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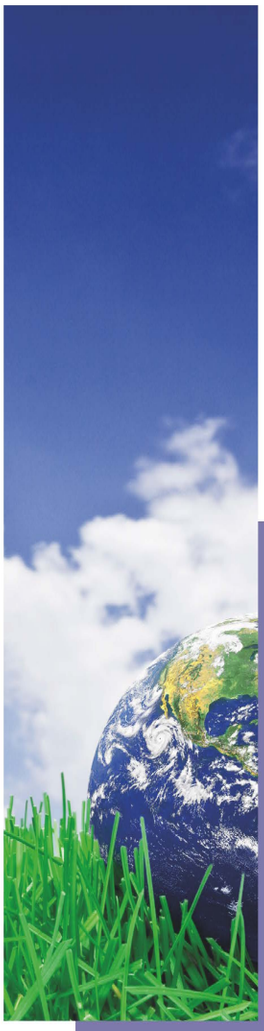

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Fossil Fuel Subsidies

In-depth Analysis for the ENVI Committee

EN

2017

Fossil fuel subsidies

DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Fossil Fuel Subsidies

IN-DEPTH ANALYSIS

Abstract

This paper provides an overview of fossil fuel subsidies globally and in the EU, as well as a summary of key components of successful reform efforts and why reform can be difficult to achieve for governments.

This analysis was provided by Policy Department A for the Committee on Environment, Public Health and Food Safety (ENVI).

IP/A/ENVI 2016-18-REV Mars 2017
PE 595.372 EN

This document was requested by the European Parliament's Committee on Environment, Public Health and Food Safety.

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Original: EN

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Manuscript completed in January 2017.
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1. INTRODUCTION

Estimates of combined fossil fuel subsidies in the EU range from **€39 billion to over €200 billion** per annum[1]. These significant figures indicate a lack of coherence between the EU's energy and climate mitigation - correct price signals are important for Europe's climate policy goals, hence phasing out fossil fuel subsidies is important in order to help align energy prices with environmental goals.

The International Energy Agency (IEA) targets phasing out fossil fuel subsidies as one of four policies to keep the world on track for the 2 degree global warming target at no net economic cost[2]. It has estimated that even a partial phase-out by 2020 would reduce greenhouse gas (GHG) emissions by 360 million tonnes, which equates to 12% of the reduction in GHGs needed to hold a temperature rise to 2 degrees.[3]

Fossil fuel subsidies can inhibit sustainable economic development by creating a burden on government budgets, reducing or inefficiently allocating resources that could be put to more sustainable use within the economy; distorting the relative prices of energy options, leading to over-exploitation of fossil fuels, increasing inequality and undermining access to affordable energy by benefiting wealthier rather than the poorest members of society; decreasing the competitiveness of key industries, including low-carbon businesses, by discouraging investment in renewable energy and energy efficiency, hindering the transition toward a climate-resilient economy[4]; compromising energy security (compared to subsidising alternatives such as renewables and energy efficiency); damaging public health by increasing air pollution; and negating carbon price signals[5]. Despite the evidence of costs of fossil fuel subsidies, and the potential virtuous cycles that could result from their removal, governments are often reluctant to undertake reform.

According to the IMF, when the costs of climate change, local air pollution, congestion, accidents and road damage are included in the calculated subsidies for fossil fuels (which are not included in the OECD and IMF estimates), the global cost to society was estimated to reach **USD 5.3 trillion** in 2015[6].

The removal of fossil fuel subsidies is beneficial in a number of ways: it reduces the budget deficit; leads to a more efficient allocation of resources and thus increases long run economic growth potential. It also acts to reduce fossil fuel consumption, leading to lower global CO2-emissions and climate change mitigation. These arguments among others have convinced governments to initiate often unpopular fossil fuel subsidies reforms. Financial institutions and investors are also increasingly committed to divesting their fossil fuel assets[7].

This short paper will briefly examine the most recent estimates of the costs of fossil fuel subsidies globally and in Europe, and summarise successful ingredients of recent reforms, as well as why barriers to reform continue to exist.

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1 European Commission (2014). Enhancing comparability of data on estimated budgetary support and tax expenditures for fossil fuels: final report. Available at http://ec.europa.eu/environment/enveco/taxation/pdf/201412ffs_final_report.pdf

2 IEA, OECD (2013). Redrawing the Energy Climate Map. Available at: http://www.iea.org/publications/freepublications/publication/WEO_Special_Report_2013_Redrawing_the_Energy_Climate_Map.pdf

3 Whitley, S, (2013). Time to change the game: fossil fuel subsidies and climate. Overseas Development Institute. Available at: https://www.odi.org/sites/odi.org.uk/files/odi-assets/publications-opinion-files/8668.pdf

4 http://blogs.worldbank.org/voices/envisioning-global-financial-system-decade?CID=CCG_TT_climatechange_EN_EXT

5 ODI (2013)

6 Coady, D. et al (2015)

7 https://www.theguardian.com/environment/2016/dec/12/fossil-fuel-divestment-funds-double-5tn-in-a-year

2. KEY FINDINGS

- The IEA estimates that even a partial phase-out of fossil fuel subsidies by 2020 would **reduce greenhouse gas (GHG) emissions by 360 million tonnes**, which equates to 12% of the reduction in GHGs needed to hold a temperature rise to 2 degrees.
- There are **a lack of clearly defined targets** for cutting fossil fuel subsidies in the EU and internationally, although **objectives** do exist.
- Wide divergences exist between different countries **definitions** of "subsidies," giving countries more room to omit mention of particular policies.
- Three international organisations (the **IEA**, the **IMF** and the **OECD**) have attempted to collect data on fossil fuel subsidies, using different methodologies.
- The IEA estimates that fossil fuel consumption subsidies in 2013 totalled USD 548 billion (5% of the total GDP of the 40 countries included in its analysis.
- The OECD estimates total support at USD 160-200 billion annually (amongst its members plus the BRIICS (Brazil, Russia, India, Indonesia, China, and South Africa)).
- The OECD values the total of fossil fuel subsidies for the EU at **€39 billion**. In the EU the subsidies were **603 euros per person** in 2013**.**
- The IMF estimates that global (post-tax) subsidies amounted to **USD 2.0 trillion** in 2011.
- Despite the potential benefits that could result from the removal of fossil fuel subsidies, governments are often **reluctant** to undertake reform.
- However, despite the challenges associated with reform, a number of countries have recently made **significant progress in reforming subsidies** for fossil fuels across a wide range of sectors.

3. TARGETS

There are **a lack of clearly defined targets** for cutting fossil fuel subsidies in the EU and internationally, although **objectives** do exist.

The conclusions of the European Council of 22 May 2013[8] read that *"As regards action taken to facilitate investments, priority will be given to: …(d) phasing out environmentally or economically harmful subsidies, including for fossil fuels"*. Under the Europe 2020 Strategy, Member States began developing plans for phasing out fossil fuel subsidies by 2020, with progress on implementing these to be monitored under the European Semester. With the advent of the Energy Union, however, the decision was taken to remove the focus on energy and fossil fuel subsidies from the European Semester in 2015[9].

A European Parliament resolution of 5 February 2014 on a 2030 framework for climate and energy policies (2013/2135(INI))[10] called for the phasing out of fossil fuel subsidies:

*32. Recognises that **subsidies for all energy sources, including fossil fuels** and nuclear energy, may have significant repercussions on energy prices; notes that some renewable energy sources, such as onshore wind and solar photovoltaics, are close to being cost-competitive with conventional energy sources, and considers that the associated support schemes should therefore be adapted, and **subsidies phased out over time**, so that the funding can be reallocated to research and development programmes on energy technologies such as next-generation renewable energy sources and storage technologies…*

*33. Highlights, at the same time, the need for the EU to reduce its dependence on imported fossil fuels; notes that **a number of subsidies granted for fossil fuels**, nuclear energy and some mature RES technologies are creating structural market distortions in a number of Member States; calls upon the Member States to **phase out such subsidies**, and in particular environmentally harmful direct and indirect subsidies on fossil fuels, as soon as possible;*

The EU is taking steps to reduce fossil fuel subsidisation. EU legislation[11] stipulates the phase-out of state aid to the production of **coal** from uncompetitive mines by the end of 2018[12]. The Council is working on the revised version of the EU **energy taxation** directive. This directive aims to tax energy products based on their energy content and the amount of CO2 they emit, in order to incentivise the more efficient use of resources and to mitigate climate change. An important part of the proposal is the introduction of minimum tax rates on energy and CO2 content across the EU.

The European Commission's proposal for the 2016 European Consensus on Development notes that *"The EU and its Member States… will also promote the phase out of fossil fuel subsidy…"*[13].

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8 https://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/137197.pdf

9 A desire to reduce the scope of country-specific recommendations in the Semester to a maximum of 5 key issues, plus the decision to create a dedicated EU governance mechanism for the goals of the European Energy Union in February 2015, has led to the removal of energy-related issues, including FFS and taxation, from the European Semester in 2015 (IDDRI 2016).

10 http://www.europarl.europa.eu/sides/getDoc.do?type=TA&language=EN&reference=P7-TA-2014-0094

11 Council Decision 2010/787/EU, published OJ L 336 , 21.12.2010, p. 24-29.

12 However there has been strong political opposition to closure of uncompetitive mines in both Spain and Poland, and it is possible that the end of 2018 deadline may be extended.

13 Strasbourg, 22.11.2016 COM(2016) COMMUNICATION: Proposal for a new European Consensus on Development: Our World, our Dignity, our Future. Available at: https://ec.europa.eu/europeaid/sites/devco/files/communication-proposal-new-consensus-development-20161122_en.pdf

The issue also regained visibility in the Clean Energy for All Europeans package in 2016[14]:

"This package is… stepping up EU's action in removing inefficient fossil fuel subsidies in line with international commitments under G7 and G20 and in the Paris Agreement. The remaining but still significant public support for oil, coal and other carbon-intensive fuels continues to distort the energy market, creates economic inefficiency and inhibits investment in the clean energy transition and innovation. The market design reform is removing priority dispatch for coal, gas and peat and will limit the need for capacity mechanisms which often relied on coal. The Commission will also establish ***regular monitoring of fossil fuel subsidies*** *in the EU and* ***expects Member States to use their energy and climate plans to monitor the phase-out of fossil fuel subsidies****. The Commission will carry out a REFIT evaluation of the EU framework for energy taxation in order to* ***define possible next steps also in the context of the efforts to remove fossil fuel subsidies****."*

Progress on delineating concrete targets has also been slow within the **G7** and **G20** fora. At the 2009 summit in Pittsburgh G20 countries committed to "rationalise and phase out over the medium term inefficient fossil fuel subsidies that encourage wasteful consumption"[15], noting that eliminating such subsidies by 2020 would reduce greenhouse gas emissions blamed for global warming by 10 percent by 2050. In 2015 the US and China issued a joint statement saying that they would use China's G20 presidency to produce a timeline for fossil fuel subsidy phase-out[16]. Despite a commitment by G7 nations in May 2016 to end government financial support for oil, gas and coal by 2025, the wider G20 group was unable to agree on a deadline.

[14] http://eur-lex.europa.eu/resource.html?uri=cellar:fa6ea15b-b7b0-11e6-9e3c-01aa75ed71a1.0001.02/DOC_1&format=PDF

[15] IEA, OECD and World Bank (2010). The Scope of Fossil-Fuel Subsidies in 2009 and a Roadmap for Phasing Out Fossil-Fuel Subsidies, prepared for the G-20 Summit, Seoul (Republic of Korea), 11-12 November 2010. Available at: http://www.oecd.org/env/cc/46575783.pdf

[16] https://www.whitehouse.gov/the-press-office/2015/09/25/fact-sheet-us-china-economic-relations

4. DEFINITION ISSUES

The World Trade Organisation takes a broad approach and defines a subsidy as "any financial contribution by a government, or agent of a government, that confers a benefit on its recipients"[17].

The 2010 Joint Report[18] of the IEA, the OECD, and the World Bank distinguishes seven basic types of fossil fuel subsidies, based on the official type of government intervention. These seven types are as follows: (1) trade instruments such as tariffs; (2) regulations such as price controls that result in consumer prices being below market level; (3) tax breaks either for consumers or producers of fossil fuels; (4) credit to fossil fuel producers; (5) direct financial transfer either to reduce end user prices or to lower the costs of producers; (6) risk transfer such as loan guarantees; (7) energy-related services provided by the government at less than full cost.

G20 efforts to advance fossil fuel subsidy reform have suffered from the lack of an established definition of what constitutes a subsidy, which makes the **assessment of public support and cross-country comparison very difficult**[19], and gives countries more room to omit mention of particular policies[20]. G-20 nations are said to be changing their definitions, not their subsidy policies. In the annual reporting exercise each country decides what sort of public support they consider as inefficient fossil fuel subsidies and want to report to the group. The vague definition of fossil fuel subsidies in the G20 commitment has allowed many countries to "opt-out" even of reporting on their fossil fuel supports. The general language in the original commitment, combined with strategic interpretation of that language, has resulted in wide divergences in what different countries count as being a "subsidy," an "inefficient subsidy," and a subsidy that is both "inefficient" and "encourage[s] wasteful consumption."[21] It has been hard to reach an agreement because subsidies touch directly on issues of government sovereignty, trade competition and poverty alleviation[22].

This lack of clear reporting isn't only evident within the G20. In its report of detailed extensive fossil fuel subsidies in India, Indonesia and Thailand (respectively 2.7%, 4.1% and 1.9% of GDP, with the vast majority comprising consumer subsidies for petroleum products), the Asian Development Bank also noted that inventory estimates were higher than official estimates, "as national accounts rarely track the full suite of energy subsidies in an economy".

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17 https://www.wto.org/english/res_e/booksp_e/anrep_e/wtr06-2b_e.pdf

18 IEA, OPEC, OECD and World Bank (2011). Fossil-fuel and other energy subsidies: An update of the G20 Pittsburgh and Toronto Commitments, Prepared for the G20 Meeting of Finance Ministers and Central Bank Governors (Paris, 14-15 October 2011) and the G20 Summit (Cannes, 3-4 November 2011). Available at https://www.oecd.org/env/49090716.pdf

19 Bárány, A and Grigonytė, D., (2015). DG ECFIN Economic Brief: Measuring Fossil Fuel Subsidies. Issue 40. Available at http://ec.europa.eu/economy_finance/publications/economic_briefs/2015/pdf/eb40_en.pdf

20 Koplow, D., (2012). Phasing Out Fossil Fuel Subsidies in the G20: A Progress Update. Earth Track Inc and Oil Change International. Available at http://priceofoil.org/2012/06/17/report-phasing-out-fossil-fuel-subsidies-in-the-g20-a-progress-update/

21 Koplow, D., (2012)

22 ODI (2013)

5. STATE OF PLAY

Despite the lack of globally agreed definitions, three international organisations (the **IEA**, the **IMF** and the **OECD**) have attempted to collect data on fossil fuel subsidies in a systematic way, albeit with different methodologies.

5.1. IEA

The IEA defines an energy subsidy as "any government action directed primarily at the energy sector that lowers the cost of energy production, raises the price received by energy producers or lowers the price paid by energy consumers"[23]. The IEA provides estimates annually of **consumer**[24] fossil fuel subsidies for 40 developing countries, including the world's top subsidisers. They are calculated using the **price-gap approach**, based on the differential between the end user price of a specific fossil fuel and a reference price (the international market price adjusted for transport and distribution costs) of the same fuel. The IEA estimates that fossil fuel consumption subsidies in 2013 totalled **USD 548 billion**, or 5% of the total GDP of the 40 countries included in the analysis.

5.2. OECD

The OECD takes a different approach to estimate the extent of consumption and production subsidies together in its member states. The OECD uses an inventory based approach to estimate the value of fossil fuel subsidies in its member states. This method identifies all government measures (**subsidies** and **tax breaks**) that support fossil fuel **production** or **consumption**, and calculates and adds up the value of all these measures based on the government's budget. The OECD estimates that in the 2005-2011 period an annual average of **USD 55-90 billion** was spent on fossil fuel (production and consumption) subsidies in its member states. These estimates have most recently been updated in September 2015 and expanded to include major emerging economies (Brazil, China, India, Indonesia, Russia and South Africa). The inventory includes almost 800 spending programmes and tax breaks used by governments, and it estimates total support at **USD 160-200 billion** annually. This is much lower than the IEA's estimate, but understandably so: governments in developed countries don't set fossil fuel prices (as do some in developing countries), and use sophisticated methods to subsidise fossil fuel production and consumption to a much lesser extent than the countries included in the IEA's analysis[25].

The OECD (2013 study) values the total of fossil fuel subsidies for the EU at **€39 billion**. By far the largest subsidies are related to the consumption of petroleum, in total valued at €25 billion, followed by subsidies related to the consumption of natural gas, nearly €5 billion. An amount of €3.5 billion related to subsidies for the production of coal and €2.6 billion to the consumption of coal. Subsidies related to the production of petroleum are estimated to be worth a little over €1 billion, the subsidies related to the production of natural gas are small, estimated at €0.1 billion. These results are largely in line with those from a study carried out

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[23] https://www.iea.org/publications/freepublications/publication/oil_subsidies.pdf

[24] **Consumer** subsidies typically lower prices below what they would be in a 'free market' and are used predominantly to lower the prices of fuel for transport, kerosene and gas used in homes, or fuels used by electricity generators and domestic industries. **Producer** subsidies are far more opaque than those for consumers and usually take the form of preferential treatment for: 1) selected companies, such as national oil companies; 2) one domestic sector or product; and 3) sectors or products in one country when compared internationally. The most common producer subsidies come in the form of government revenues that are foregone, such as reduced taxes for goods and services, allowances for accelerated depreciation, and reduced royalty payments

[25] Bárány, A and Grigonytė, D., (2015)

by **Ecofys**[26], estimating the total value of monetary production support for fossil fuel in the order of €4.3 billion (OECD arrives at €5.6 billion). Regarding energy demand, the OECD estimates demand related support to be €33 billion, with the Ecofys estimate at €30.3 billion. Differences are largely explained due to the use of different methodologies and to a lesser extent by the fact that OECD also includes transport related measures. The latter has a strong effect on the total support for energy demand, in particular in relation to oil and petroleum.

5.3. IMF

The IMF study[27] provides the most comprehensive **pre-tax** and **post-tax** subsidy estimates for 176 countries. Pre-tax subsidies are mostly based on the **price-gap** approach, and are therefore similar to IEA estimates (although for some OECD countries, producer subsidies are also included). Post-tax subsidies include the **negative externalities** associated with the use of fossil fuels (that are not internalised through corrective environmental taxes by the government), such as local air pollution, faster climate change and congestion. The IMF's estimate for global **pre-tax** subsidies in 2011 totalled **USD 492 billion** (or 0.7% of global GDP at the time), relatively close to the IEA's estimate of USD 523 billion for the same year. The IMF estimates that global **post-tax** subsidies amounted to **USD 2.0 trillion** in 2011, representing 2.9% of global GDP or approximately 8.5% of worldwide government revenue (Clements et al., 2013). Thus the value of the negative externalities associated with the use of fossils fuels is roughly three times as high as actual government support for fossil fuels.

According to the IMF, when the costs of climate change, local air pollution, congestion, accidents and road damage are included in the calculated subsidies for fossil fuels (which are not included in the OECD and IMF estimates), the global cost to society will be **USD 5.3 trillion** in 2015[28].

In the EU the subsidies were 603 euros per person in 2013, jumping to a projected 673 euros in 2015. The below tables illustrate subsidies per citizen in each country in 2013, and projected figures for 2015.

Table 1: EU post-tax subsidies by product, 2013 (Source: IMF)

	Post-tax subsidies in US$ billions (nominal)				Post-tax subsidies in US$ per capita (nominal)			
Country	**Petroleum**	**Coal**	**Natural Gas**	**Total**	**Petroleum**	**Coal**	**Natural Gas**	**Total**
Austria	1,23	1,01	0,93	3,16	144,96	118,49	109,29	372,74
Belgium	4,83	2,38	2,02	9,22	432,31	212,89	180,86	826,06
Bulgaria	2,28	15,69	0,26	18,22	314,60	2167,91	35,29	2517,79
Croatia	0,54	1,04	0,33	1,91	127,85	243,67	77,55	449,07
Cyprus	0,00	0,00	0,00	0,00	0,00	0,06	0,00	0,06
Czech Republic	0,68	13,37	1,09	15,15	64,80	1271,84	104,12	1440,76
Denmark	3,80	0,73	0,64	5,17	677,96	130,63	113,36	921,95
Estonia	0,00	0,02	0,09	0,11	0,00	15,11	70,55	85,65
Finland	0,02	1,05	0,29	1,36	4,14	192,42	52,99	249,55
France	13,80	6,46	6,33	26,59	216,85	101,42	99,41	417,68

[26] Ecofys (2014). Subsidies and costs of EU energy. Available at: https://ec.europa.eu/energy/sites/ener/files/documents/ECOFYS%202014%20Subsidies%20and%20costs%20of%20EU%20energy_11_Nov.pdf

[27] Coady, D. et al. (2015). How large are global energy subsidies. IMF working paper WP/15/105. Available at https://www.imf.org/external/pubs/ft/wp/2015/wp15105.pdf

[28] Coady, D. et al (2015)

Germany	1,90	37,15	11,24	50,29	23,48	460,02	139,19	622,68
Greece	0,23	5,28	0,40	5,91	20,89	477,61	35,92	534,41
Hungary	0,19	2,85	1,53	4,57	18,96	287,14	154,74	460,83
Ireland	0,00	0,54	0,55	1,09	0,00	117,66	119,11	236,77
Italy	0,00	3,73	9,06	12,79	0,00	62,46	151,80	214,26
Latvia	0,05	0,05	0,22	0,32	22,20	25,68	109,96	157,85
Lithuania	1,09	0,35	0,52	1,96	370,05	119,71	174,20	663,96
Luxembourg	1,71	0,02	0,16	1,89	3137,42	39,93	291,07	3468,42
Malta	0,01	0,00	0,00	0,01	21,48	0,00	0,00	21,48
Netherlands	2,26	2,46	5,17	9,89	134,50	146,16	307,77	588,43
Poland	2,76	41,03	2,94	46,73	72,60	1077,99	77,12	1227,71
Portugal	0,63	0,85	0,43	1,91	60,46	80,91	41,43	182,79
Romania	2,97	9,53	1,61	14,11	139,71	447,49	75,60	662,81
Slovak Republic	0,16	1,95	0,70	2,82	30,42	360,28	129,85	520,55
Slovenia	0,00	1,00	0,08	1,09	0,00	487,92	41,23	529,15
Spain	11,48	5,66	3,53	20,67	246,39	121,49	75,74	443,62
Sweden	0,63	0,47	0,15	1,25	65,45	48,70	15,44	129,60
United Kingdom	0,26	25,07	11,37	36,70	4,07	391,13	177,45	572,64

Table 2: EU post-tax subsidies by product, 2015 projected (Source: IMF)

	Post-tax subsidies in US$ billions (nominal)				Post-tax subsidies in US$ per capita (nominal)			
Country	Petroleum	Coal	Natural Gas	Total	Petroleum	Coal	Natural Gas	Total
Austria	1,71	1,11	1,00	3,82	200,18	129,38	116,49	446,04
Belgium	5,50	2,58	2,14	10,21	489,23	229,21	190,29	908,74
Bulgaria	1,81	17,40	0,29	19,50	252,09	2428,73	39,92	2720,74
Croatia	0,81	1,07	0,34	2,22	191,35	252,48	80,13	523,96
Cyprus	0,00	0,00	0,00	0,00	0,00	0,07	0,00	0,07
Czech Republic	1,27	15,16	1,15	17,58	120,64	1439,42	109,42	1669,48
Denmark	4,28	0,82	0,69	5,78	759,42	145,65	121,96	1027,03
Estonia	0,00	0,02	0,10	0,13	0,00	16,94	78,22	95,15
Finland	0,00	1,13	0,32	1,45	0,00	205,75	57,37	263,12
France	16,65	6,93	6,54	30,12	259,29	107,97	101,87	469,13
Germany	2,97	40,80	11,87	55,64	36,47	501,54	145,84	683,85
Greece	0,28	5,88	0,44	6,60	25,28	535,78	39,83	600,90
Hungary	0,37	3,27	1,57	5,21	37,75	331,39	159,52	528,67
Ireland	0,00	0,62	0,60	1,22	0,00	132,71	129,08	261,79
Israel	0,00	8,53	0,78	9,31	0,00	1019,49	93,23	1112,73
Italy	0,00	4,02	9,25	13,27	0,00	66,68	153,64	220,32
Latvia	0,14	0,06	0,25	0,46	70,92	29,50	125,06	225,48
Lithuania	1,23	0,41	0,60	2,24	420,21	140,86	203,50	764,57
Luxembourg	1,94	0,02	0,17	2,14	3401,55	42,45	303,17	3747,17
Malta	0,02	0,00	0,00	0,02	53,45	0,00	0,00	53,45
Netherlands	2,14	2,69	5,25	10,08	126,53	158,94	309,74	595,20

New Zealand	1,74	0,29	0,47	2,51	382,26	64,07	103,69	550,02
Poland	3,31	47,64	3,25	54,20	87,15	1253,03	85,53	1425,71
Portugal	0,81	0,93	0,47	2,22	78,11	89,82	45,48	213,41
Romania	0,84	11,44	1,75	14,03	42,55	577,13	88,13	707,81
Slovak Republic	0,25	2,22	0,76	3,24	46,59	409,39	140,69	596,67
Slovenia	0,00	1,11	0,09	1,20	0,00	539,40	44,31	583,72
Spain	14,14	6,27	3,77	24,18	304,86	135,17	81,20	521,23
Sweden	1,15	0,54	0,16	1,85	116,98	54,44	16,77	188,20
United Kingdom	0,28	28,62	12,34	41,23	4,25	440,71	190,01	634,97

6. EIB / EFSI FUNDING

In 2013, the **European Investment Bank** adopted new lending criteria for the energy sector to ensure its activities remain "relevant, consistent with EU policies; focussed on sectors with the greatest investment needs and highest policy priorities". The bank states that it still finances projects that contribute to guaranteeing secure supply of oil and gas. In September 2015, the EIB further adopted a new climate strategy, in which the bank sets out to dedicate 25% of its lending to specific climate action projects.

Analysis by CEE Bankwatch Network[29]shows that the EIB provided up to €7 billion in funding for fossil fuels from 2013 to 2015. This represents almost 30% of the total lending in the energy sector. While the total lending to renewable energy was higher than lending to fossil fuel infrastructure during this period, the lending to fossil fuels increased by approximately 25%, from €2 billion in 2013 to around €2.5 billion 2015, compared to a decrease in lending to renewable energy with 21%.

The **European Fund for Strategic Investments** (EFSI), launched in spring 2015 jointly by the European Commission and the EIB Group – the European Investment Bank and European Investment Fund – is an initiative to mobilise private investments and catalyse new projects that implement strategic, transformative and productive investments with high economic, environmental and societal added value. As well as supporting renewables and energy efficiency, the EFSI also provides significant funding for fossil fuels – in particular gas infrastructure – which has leveraged EUR 1.5 billion in additional investments into fossil fuel infrastructure.[30]

G20 countries collectively hold nearly 70% of the shares of the major multilateral development banks, through which they provided USD 521 million in annual finance for fossil fuel exploration in between 2010 and 2013. From the review of the MDBs, it was found that 66% of this public finance for exploration is coming from parts of the World Bank Group (the majority from IFC and MIGA).[31]

A few regional development banks have also at times taken steps to evaluate or reform fossil-fuel subsidies in the countries in which they operate. This is the case of the **Asian Development Bank**, which has in recent years provided technical assistance for monitoring and evaluating fossil-fuel subsidies in some of its member countries (ADB, 2011). The Inter-American Development Bank is similarly undertaking technical co-operation for measuring and analysing subsidies for the production or use of fossil fuels in Latin American countries and the Caribbean (IADB, 2013).[32]

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[29] EIB (2001). Financing of Energy Projects in the EU and in CEE. Available at: http://www.eib.org/infocentre/publications/all/eib-financing-of-energy-projects-in-the-eu-and-in-cee-countries.htm

[30] CEE Bankwatch (2016). The best laid plans: Why the Investment Plan for Europe does not drive the sustainable energy transition. Available at: http://bankwatch.org/sites/default/files/best-laid-plans.pdf

[31] Bast, E. et al (2014). The fossil fuel bailout: G20 subsidies for oil, gas and coal exploration. Overseas Development Institute, OilChange International. Available at: http://priceofoil.org/content/uploads/2014/11/G20-Fossil-Fuel-Bailout-Full.pdf

[32] OECD (2015). Companion to the Inventory of Support Measures for Fossil Fuels. Available at: http://www.oecd.org/environment/oecd-companion-to-the-inventory-of-support-measures-for-fossil-fuels-2015-9789264239616-en.htm

7. WHY SUBSIDIES PERSIST

Despite the potential benefits that could result from the removal of fossil fuel subsidies, governments are often reluctant to undertake reform. Research in particular by the IMF[33] and the Overseas Development Institute[34] has identified several reasons for the persistence of subsidies.

7.1. Lack of information regarding subsidies

Although citizens are aware of fuel prices, they rarely have full or accurate information about what they or others receive in terms of subsidies. They also tend to be **unaware** of how domestic energy prices compare with international market prices, the consequences of low energy prices for both the budget and economic efficiency, and the benefit distribution of energy subsidies. As a result, they are unable to make a connection between subsidies, constraints on expanding high- priority public spending, and the adverse effects of subsidies on economic growth and poverty reduction. Most countries that have successfully reformed energy subsidies undertook an evaluation of the magnitude of energy subsidies prior to implementing subsidy reforms.

7.2. Opposition from interest groups

Opposition may arise from interest groups benefiting from the status quo. It may be even more complicated in political terms to reform producer subsidies than consumer subsidy reform, given the role of fossil fuel revenues in government budgets in some countries, and the fact that the fossil fuel industries often have access to many levels and branches of government. Politically vocal groups that benefit from subsidies can be powerful and well organised and can **block reforms**. For example, in some countries, the urban middle class and the industrial sector (which also benefits from subsidies) can be obstacles to reform. Conversely, those benefiting from reform are often dispersed and less organised. An important stumbling block to reform in many countries is often state-owned enterprises (SOEs) in the energy sector, which can resist efforts to strengthen governance and performance.

7.3. Weak institutions

Governments sometimes subsidise fossil fuels because they lack other effective means and **institutional capacity** to implement more targeted policies. They may not reform subsidies due to their limited capacity to respond, lack of mechanisms for targeting and transferring payments at the national level, lack of strategy to integrate transfer programmes and subsidy policy, and little or no coordination between entities that administer subsidies and social programmes (and other complementary measures)

7.4. Lack of confidence in the government

Even where the public recognizes the magnitude and shortcomings of energy subsidies, it can often have low **confidence** that the government will use savings from subsidy reform wisely. This is particularly true in countries with a history of widespread corruption, lack of transparency in the conduct of public policy, and perceived inefficiencies in public expenditure.

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[33] Coady, D. et al. (2015).

[34] Whitley, S. and van der Burg, L. (2015). Fossil Fuel Subsidy Reform: From Rhetoric to Reality. New Climate Economy. Available at http://newclimateeconomy.report/misc/working-papers

7.5. Concerns over harmful impact on the poor

Energy price increases can have a significant **adverse impact** on the real incomes of the poor, both through higher energy costs of cooking, heating, lighting, and personal transport and through higher prices for other goods and services, including food. This is an important consideration for countries that do not possess a well-functioning social safety net able to effectively protect the poor from the adverse impact of higher energy prices.

7.6. Concerns over general economic impact

Other concerns include a potential adverse impact on **inflation** and on international **competitiveness**, as well as on the volatility of domestic energy prices. Increases in energy prices will have short-term effects on inflation, which may give rise to expectations of further increases in prices and wages unless appropriate macroeconomic policies are in place.

7.7. Weak macroeconomic conditions

Public resistance to subsidy reform is lower when economic **growth** is relatively high and inflation is low - although subsidy reform cannot always be postponed and is often required as part of efforts to constrain inflation and stimulate growth. Rising house hold incomes can help households better afford the increases in energy prices entailed by subsidy reform.

8. HOW TO ACHIEVE SUCCESSFUL SUBSIDY REFORM

Despite the challenges associated with reform, a number of countries have recently made significant progress in reforming subsidies for fossil fuels across a wide range of sectors. The IEA and the IMF have documented reforms undertaken in almost 30 countries in 2013 and 2014 (some of which were spurred by falling oil prices). Egypt raised fuel prices by 78% in 2014 and is doubling electricity prices over the next five years; Indonesia raised petrol and diesel prices by an average of 33% in 2013 and by another 34% in 2014; India eliminated diesel subsidies in October 2014 after incremental increases over the preceding two years; Iran raised petrol prices by 75% in April 2015; and Malaysia raised fuel prices by 10–20% in 2013 and again in 2014.156 This trend may accelerate if oil prices remain relatively low, which makes it easier to reform consumption subsidies, particularly in oil-importing countries.

The Asian Development Bank study demonstrates that over time, the new reality of higher-priced fossil fuels spurs users to **change behaviour** and switch to cheaper forms of energy, which encourages investment in clean energy and drives down its cost. In time, the initial exaggerated effects of more expensive fossil fuels are softened as the economy returns to a path of cleaner energy and sustainable fiscal positions.

While subsidy reform can yield significant fiscal space and additional government revenue, which are often far greater than the up-front costs of reform, these positive impacts are felt only after the reforms have been enacted. As a result most governments will need to mobilise resources to support many of the elements necessary for robust subsidy reform.

Below are some of the key elements that have accompanied successful subsidy reform.

8.1. Comprehensive approach

The role of energy in the economy justifies a **'whole of government'** approach to reform. Individual ministries seldom have access to all the tools required to mitigate the impacts of reform, support economic diversification, or the convening power to plan reform processes. Subsidy reforms are more likely to be successful and durable if they are embedded within a broader reform agenda. In particular, reforms should incorporate both a sustainable approach to energy pricing and a plan to improve the efficiency of energy consumption and supply. In Iran, the 2010 fuel subsidy reform incorporated clear objectives, compensating measures, and a timetable for reform, preceded by an extensive public relations campaign. In Namibia, the authorities undertook comprehensive planning, including broad consultation with civil society and a well-organised plan that involved the introduction of a fuel price adjustment mechanism and a targeted subsidy for those living in remote areas. A clear medium-term reform strategy backed by careful planning was also a major factor behind the successful electricity price liberalisation reforms in the Philippines and Turkey. In the Philippines and Turkey, full price liberalisation and structural reform of the energy sector, for both fuel and electricity, were articulated as the ultimate goals of reform. This contributed to the eventual success of reform because the public and governments were able to focus on and adhere to long-term goals, without being distracted by setbacks at intermediate stages.

8.2. Assessment of impact

Research should be undertaken before, during and after reform to support understanding of the scope and nature of fossil fuel subsidies, the policy objectives of existing subsidies, up-to-date information on the costs of energy services, key attributes of relevant institutions and decision-making processes, the potential domestic impacts of removing subsidies, and the groups that would be favoured or penalised as a result of reform. In Ghana, in 2005, the government commissioned an independent poverty and social impact analysis to assess the

winners and losers from fuel subsidies and subsidy removal. This was an important foundation for persuasively communicating the necessity for reform and for designing policies to reduce the impact of higher fuel prices on the poor. In Nigeria, by contrast, the National Assembly did not support the removal of the gasoline subsidy in 2011, claiming a lack of firm data underpinning the size and incidence of subsidies.

8.3. Communication and transparency

Any subsidy reform process should be supported by transparent and extensive **communication and consultation** with stakeholders, including the general public. There is strong evidence for the need for clear, open and honest information on the scale of subsidies, their costs and impacts, plans for reform, and complementary measures. There are several examples of how a failure to engage and communicate with stakeholders has significantly undermined reform efforts. A review of subsidy reform experiences found that the likelihood of success almost tripled with strong public support and proactive public communications[35]. The benefits of removing subsidies, including on a post-tax basis, should be underscored, in particular the scope for using part of the budgetary savings or additional revenues to finance high-priority spending on education, health, infrastructure, and social protection.

Information campaigns have underpinned the success of a number of countries, including fuel subsidy reforms in Ghana, Iran, Namibia, and the Philippines and electricity subsidy reforms in Armenia and Uganda. In Kenya, electricity tariff increases faced significant difficulties early in the reform process. These were overcome after intense negotiations with stakeholders, particularly with large consumers, and efforts to communicate the objectives and benefits of the reform. By contrast, in Indonesia, consultation with stakeholders had been inadequate in the run-up to the failed 2003 fuel subsidy reform. The widespread and sometimes violent opposition to that reform was partly motivated by the belief that the reform favoured powerful interest groups. The partial success of Indonesia's 2005 reform, as well as the reduced intensity of protests against it, has been credited by some to the government's decision to compensate poor house holds for the increase in their living costs by establishing welfare programs.

8.4. Institutional adequacy and reform

There may be a need to **create new institutions or strengthen existing ones** to support energy sector reform, the mobilisation of resources, and the deployment of the fiscal space created for wider public goods.

In Turkey, the long process of market privatisation in the petroleum industry had begun in 1990, but the full liberalisation of prices was not achieved until 2005. Regulation of the petroleum product market was achieved with the passage in 2003 of the Petroleum Market Law, which transferred regulatory authority from the government to the Energy Market Regulatory Authority, an independent agency that was already regulating the electricity and natural gas markets. In addition to helping institutionalise the market economy, the Petroleum Market Law put Turkey in compliance with EU legislation and other international obligations.

Improving the efficiency of SOEs can reduce the fiscal burden of the energy sector. Energy producers often receive substantial budgetary resources - in terms of both current and capital transfers - to compensate for inefficiencies in production and revenue collection. Improvements in efficiency can strengthen the financial position of these enterprises and

[35] IMF (2011). Regional Economic Outlook: Middle East and Central Asia. Available at: https://www.imf.org/external/pubs/ft/reo/2011/mcd/eng/pdf/mreo0411.pdf

reduce the need for such transfers. Governance of SOEs can be strengthened by improving the reporting of information on operations and costs. This can help identify system inefficiencies (e.g., overstaffing) and vulnerabilities (e.g., major loss points and bottlenecks in energy flows). Countries that have adopted information systems include Kenya, Uganda, and Zambia.

8.5. Complementary and mitigating measures

A key element of successful reform is the efficient and visible reallocation of resources to those groups most affected through **complementary measures**. These complementary measures can be developed through resources mobilised prior to reforms, and through the resources saved or generated by removing fuel subsidies. Although there are specific considerations for support to sectors, industries and firms, and to households and individuals, complementary measures should be designed and implemented in a manner that follows a set of basic principles that build on lessons from general good practice in policy reform.

Well-targeted measures to mitigate the impact of energy price increases on the poor are critical for building public support for subsidy reforms. The first step in this regard is to assess the capacity to expand existing (or implement new) social programs in the short term. Implementing or expanding targeted programs immediately prior to price reforms can help demonstrate the government's commitment to protecting the poor. Indonesia's unconditional cash transfer program, which covered 35 percent of the population, was an important component of its successful strategy in overcoming social and political opposition to fuel subsidy reforms. Its experience also suggests that such programs need good preparation and monitoring in order to effectively assist the poor. In the context of fuel subsidy reforms, targeted social spending programs were expanded to protect lower-income households from fuel price increases in Gabon, Ghana, Niger, Nigeria, and Mozambique. In Ghana, measures included the elimination of fees for state- run primary and secondary schools, a price ceiling on public- transport fares, increases in the minimum wage, purchases of additional public-transport buses, and funding for health care in poor areas. Ghana also increased its investment in electrification in rural areas. The Philippines maintained college scholarships for low- income students and subsidized loans to enable engines used in public transportation to be converted to less costly LPG; it also maintained electricity subsidies for indigent families.

8.6. Pace and timing

Although the temptation may be to undertake wholesale elimination of fossil fuel subsidies, where possible the best approach is to set ambitious goals, with slow, credible and specified **timeframes** for phasing out subsidies. This can include staggering the elimination of subsidies, and ideally should take place as part of broader sector or economy-wide reforms as part of a comprehensive approach.

Too sharp an increase in energy prices can generate intense opposition to reforms, as happened with fuel subsidy reforms in Mauritania in 2008 and Nigeria in 2012. A phased approach to reforms permits both households and enterprises time to adjust and permits the country time to build credibility by showing that subsidy savings are being put to good use. As noted earlier, it also helps reduce the impact of subsidy reform on inflation and creates room for governments to establish supporting social safety nets.

In Namibia, subsidies were removed steadily according to a three- year reform plan. In Brazil, the government pursued a step-by-step approach to reforming petroleum subsidies during the 1990s in order to minimize opposition from key interest groups. Despite initial sharp increases in prices, gradual adjustment of fuel prices was a key design feature of the reforms

introduced in Iran, where the plan was to eliminate petroleum subsidies over a five-year period. A gradual approach was also adopted by Kenya (electricity), where the authorities were able to progressively gain support for broader reform by delivering improved services.

In Brazil, for instance, petroleum product reforms started by liberalising prices for products used primarily by industry, followed by a more extensive liberalization of gasoline prices and, finally, of diesel prices. Reforms in Peru initially focused on lifting the subsidy of high-octane gasoline, which is used by luxury cars, allowing international price changes to be fully passed on to domestic prices. A year later, in 2012, the subsidy of regular gasoline was also removed. Peru's reform has been successful in reducing the fiscal cost of the subsidy without provoking widespread opposition.

9. EXAMPLES OF SUBSIDY REFORM IN THE EU

9.1. Poland

In the 1990s Poland started to transform its large and inefficient coal industry as part of a wider economic transition process. The government made several attempts to reform the sector with the aim of closing unprofitable mines, reducing employment levels to improve labour productivity, eliminating the sector's overcapacity, and to make the mining sector profitable, with the ultimate objective of privatising mining companies.[36]

Early attempts of reform showed only limited results in terms of reducing capacity, employment, and fiscal costs, mainly due to incomplete implementation of the reform agenda and resistance from unions to proposed wage cuts and reductions in employment. In addition, the government provided insufficient resources to finance mine closures and social programs. As a result, the sector's debt level almost tripled between 1990 and 1998.

Only the new hard coal reform program, started in 1998, resulted in an effective restructuring of the Polish coal mining industry. Coal mines in Poland could not become profitable until the coal market was liberalised and prices were able to adjust in line with international price fluctuations. The substantial reduction in employment and capacity allowed reducing production costs, and the debt coal reduction gave the industry the necessary financial freedom. Consequently, the sector has been profitable from 2003 onward, and a first privatisation took place in 2009.

The first mining sector reform attempts were not successful because they did not provide adequate support for the miners, who were most affected by the reforms and who had a strong lobby. The mitigating measures (the social program provided welfare benefits to dismissed workers while they transitioned into retirement or into new jobs, while the labour market program intended to redeploy especially younger coal workers elsewhere in the economy, including soft loans for the establishment of businesses and services) designed in cooperation with the unions and included in subsequent reform plans broke the resistance of the miners to the restructuring.

When Poland made the first attempt to reform the coal mining sector, the government did not demonstrate full commitment to implementing the reforms, and it did not provide adequate funding for social programs. As a consequence, the reforms dragged on, and the sector continued running deficits and accumulating debt. The reform would have been less costly if it had been fully implemented from the beginning. The assumption of social liabilities and accumulated debt, as well as substantial support for transition costs, allowed the industry to move toward profitability and to eventually be weaned from public support.

9.2. France

Like Poland, French coal reforms took many years and required significant in assistance to affected workers. France's deregulation of its coal sector required over 40 years to complete, starting in the 1960s, and requiring billions of euros from the French government to underwrite structural adjustment. It is not posited as an example of best practice, but it illustrates good principles for reforming producer subsidies.[37]

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[36] Clements, B. et al (eds) (2013). Energy Subsidy Reform: Lessons and Implications. IMF. Available at: http://www.imf.org/external/np/fad/subsidies/

[37] International Institute for Sustainable Development (2010). Strategies for reforming fossil fuel subsidies: practical lessons from Ghana, France and Senegal. Available at: https://www.iisd.org/gsi/sites/default/files/strategies_ffs.pdf

Coal was still a crucial source of energy at the start of the reform process and a dialogue was created from the outset among the government (through national, regional and local representations), the European Commission, the state authority and trade unions in order to minimize the impact on sectors directly or indirectly concerned. Most of the reforms resulted from these consultations.

Those likely to be negatively affected by reform were identified early in the process. The overarching concern of those implementing reform was to minimise adverse economic impacts on workers and their local communities. A long-term, gradual approach was taken that enabled the miners and the economy to adapt. In parallel, the government encouraged the diversification of energy sources so as to replace declining domestic coal supplies with other domestically produced electricity sources.

While compensation can help displaced workers as they search for new employment, the French example suggests that the principle can be taken too far. Assistance to working-age employees should provide them with skills and new employment opportunities, but be limited in time. Otherwise, payments run the risk of becoming long-term burdens on state finances. Such considerable expenditure may have been tolerated in France because it provided a form of regional assistance to depressed coal-mining communities.

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NOTES

CAT: QA-02-17-281-EN-C (paper)
CAT: QA-02-17-281-EN-N (pdf)

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ISBN 978-92-846-0750-1 (paper)
ISBN 978-92-846-0749-5 (pdf)

doi:10.2861/015612 (paper)
doi:10.2861/35393 (pdf)

Publications Office

Fossil fuel subsidies