the biggest share of the fiscal space created through reforms has been used to reduce the deficit rather than support social policies.

4.1.1. 2005 reforms linked to the removal of school fees

Due to continued increases in international fuel prices, the costs of subsidies again became unsustainable in 2005, leading the government to undertake further reforms to reduce its growing deficit. Up to this point, the sitting government was reluctant to pursue politically unpopular fuel subsidy reforms, but following re-election, President Kufuor announced that the government would proceed with reforms.

This time, the reforms were built on a Poverty and Social Impact Analysis (PSIA), undertaken by the IMF and commissioned by the Ghanaian government. The PSIA built on meetings with government officials from the Ministry of Finance and the Central Bank, as well as the Ministries of Education and Health, to identify possible alternative uses of the savings from reforming energy subsidies (Coady and Newhouse, 2006).

The PSIA found that the biggest share of the fuel subsidies accrued to the rich rather than the poor. However, although the fuel subsidies were an inefficient policy to protect the latter, the study also found that ending fuel subsidies would hit that group hardest, reducing their real income by an estimated 9.1%, compared to a reduction in real income of 8.2% for the richest 20% of households (Coady and Newhouse, 2006). The study also found that these harmful impacts on lower-income households could be mitigated if 3.6% of savings from the reforms were returned to them via the capitation grant for education or through a targeted social protection programme (such as Livelihood Empowerment Against Poverty (LEAP)). According to the analysis, keeping kerosene taxes low would be the least effective option to mitigate the impacts of the reforms on the poor (Coady and Newhouse, 2006).
The results of the study were presented at the beginning of February 2005, and the Ghanaian government followed by increasing petroleum prices by an average of 50% in mid-February (Coady and Newhouse, 2006).

Building on the study’s findings and with the objective to mitigate the impact of the reforms on low-income households, the government increased expenditure on social services in the 2005 budget (Coady and Newhouse, 2006). The Minister of Finance publicly announced that, alongside investments in transport, expansion of the rural electrification programme, funding for health and an increase in the minimum wage, it would remove fees for primary and junior secondary schools (Coady and Newhouse, 2006). In addition, the government established the National Petroleum Authority (NPA) to administer the pricing formula to depoliticise the fuel pricing process. The components of the pricing formula were published at the pump, which ensured transparency for consumers.

The elimination of school fees was achieved through the introduction of the capitation grant. It was part of the government’s Education Strategic Plan 2003–2015. In addition to mitigating the impact of reforms, the grant was introduced to support achieving the Millennium Development Goals (MDGs) for education through state-run schools. The grant levels were determined by the number of students in the schools and provided public kindergartens, primary schools and junior secondary schools with a grant of approximately $3.30 per pupil (Lindebjerg, 2014; Osei et al., 2009).

One assessment of the scheme shows that the capitation grant had been successful a year after its introduction, in terms of increasing enrolment by 16.7% (Lindebjerg et al., 2015; Osei et al., 2009). Gross enrolment in basic schools increased from 80% in 2003 to 97% in 2007 (Osei et al., 2009). In junior high schools, enrolment increased from 62% in 2003 to 76% in 2007 (Osei et al., 2009). While the grant did contribute to an increase in enrolment as such, this was not matched by an increase in the number of teachers and resources. Increased enrolment rates therefore had the unintended impact of undermining the quality of education because of a shortage of trained teachers, learning materials and classrooms (International Labour Organization (ILO), 2015). While the grant has been increased over the years, there have been shortfalls between what is promised and what schools actually receive from the Ghana Education Service (Osei et al., 2009).

In 2005, expenditures on the education grant alongside other the other compensation measures, such as investments in transport, an increase in minimum wage and expansion of the country’s rural electrification programme, were estimated at 0.35% of GDP. They were to be financed by a ‘mitigation levy’ included in the fuel pricing formula – effectively by a tax on fuel products – as part of the reforms (Coady and Newhouse, 2006). The complementary measures were thus funded by a tax included in the pricing formula for fuel as part of the reform process. In addition, cross-subsidies for kerosene and LPG were continued by charging a fee for petrol (as kerosene and LPG are primarily used by lower-income households). The government also distributed compact fluorescent light bulbs to reduce household electricity costs (Laderchi, 2015), although this did not take place on a large scale.

The IMF study also provided the necessary analysis for the government to communicate that the reforms would be in the public’s interest. A series of radio interviews were held with government officials (including the Minister of Finance) and trade union officials, discussing the need for the fuel price increases (Bacon and Kojima, 2006). The Finance Minister also publicly announced that the savings from the reforms, which he estimated at $25.5 million, would be used to protect the poor. Newspaper advertisements highlighted that fuel prices in Ghana were the lowest in West Africa after Nigeria (Bacon and Kojima, 2006). This extensive communication of the need for reform and the plans to make it happen helped to gain public acceptance and sustain the reforms for a longer period of time.
While these reforms were maintained for a longer period than the previous ones, they were suspended again, in 2008, as Ghana’s population came under increasing stress from severe droughts alongside significant increases in global food and fuel prices. The main opposition party, the National Democratic Congress (NDC), promised to reduce fuel costs in its electoral campaign and subsequently lowered fuel prices following its success in the 2008 elections (Crawford, 2012).

4.1.2. 2013 reforms linked to cash transfers

Due to continued international fuel price increases, increasing subsidy costs had contributed to high debts and a deteriorating macro-economic situation in Ghana by 2012. This motivated the country to once again pursue fiscal policy reforms the following year, again with technical assistance from the IMF. Fuel shortages provided another driver for the reforms. Some consumer groups blamed subsidies for causing LPG shortages and asked the government to remove those on LPG (Kojima, 2013). This time, however, no analysis was undertaken by IMF regarding the likely impacts of the fuel subsidy reforms prior to implementation (Cooke et al., 2014).

The United Nations Children’s Emergency Fund (UNICEF) therefore decided to model the impact of the reforms on the poor to highlight the need for = possible measures to cushion the impacts of the reforms and identify where these were in existence (Cooke et al., 2014). The study found that fuel subsidy removal would reduce the fiscal deficit as well as regressive expenditures, leading to a reduction in inequality by 0.6%. Nonetheless, in the absence of any mitigation measures, it was also found to increase Ghana’s poverty rate by 1.5%, pushing an additional 395,180 people into poverty through higher energy prices and resulting household costs.

The study found that expanding LEAP social cash transfer programme to cover 150,000 households could reverse these negative impacts, at least in terms of national indicators. LEAP was introduced as a pilot in 2008 and is administered by the Ministry of Gender, Children and Social Protection with support from donors, including the UK Department for International Development (DFID), the World Bank, and UNICEF through U.S. Agency for International Development (USAID). It aims to improve basic household consumption, as well as access to social services including health and education. It targets extremely poor households with one or more elderly persons without a means of support, persons with a severe disability and orphans and vulnerable children. Under the programme, a photo-ID card is provided to selected households, which then use the card to collect the cash transfers. In 2012, almost half of the cash transfers were donated to children of up to 17 years of age. In this scheme, households with children below the age of 15 are informed of various soft-conditions, including the enrolment of school-age children (ILO, 2015).

UNICEF (2014) found that expanding LEAP further, to between 150,000 and 500,000 households, would cost between GHS 95 million ($31 million) and GHS 366 million ($121 million) a year, which would only constitute a fraction of the estimated costs of fuel subsidies (GHS 2.2 billion, or $ 1.1 billion in 2013). In line with these findings, a World Bank (2015) study found that fuel subsidy removal, if combined with the expansion of LEAP to offset the effects of the fuel price increases on the poor, would generate net budgetary savings of 0.4% of GDP (Younger et al., 2015).

As part of the analysis, UNICEF also liaised with the IMF and set up meetings between IMF, the Ministry of Finance and the Ministry of Social Protection, which called upon the Ministry of Finance to integrate social protection in the new fiscal consolidation programme. Subsequently, the government followed UNICEF’s recommendation to double LEAP from covering 73,000 households (in 2012) to 150,000. It also increased the 2013 budget to GHS 20 million ($10 million), up from 8 million GHS ($7.5 million) in 2008, and then again to GHS 38 million in 2014 ($12.7 million) (PEP, 2015). It agreed to further expand coverage
of LEAP to 550,000 households by 2017 (PEP, 2015). There are plans to phase out donor support by 2017, after which LEAP will need to be fully funded by the Government of Ghana (ILO, 2015).

Although LEAP has not reached all households affected by the reforms, evaluations of the programme conclude that it has had a positive effect on registration for public health services, school enrolment and attendance. The cash transfers have reduced child labour by allowing families to send their children to school instead of work (ILO, 2015). This serves to illustrate that policies not directly targeted at improving education may also promote outcomes related to it. For example, there can be direct and significant impacts on education outcomes where cash transfers have either:

- a (soft) conditionality related to education, such as school enrolment or child nutrition
- are unconditional but serve to increase household resources for education or improve child nutrition.

One evaluation of LEAP finds that between 2010 and 2012 the above helped to increase school enrolment among secondary school children by 7% and reduce absenteeism by 10% (Handa et al., 2013).

4.1.3. Opportunities to increase public spending through electricity subsidy reforms

In 2013, education spending in Ghana accounted for the largest share of social spending (at 5.9% of GDP, which is above average government spending on education worldwide), followed by health and pensions (Younger et al., 2015). Although expenditure on education is not explicitly targeted to the poor, it has become more progressive since the 1990s, due to expanded coverage of education services to poorer households and rich households increasingly sending their children to private schools (Younger et al., 2015).

The role of increased expenditure on education in the fuel subsidy reforms has been twofold. First, the extensively communicated promise of increasing expenditure on education through a levy on fuels helped achieve public acceptance of the reforms in 2005. Second, the need to mitigate the harmful impact of the reforms on low-income households prompted plans to increase expenditure on education and social protection. This included the capitation grant in 2005 and the LEAP Programme in 2013 and has also led to longer-term improvements in education.

Nonetheless, a large and persistent deficit in Ghana means there is little fiscal space to further expand social welfare spending (Younger et al., 2015). The further removal of subsidies on electricity and the sustaining of fuel subsidy reforms are likely to be essential for continued poverty reduction measures, including support to education.

Although electricity subsidies have received much more limited attention than fuel subsidies, the government paid electricity companies GHS 1.1 billion ($563 million) in 2013, 1.24% of GDP, to compensate them for government regulated electricity prices that were set too low for production cost recovery (Younger et al., 2015). Electricity subsidies in Ghana are regressive, as richer households tend to consume more electricity than low-income households (Younger et al., 2015). This is the case despite a lifeline tariff that provides lower prices for lower levels of consumption. The government’s recent efforts to eliminate electricity subsidies, by raising prices by 78.9% for all consumers apart from residential consumers using less than 50kWh a month, are therefore welcome. However, subsequent price increases have not been sufficient to reflect the cost of production (Kojima, 2016).

As in the case of fuel subsidies (absent measures to cushion the impact of the reforms on the poor) the removal of electricity subsidies would increase the poverty headcount. This increase is estimated at 0.52-0.85%, and could again be mitigated by expanding LEAP. Expanding LEAP to offset (in terms of national indicators) the poverty increase caused by removing electricity subsidies would come at a cost of about
25-38% of the total for subsidising electricity, saving the government about 0.8% of GDP, and provide much more efficient government spending to protect the poor (Younger et al., 2015). It is estimated that directing all saved money from eliminating electricity subsidies to LEAP would achieve a net poverty reduction of 1.3% (Younger et al., 2015).

Other subsidies to fossil fuels that the government may consider removing include continued subsidies to Premix, a fuel used in fisheries, and subsidies to the production of fossil fuels. Little is known about subsidies to fossil fuel production in Ghana, but they include a GHS 600 million ($307 million) subsidy on fuel imports that was provided by offering bulk oil companies an artificially low exchange rate in 2013 (Younger et al., 2015). In addition to reforming remaining fossil fuel subsidies, it will be crucial for the government to sustain reforms that have already been implemented. Following the discovery of oil reserves, Ghana has rapidly increased oil production and some observers are concerned that, in this context, Ghana might not be able to resist pressure to reinstate consumption subsidies that have been removed or introduce new subsidies to support production (Vagliasindi, 2013). At the same time, the current context of a large deficit and low oil prices could also make it more likely that reforms will be sustained.

**Table 2: Ghana’s mixed history of fossil fuel subsidy reforms**

<table>
<thead>
<tr>
<th>Year</th>
<th>Driver</th>
<th>Reforms</th>
<th>Complementary measures</th>
<th>Institution involved</th>
</tr>
</thead>
<tbody>
<tr>
<td>2001</td>
<td>Ghana’s state-owned Tema Oil Refinery (TOR) heavily indebted to IMF’s Poverty Reduction and Growth Facility (PRGF) programme</td>
<td>Petroleum prices raised by 91%, followed by introduction of an automatic price-setting mechanism</td>
<td>Cross-subsidies for Kerosene and LPG (used by the poor for cooking and lighting)</td>
<td>IMF</td>
</tr>
<tr>
<td>2002</td>
<td>Rising international oil prices</td>
<td>Automatic price-setting mechanism suspended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003 Jan</td>
<td>Increasing cost of subsidies: large quasi-fiscal deficits and sector debt</td>
<td>Reintroduction of automatic price adjustment mechanism (but not applied regularly). Petrol prices up by 90%</td>
<td>Continued cross-subsidies for Kerosene and LPG</td>
<td></td>
</tr>
<tr>
<td>2003 June</td>
<td>Protest against price increases. Wish to prevent social and political instability in the face of upcoming elections</td>
<td>Automatic price adjustment mechanism suspended</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005 Feb</td>
<td>Cost of subsidies increase to 2.2% of GDP. Additional 1% of GDP lending to national refinery TOR (in 2004).</td>
<td>President Kufuor state of nation address announcement of intention to increase fuel prices. Petroleum prices increased by on average 50%, with intention to introduce new pricing formula also announced.</td>
<td>Public transport programme, daily minimum wage increased from $1.24 to $1.50 and, expansion of the rural electrification scheme.</td>
<td></td>
</tr>
<tr>
<td>2005 June</td>
<td>Establishment of National Petroleum Authority (NPA) to depoliticise fuel pricing process</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2006</td>
<td>NPA department switch from setting uniform prices to maximum indicative prices</td>
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<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Soaring international oil prices</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2013</td>
<td>High debts and deteriorating macro-economic situation (depreciation of the cedi, rising inflation and interest rates), increasing budgetary burden of subsidies</td>
<td>Elimination of fuel subsidies. Government raising of the price of petroleum products by 15% (for kerosene) and 50% (for LPG), with no adjustment of the price for pre-mix (petrol with a lubricant blended in), which remains heavily subsidised</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Mitigation:</strong></td>
<td>Doubling of the cash-transfer programme (LEAP) from 100,000 to 150,000 households</td>
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<td></td>
<td></td>
</tr>
<tr>
<td><strong>Support to education:</strong></td>
<td>Benefits of expansion of LEAP for education</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Communication:</strong></td>
<td>No coordinated communication strategy, but several government representatives pointing the need to remove subsidies</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Institution:</strong></td>
<td>IMF, UNICEF/PEP</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

(Sources: Laan et al., 2010; Bacon and Kojima, 2006; Cooke et al., 2014; David and Newhouse, 2006)
4.2. Fossil fuel subsidy reform and education finance in Indonesia – two key episodes

A significant share of public funding in Indonesia has been allocated to fossil fuel subsidies over the past few decades. Subsidies for the consumption of fuels used for cooking, heating and transport (including kerosene, diesel and LPG), and for electricity overall have long been perceived as essential to ensuring stable energy prices and protecting the welfare of the population (Perdana, 2014).

The significant burden of these subsidies on the government’s budget and ambition to improve the redistributive effects of public spending have been primary drivers for the numerous attempts at reform. While some of these have been regarded as successful, others have been met with strong opposition, leading to the suspension of reforms or a (partial) reversal of price increases.

The first reforms date back to the 1980s, with those in 1998 serving as a pre-condition for an IMF emergency loan and part of a wider economic adjustment programme (see Table 3) (Beaton and Lontoh, 2010). The reforms led to a sharp increase in electricity and fuel prices, contributing to political instability that also reflected wider dissatisfaction with the government. Eventually, they resulted in the stepping down of the president (Lindebjerg et al., 2014; Bacon and Kojima, 2006). Subsequent reforms between 2000 and 2003 helped reduce the cost of energy subsidies to 2% of GDP in 2003, compared to 4% in 2002, but also caused riots and were partially rolled back (Lindebjerg et al., 2014).

During these early reform efforts, the government announced measures to protect the poor against the price increases through a fuel subsidy compensation programme, which included subsidies for rice and increased public spending on health, education and social welfare. Alongside the reforms in 2002, $300 million was earmarked for education, health, food and social welfare. However, many of the promised programmes did not materialise or were not delivered effectively, with only the rice subsidy programme and limited support for education being implemented, covering 12 million people, or around 5% of the total population (Bacon and Kojima, 2006).

4.2.1. 2005 reforms linked to a reduction in school fees

National elections held back further reforms in 2004 and, with Indonesia becoming a net oil importer and international oil prices increasing, the costs of fossil fuel subsidies rose to 3% of GDP, more than four times the amount that had been budgeted (Bacon and Kojima, 2006). As a result, reforms were resumed in 2005, with gasoline, diesel and kerosene prices being increased by 149%, 161% and 186%, respectively. This helped reduce Indonesia’s budget deficit by $4.5 billion (Beaton and Lontoh, 2010). However, localised shortages and black market pricing still occurred, partly because prices were not brought up to market levels (Bacon and Kojima, 2006).

The largest share of the resources freed up through the subsidy reforms in 2005 ($2.3 billion) went to a cash transfer scheme, the Bantuan Langsun Tunai (BLT). This was coordinated by the Ministry of Social Affairs and operated by the Central Bureau of Statistics, the public postal service – PT Pos Indonesia – and the state bank BRI. It targeted 15.5 million poor households, almost a quarter of the country’s population.

While the cash transfers contributed to the relative success of the wider fossil fuel subsidy reforms, the cash transfer scheme was criticised for not being transparent, and for failing to reach the poorest households, with funds actually reaching ineligible recipients (Kojima, 2016). Although the BLT was relatively successful in comparison to existing social welfare programmes, cash transfer mechanisms always involve some margin of error, with a share of funds going to ineligible households and eligible people being subsequently left out (Casier and Beaton, 2015).

As with the expansion of LEAP in Ghana, BLT was not directly targeted at improving outcomes for education, but may have had indirect benefits for education. While some Indonesians worried that the
money transferred under the cash transfer programme would be spent on alcohol, cigarettes and gambling and would make people ‘lazy’, a rapid appraisal of the BLT found that recipients spent the largest share of the transfer on rice, followed by kerosene, private-debt, healthcare and education (Beaton and Lontoh, 2010). A smaller portion of the resources freed up through the subsidy reforms ($1.87 billion) was allocated to a Fuel Subsidy Reduction Compensation Program, which included health and education programs and infrastructure projects (Lindebjerg et al., 2015; Beaton and Lontoh, 2010). The resources allocated to education were used for Bantuan Operational Sekolah (BOS) – the School Operational Assistance Programme, which provided IDR 25,000 ($) ($2.7) to public and private primary schools and IDR 35,000 ($3.8) to junior high schools (Perdana, 2014). These grants were aimed at reducing school fees for elementary and junior schools, which in some cases resulted in the entire elimination of fees. Schools could also use the grant to introduce differentiated fees, reducing costs for students from low-income households. In 2006, the expenses of the programme were estimated at $1.2 billion. One rapid appraisal found that the programme had succeeded in reducing the costs of education, but that targeting it to poor students could be improved (Beaton and Lontoh, 2010).

The introduction of BOS has helped to reduce education related expenses for households with children attending state-run schools, particularly poorer households. Between 2005 and 2014, the value of BOS assistance for each student has more than doubled to an average of funding of $10,000 for primary schools and $20,000 for junior secondary schools. In 2014, the programme covered approximately 43 million primary and junior secondary students (World Bank, 2015). Despite the scale of the grant per-student provided to schools, the fall in household education costs has been relatively small. In addition, although enrolment in junior secondary schools (particularly for the poorest households) has increased significantly, transition rates between primary and junior secondary education have not increased (World Bank, 2015).

Extensive communications contributed to the relative success of the reforms in 2005. Information on these was shared through the use of popular media, including newspapers, TV talk shows and the distribution of pamphlets and brochures. Information was also printed on the back of the cash transfer cards (Bacon and Kojima, 2006).

No further major fossil fuel price adjustments took place between 2006 and 2008. Alongside fuel price adjustments in 2008, however, the government introduced an additional cash assistance programme (Bantuan Siswa Miskin (BSM) – Assistance for poor students) for school-related expenses for eligible primary and secondary school students, which reached approximately 3 million students and was conditional on attendance (Perdana, 2014). Whereas BOS was introduced to cover direct educational costs, BSM was introduced to cover indirect costs such as for transportation and uniforms, which had provided barriers to access to education for low-income households (Larasati and Howell, 2014). While not explicitly linked to the fuel subsidy reforms, this programme – together with the temporary cash assistance programme – did mitigate some of the adverse effects of price increases in 2008. This took place through the support it provided to low-income households with education-related expenses.

4.2.2. 2013 reforms linked to assistance for students from poor households

Despite successful reforms beginning in the lead up to the 2009 elections in 2005, price increases were reversed. This was seen as an alleged attempt by the sitting party to win support for re-election (Lindebjerg et al., 2014). This came regardless of several announcements around plans to replace the fuel subsidies with more targeted support measures. As a result, fossil fuel subsidies rose to more than 20% of the government’s spending by 2011.
In order to stay below the statutory budget deficit limit of 3% of GDP, the government again resumed reforms in 2013 and increased petrol and diesel prices. The 2013 reforms were complemented by a compensation package worth approximately $2.9 billion, the biggest share of which was used to support the introduction of a temporary, unconditional cash transfer for 18.5 million poor households (Kojima, 2016). As these unconditional, temporary cash transfers were introduced in the lead up to elections, they were criticised by opposition parties (Lontoh and Beaton, 2013).

A smaller share of the funding allocated to the compensation package went to expanding the coverage of existing social protection programmes, the largest share of which ($781 million) was used to expand BSM from 3 million students (in 2008) to 16.6 million students (Perdana, 2014; Lontoh and Beaton, 2013). The government also allocated $448 million to expanding the pre-existing subsidised rice programme (Raskin) and a further $73 million to a conditional cash transfer programme (PKH) (Lontoh and Beaton, 2013). These social protection measures were funded through the State Budget ahead of reforms, with subsidy savings being used to reduce the deficit.

The reforms in 2013 were accompanied by an extensive communication campaign coordinated by the ‘Socialisation Team on Fuel Price Adjustment’ led by the Vice President. The campaign included public advertisements aired on national TV stations and there were text messages and social media explaining the fuel price increases and related social protection programmes (Lontoh and Beaton, 2013).

For households with education related expenditure that benefitted from the expansion of the BSM programme, a reduction in the cost of education helped to cushion the direct impact of the increased cost of energy. Expanding BSM also helped households cope with longer-term increases in the costs of living and allowed the government to achieve more general policy objectives related to education.

Initially, cash assistance under the BSM programme was provided to the schools, which distributed it among students or replaced student assistance for books, uniforms or school-managed student saving accounts (Perdana, 2014). However, these arrangements meant support did not always reach the students. This led the programme to be adjusted so that the payments would be distributed directly to households by post offices (Perdana, 2014). Evaluations of BSM found that, in its early years, the targeting of the programme was very weak, but reforming it improved targeting. Because the cost of education has been reduced and the cash assistance is conditional on school attendance, the programme has promoted greater school attendance and reduced drop-out rates (Larasati and Howell, 2014; Tobias et al., 2014). Nonetheless, the effectiveness of the support to education has been undermined, in part by a lack of coordination between the different social welfare programmes, but also because of the fragmented administration of the BSM itself, which has made monitoring and evaluation of the programme difficult (Asian Development Bank (ADB), 2013). Perdana (2014) notes that students from the poorest households who receive cash transfers should theoretically also receive cash assistance as part of the BSM programme. However, this often does not happen in practice. Instead, schools sometimes decide not to provide BSM to students who already benefit from cash transfers, even though the government initially planned to provide the beneficiaries with multiple social assistance programmes.

4.2.3. The need to sustain reforms to ensure continued and more effective expenditure on education

Though there have been significant reforms, the direct costs of fossil fuel subsidies remain much higher than limited public spending on education, which stood at 3.4% of GDP in 2013 (WDI, 2016). Indonesian government spending on education remains below the target of 4-6% of GDP that has been recommended as part of the Education for All commitments. Nonetheless, expenditure on education does account for a
significant share of total government spending in Indonesia. In 2002, the country passed a constitutional amendment to allocate at least 20% of the total government budget to education, which contributed to the more than doubling of education spending in real terms between 2001 and 2009 (World Bank, 2013). Regardless, as illustrated above, expenditure on education as a share of GDP remains low. Most of government spending on education goes to teacher salaries and this support has increased in line with the growth in the number of teachers corresponding to the rise in enrolment.

Alongside more recent reforms in 2015, the government announced that it intended to reallocate a large share of fuel subsidy savings to State-Owned Enterprises (SOEs) with the remaining savings reallocated to support education, agriculture, social security, infrastructure and five other programmes, including a village fund. It also publicised that, from total savings of IDR 186 trillion ($13.8 billion), IDR 120 trillion ($8.9 billion) would be reallocated to these programmes, with IDR 6.4 trillion ($474 million) reallocated to education (Pradiptyo et al., 2016). According to the revised state budget of 2015 following the reforms, the reallocation of savings to education would be used to expand the BSM replacement, Kartu Indonesia Pintar (KIP) programme to provide education-related transfers to 25% of poor students, an increase on the previous 13%. Pradityo et al. (2016) evaluate the processes for reallocation of savings during the 2015 reforms in greater detail.

When introducing the 2016 budget, Mr. Parjiono of the Fiscal Policy Agency, announced that the government is working hard to create fiscal space, recognising the importance of continued fuel subsidy reform efforts in this regard. He also highlighted that the government plans to increase spending on education and infrastructure in 2016 (Toft, 2015). The World Bank (2013) has previously highlighted that, given relatively high shares of government expenditure on education because of the 20% constitutional mandate, Indonesia should look to an alternative to increasing government funding for education. Namely, it will need to improve the allocation and the transparency of existing spending to enhance the quality of education.

While fossil fuel subsidy reforms continue to be seen as challenging at the global level, a recent World Bank survey (2015) has found that increasing expenditure on fuel subsidies as a way to reduce poverty is not widely supported in Indonesia. The public instead widely supports increased expenditure on social services, including health and education, along with social protection (World Bank, 2015; See Figure ). A 2012 study into public attitudes toward fuel subsidy reform (Braithwaite et al., 2012) similarly found that Indonesian citizens most broadly supported increased support for education, followed by healthcare, to compensate for the effects of fuel subsidy reforms. Investments in transport infrastructure were not considered a priority by the respondents to this particular survey. Such investigations provide the government with an opportunity to consider these preferences in the drafting of comprehensive, long-term reform plans that the population is likely to support. At the same time, governments should consider the effectiveness of existing spending and opportunities for improvement in the drafting of reform plans.

Other subsidies the government may consider removing in order to free up resources for public spending include subsidies to the production of fossil fuels. While little information is available on subsidies to the production of fossil fuels in Indonesia, tax breaks that benefit exploration activities in the oil and gas industry were worth $245 million in 2008 (OCI, 2014). Electricity subsidies also remain large, estimated at 8% of government expenditure in 2015 and reforms in this area should thus also be continued (OECD, 2015).
Figure 5: Support for increasing subsidies is low compared with top priorities in Indonesia

<table>
<thead>
<tr>
<th>Social Protection</th>
<th>49</th>
</tr>
</thead>
<tbody>
<tr>
<td>Create Jobs</td>
<td>47</td>
</tr>
<tr>
<td>Eradicate Corruption</td>
<td>37</td>
</tr>
<tr>
<td>Free Education</td>
<td>30</td>
</tr>
<tr>
<td>SME Credits</td>
<td>27</td>
</tr>
<tr>
<td>Free Healthcare</td>
<td>18</td>
</tr>
<tr>
<td>Increasing Minimum Wage</td>
<td>16</td>
</tr>
<tr>
<td>Infra (roads, power, etc.)</td>
<td>15</td>
</tr>
<tr>
<td>Subsidies (agriculture, fuel, etc.)</td>
<td>13</td>
</tr>
</tbody>
</table>


Table 3: Indonesia’s history of fossil fuel subsidy reforms

<table>
<thead>
<tr>
<th>Year</th>
<th>Driver</th>
<th>Reforms</th>
<th>Complementary measures</th>
<th>Institution</th>
</tr>
</thead>
<tbody>
<tr>
<td>1998</td>
<td>Precondition for an IMF emergency Loan</td>
<td>Sharp price increases</td>
<td>None identified, with reforms leading to protests</td>
<td>IMF</td>
</tr>
<tr>
<td>2000</td>
<td>Reforms: Increases in price of gasoline, diesel and kerosene by 15%, 9% and 25% respectively</td>
<td>Complementary measures: None reported, with reforms resulting in violent demonstrations</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2001</td>
<td>Reforms: Fuel prices for large industry increased to 50% of the international price, prices for gasoline, diesel and kerosene increased by 26%, 59% and 14% respectively for households and local transport</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2002</td>
<td>Reforms: Further price reforms for gasoline and diesel, resulting in protests</td>
<td>Complementary measures: $300 million was earmarked for health, education, food and social welfare</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2003</td>
<td>Reforms: Introduction of an automatic pricing mechanism, leading to more regular fuel price adjustments</td>
<td>Complementary measures: Plans to provide compensation through subsidies to rice, spending on health education and social welfare, with $ 510 million allocated to the subsidised rice programme and education; continued low spending on these services regardless of many promised compensation plans not materialising</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2005</td>
<td>Driver: Rising cost of subsidies due to increase in international oil price and Indonesia becoming a net oil importer, ensuring energy security</td>
<td>Reforms: Gasoline, diesel and kerosene price increases of 149%, 161% and 186% respectively, helping reduce Indonesia’s budget deficit by $4.5 billion</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2008</td>
<td>Driver: International fuel price spikes and rising costs of subsidies, leading to compromise of government’s ability to finance social welfare</td>
<td>Reform: Fuel prices increased by up to one-third</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Education**: Implementation of BSM assistance programme for school-related expenses for primary and secondary school students from poor families, cushioning the impact of price increases on low-income households, despite not being directly linked to the reforms

**Communication**: Government release of primer: ‘The government’s explanation on its policy on fuel-subsidy cuts and other accompanying policies’

<table>
<thead>
<tr>
<th>Year</th>
<th>Driver</th>
<th>Reform</th>
</tr>
</thead>
<tbody>
<tr>
<td>2009</td>
<td>Run up to elections</td>
<td>Reversal of reforms undertaken in 2008; prices lowered</td>
</tr>
<tr>
<td>2013</td>
<td>Rising international oil prices; subsidies placing increasing pressure on government budget</td>
<td>Government increase of petrol and diesel prices not exceeding its statutory budget deficit limit of 3% of GDP</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Complementary measures</strong>: Extension of temporary unconditional cash transfers to 18.5 million poor households; expansion of the pre-existing subsidised rice programme and conditional cash transfer programme</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Education</strong>: Pre-existing BSM expanded to reach 15.4 million students</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Communication</strong>: Extensive communication campaign including public advertisements aired on national TV stations, text messages and social media, explaining the fuel price increases and related compensation programmes</td>
</tr>
<tr>
<td>2014</td>
<td>Opportunity for reforms presented by the low oil price</td>
<td>Government announcement of cap on diesel subsidies and cut in subsidies for premium petrol</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Complementary measures</strong>: Government announcement that large share from estimated total savings of IDR 186 trillion ($13.8 billion), realised through the reforms, to be used to support State Owned Enterprises, with a) IDR 120 trillion ($8.9 billion) to be reallocated to complementary measures, including a village fund, agriculture, social security and infrastructure and b) IDR 6.4 trillion ($ 474 million) planned to be reallocated to education</td>
</tr>
<tr>
<td></td>
<td></td>
<td><strong>Education</strong>: Revised state budget of 2015 indication that reallocation of savings to education to be used to expand the KIP programme to provide education related transfers to 25% of poor students, up from 13%</td>
</tr>
</tbody>
</table>
5. Cross cutting findings and recommendations

A number of countries have successfully linked fossil fuel subsidy reform with increased spending on education programmes and measures that can improve education outcomes indirectly, such as cash transfers. The benefits of this approach to fossil fuel subsidy reform have been twofold. First, by reducing education related expenses for households with children and protecting the purchasing power of the poor through cash transfers, these measures have helped to reduce the negative impact of price increases as a result of the reforms. Second, increased expenditure on education and cash transfers with (soft) conditions for enrolment or attendance has helped to achieve longer-term improvements in enrolment, attendance, poverty alleviation and the redistributive impact of government spending.

A detailed review of experiences with reforms in Ghana and Indonesia shows that there are a number of options for increasing expenditure on education and other social welfare measures as part of energy subsidy reforms:

- **Options in terms of the source of finance**: Increased finance for education has been delivered in various ways, including through a tax on fuels introduced as part of energy price reforms, and also through the soft earmarking of savings freed up through subsidy removal. In addition, there have been cases where the existing public budget has also been directed towards education in advance of subsidy reforms to mitigate their impacts and increase support.

- **Options in terms of the use of finance**: These include the use of the public budget to introduce, expand or strengthen education programmes, provide scholarships and eliminate or reduce fees through grants for schools. Support has also been provided through cash transfers, sometimes with soft conditionality for school enrolment or attendance.

5.1. Key elements of reform processes

Looking at two case studies of reform in Ghana and Indonesia, this report considers:

- how the promise of increasing expenditure on education has been communicated in the reform process
- how plans to increase expenditure on education were included in the reform plans
- whether increased expenditure on education has been delivered to support education and, if so, how
- what role international and regional organisations have played in the reforms.

These cases highlight that the common elements for successful subsidy reform (see Section 3) also apply to cases where reforms have been linked to an increase in spending on education. Ensuring that each of these elements, summarised below, are part of a fossil fuel subsidy reform process can also have wider benefits in terms of achieving a more progressive redistribution of government resources.

**Research and analysis**: As a first step, it is important to understand the gap in support for education (i.e. education finance needs) and the potential financial gain from fossil fuel subsidy reform (i.e. scale of current subsidies – which is often linked to fossil fuel prices). It will also be important to determine the government’s commitment to redistribution of resources liberated through reform. Research and analysis will also be crucial for estimating the likely impact of reforms and identifying measures that can best be used to mitigate any potential negative impacts of reforms. In Ghana, the 2005 IMF Poverty and Social Impact Analysis and 2013 UNICEF study were critical for understanding the likely impact of reforms and highlighting the need for the government to protect the poor from the direct and indirect impacts of increased energy prices. The studies furthermore highlighted that, when compared to other possible
mitigation measures, spending on education and a targeted cash transfer programme would be the most cost-effective option for cushioning the impact of the price increases. This analysis could be undertaken by government, local universities or other research organisations.

*Consultation and communication:* The long history of reforms in both Ghana and Indonesia reaffirm that communicating the rationale for reforms is essential for increasing public acceptance of them. Given strong public support for increased expenditure on education, communicating plans to allocate savings to education alongside other social welfare programmes can help increase support for reforms. Surveys undertaken in Indonesia have revealed that the public supports both increased spending on social protection and the provision of free education, while there is minimal support for an increase in energy subsidies or expenditure on infrastructure. In addition, surveys and consultations will allow governments to consider these preferences in the drafting of reform plans that the population is likely to support.

*Whole of government approach:* In Ghana, the IMF, UNICEF and PEP held consultations with the Ministry of Finance, Ministry of Education and Ministry of Social Protection to identify possible measures to cushion the impact of reforms. This led to the consideration of expanding existing social welfare programmes, including through increasing expenditure on education. Fossil fuel subsidy reforms often require an improvement of institutional links (at the international, national and sub-national levels) between those employed in the education, health, social protection and public realms, as well as those working on green fiscal policy.

*Mobilising resources upfront:* Recent reforms in Indonesia clearly illustrate the need for upfront finance for reforms, as its reform process was funded by the 2014 State Budget rather than a reallocation of the fiscal space created through reform. In Ghana, a mitigation levy was included in the fuel pricing formula as part of the 2005 fuel subsidy reforms, which generated the resources to be used for its planned support measures for education.

*Complementary measures (for sectors and households):* In Indonesia and Ghana, increased expenditure on education programmes and measures that can improve education outcomes indirectly (such as cash transfers), as part of wider compensation packages, have helped to offset the negative impacts of increased energy prices by reducing expenditure on education for households with children. Increased expenditure has also generated longer-term benefits, such as for enrolment, attendance, the redistributive impact of government spending and poverty alleviation. The need to cushion the impact of reforms can drive analysis of existing social programmes and efforts to identify low-income households. This, in turn, can also contribute to achieving wider improvements in the implementation and operation of social programmes.

### 5.2. Challenges with linking fossil fuel subsidy reforms with support to education

Experiences with reforms in Ghana and Indonesia also illustrate some of the challenges associated with increasing support for education alongside fossil fuel subsidy reforms:

- While the impact of an increase in energy prices is immediate, the wider benefits of reforming subsidies only materialise over time. Increasing expenditure on social policies, especially on services like health and education takes time to deliver results. This lag between the costs and benefits of reform implies that increased expenditure on education, by itself, is often not sufficient to offset the impact of reforms. Plans to increase public spending on education might therefore need to be linked to other complementary measures that provide more immediate benefits, such as cash transfers.
Increased expenditure on education will not reduce the impacts of fossil fuel subsidy reforms on households or individuals without children who go to school. Because of disparities between those groups that are reached through various measures to compensate for the reforms and those who are affected by them, wider complementary measures are required to ensure that different groups of people affected are reached.

Unsurprisingly, the way in which the money is spent matters. The benefits of increasing expenditure on education and other measures that can provide indirect benefits within this area (such as cash transfers) will be contingent on the effectiveness of the specific measures supported. In addition, a consideration of how the increase in expenditure on a particular education measure fits within a wider government strategy for education is warranted. If resources are mainly directed to improving access to education, without being matched by increased expenditure on resources, including books and training of teachers, this might undermine the quality of education. Where education programmes are limited or ineffective, strengthening or expanding other existing social services might be more manageable alongside subsidy reforms.

Reforms are often enacted and removed in conjunction with election cycles and fluctuations in international fuel prices. Their volatility highlights that, while savings may be used to increase expenditure on selected social welfare policies, they may not always provide a reliable source of income. While comprehensive, gradual, long-term reforms are difficult to organise, they provide a more sustainable approach for managing the impact of reforms on poor households and realising long-term benefits. Nonetheless, it is also possible to argue that the promise of increasing expenditure on social policies, including education, could potentially also help to prevent backsliding. Governments may have to sustain the fossil fuel subsidy reforms to be able to afford the promised increases in expenditure on social policies alongside the reforms on the longer-term.

Where education finance is found to constitute good use of the fiscal space created through subsidy reform, further guidance is available on how to ensure these funds are spent in a manner that achieves equitable and improved access to high quality education. Where plans to increase public expenditure on education are a well-managed part of fossil fuel subsidy reform processes, reforms themselves have the potential to provide significant benefits for both access to education and its quality.

5.3. Opportunities to link fossil fuel subsidy reforms with support to education

To address some of these challenges, technical support might be required to ensure that the social dimensions and distributional impacts of reforms are considered and addressed in the reform process. Where governments lack capacity, they can consider turning to external institutions that have over time developed considerable capacity to provide technical support with energy subsidy reforms. Examples include national and international universities and NGOs or international institutions such as the IMF and the World Bank. While the IMF in Ghana conducted a poverty and social impact analysis as part of the reforms in 2005, it did not conduct a similar analysis in preparation for the reforms in 2013. In this instance, UNICEF and PEP's analysis and discussions with the IMF, the Ministry of Finance and the Ministry of Social Protection led to the introduction of complementary measures alongside the reforms. This shows that by providing analysis of likely impacts of fossil fuel subsidy reforms, along with potential measures to reduce them, national and international groups working on education may be able to shape the reform plans.

In countries where there are opportunities to link the fossil fuel subsidy reform efforts to increasing expenditure on education, organisations with a mandate to improve education can consider to engage in the reform process at a national level. They can do so by undertaking and communicating research so that it translates in the following ways.
1) Public support for government spending on education or related programmes, as compared to public support for fossil fuel subsidies.

2) Greater understanding of the role that expenditure on education and on measures with indirect benefits for education can play in reducing the adverse impacts of price increases on low-income households as part of wider compensation packages.

3) Larger redistribution benefits of increasing expenditure on education, using the fiscal space created by fossil fuel subsidy reforms.

Public finance from external institutions currently plays a role in supporting both fossil fuel subsidy reform processes and funding for social protection (including for education). International governmental and non-governmental organisations (NGOs) are already lending weight to reform efforts by providing technical and financial assistance to governments and supporting in-country engagement and awareness-raising on fossil fuel subsidies (Whitley and van der Burg, 2015). In addition to shifting development finance, climate finance and international public finance away from fossil fuels, it may be possible to combine both public and private international and domestic resources to provide the upfront finance required to initiate and implement subsidy reform processes and, in particular, support complementary measures for affected households and sectors. As highlighted in the case of Ghana, international agencies, such as the World Bank and bilateral donors, are often already providing resources and finance for ‘complementary measures’ such as support to social protection. However, in some cases, these resources are either being phased out or provided in a manner that is separate from subsidy reform processes, in terms of both institutional arrangements and timing. It will be important not only to maintain and increase these resources, but also improve the linkages between existing support and the processes of fossil fuel subsidy reform.

Finally, as donor support for education is phased out in middle income and lower-middle income countries, governments will need to continue wider efforts to increase domestic resources for education, while at the same time improving the efficiency of existing public spending in this area (UNESCO, 2015). Governments need to increase efforts to mobilise tax revenue, improve the efficiency of tax collection and diversify the tax base. Taxation, including that of fossil fuels, is common practice for raising government revenue. Duties on motor vehicles, for example, yielded about €180 billion of government revenue across the European Union in 2011 (NERA, 2014). In Ghana, a mitigation levy was included in the fuel pricing formula as part of the 2005 fuel subsidy reforms, which generated short term resources to support education.

Overall, where plans to increase public expenditure on education are a well-managed part of fossil fuel subsidy reform processes, reforms have the potential to provide significant benefits for access to education and its quality.
References


