



Trade Hot Topics

Assessing the Impact of Fossil Fuel Subsidy Reforms in Commonwealth Developing Countries

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1. Introduction

In 2021, the world spent more than US\$520 billion to subsidise fossil fuels.¹ This could have paid for COVID-19 vaccinations for every person in the world or provided three times the annual amount needed to eradicate poverty (Africa Renewal, 2021). By encouraging demand and excessive consumption of cheaper fossil fuels, these subsidies distort markets, shield people from price signals and contribute to several macroeconomic imbalances, including higher global inflation (Gilmour, 2022).

The negative economic, social and environmental effects of fuel subsidies are widely recognised and are particularly felt in developing countries. The billions of dollars spent on subsidising fossil fuels squeeze 'fiscal space', resulting in fewer resources for governments to invest and spend on other crucial policy areas such as education, healthcare and public infrastructure. It also diverts funds that could otherwise be spent on developing renewable energy capacity and supporting the transition to clean energy. It is estimated that phasing out these subsidies could create sufficient fiscal space to address the plight of the poorest 60 per cent of the world's population

(UNDP, 2021). They also contribute to wider social challenges, such as air and water pollution, and urban congestion. Subsidising energy acts as a boost for fossil fuels and continues to skew incentives in their favour, especially when there is an increasing focus on transitioning to clean energy. With the energy sector being the largest contributor to the climate crisis, accelerating the phasing-out of fossil fuel subsidies could lead to a 10 per cent reduction in energy sector emissions by 2030 (IEA, 2015).

While reforming fossil fuel subsidies, especially at the multilateral level, is necessary to achieve the goals of global sustainability and climate change mitigation, operationalising these reforms is difficult and challenging. It could lead to higher prices for consumers, especially in developing countries where people are already struggling to meet basic needs. The economic benefits of fuel subsidy reforms may not outweigh the potential costs, especially for vulnerable populations in developing countries. As such, reforming fossil fuel subsidies can be a difficult process, requiring a significant change in government policies and a delicate balance between economic, social and environmental considerations.

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1 Fossil Fuel Subsidy Tracker (www.fossilfuelsubsidytracker.org). This has been developed by the International Institute for Sustainable Development (IISD) by aggregating data from the Organisation for Economic Co-operation and Development (OECD), International Energy Agency (IEA) and International Monetary Fund (IMF).

Successfully reforming fossil fuel subsidies, therefore, requires wider economic policy reforms alongside systematic changes to climate and energy policies. This issue of *Trade Hot Topics* assesses the possible economic, social and environmental impacts of such reforms in Commonwealth developing countries, especially small states, least developed countries (LDCs) and countries in sub-Saharan Africa (SSA). Using data on explicit subsidies,² it highlights the need for Commonwealth developing countries to maximise their renewable energy potential. It also suggests measures that may be adopted to minimise any adverse impacts of the fossil fuel subsidy reforms.

2. Global overview of fossil fuel subsidies

Despite recent calls to phase out inefficient subsidies at the multilateral level, the quantum of subsidies targeted at fossil fuels reached a record high US\$1 trillion in 2022 (World Economic Forum, 2023). A contributing factor for this increase was the volatility of the energy market and extraordinarily high prices of fossil fuels due to the Russia–Ukraine conflict (IEA, 2023). However, global trends demonstrate that fossil fuel subsidies were largely on the rise even before the current crisis, except in 2020 where low demand during the COVID-19 pandemic reduced fossil fuel consumption (Figure 1). Most of these subsidies were in emerging markets and developing economies (Ibid.).

The persistent increase in targeted fossil fuel subsidies, especially in developing countries, is due to several factors. Fuel subsidies arise because domestic consumer prices for fuel are directly

controlled by governments and are only adjusted on an *ad hoc* basis to protect consumers from high and volatile fuel prices (Coady et al., 2015). Removing these subsidies raises concerns over the possible harmful impacts on the poor and vulnerable caused by rising prices and inflation, which can trigger secondary effects, including food insecurity and political instability.

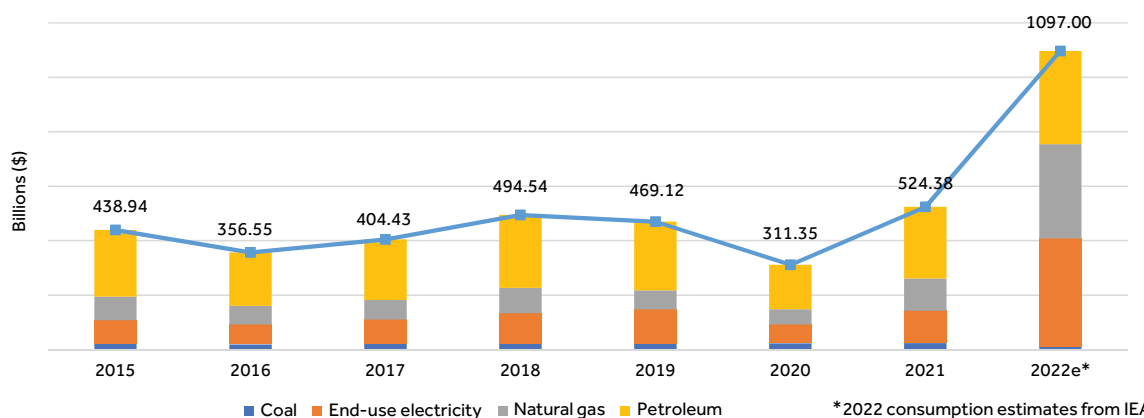
Reforming fossil fuel subsidies, therefore, is typically perceived negatively by the public and can cause widespread civil unrest. For example, the ‘*gilets jaunes*’ (Yellow Vest Movement) led large protests in France against proposed carbon taxes on transportation fuel in 2018, ultimately resulting in a roll-back by the government (Al Jazeera, 2018). More recently, in 2022, there were violent protests in Kazakhstan after the government announced a fuel price hike to reduce public subsidies (Reuters, 2022).

In countries with weaker governance institutions, there is a lack of confidence in the government’s use of the additional fiscal resources from abolishing subsidies. This, coupled with the strong political and lobbying power of the fossil fuel sector and weak institutions to better target subsidies, contributes to governments’ reluctance to phase out fossil fuel subsidies (Allianz Research, 2021).

3. Fossil fuel subsidies in the Commonwealth

Following the global trend, fossil fuel subsidies provided by Commonwealth countries have largely been on the rise, except for a sharp dip in 2020 (Figure 2). The increase in subsidies is evident

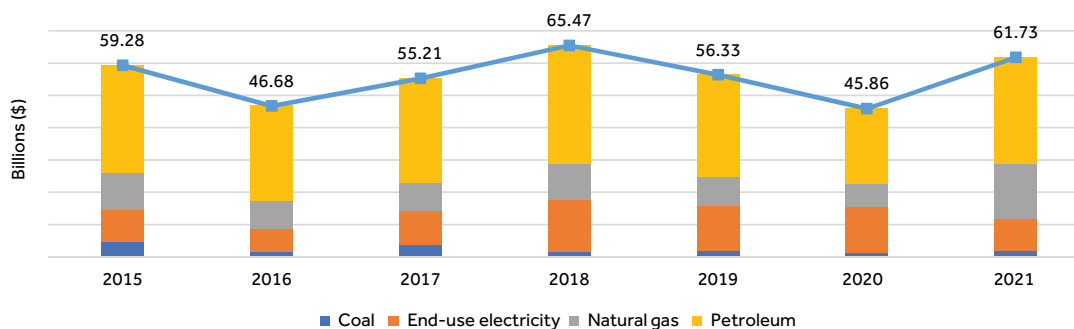
Figure 1. Global levels of fossil fuel subsidies (2015–22) (US\$ billions)



Source: Authors’ calculations using www.fossilfuelsubsidytracker.org, developed by IISD by aggregating data from IMF, IEA and OECD.

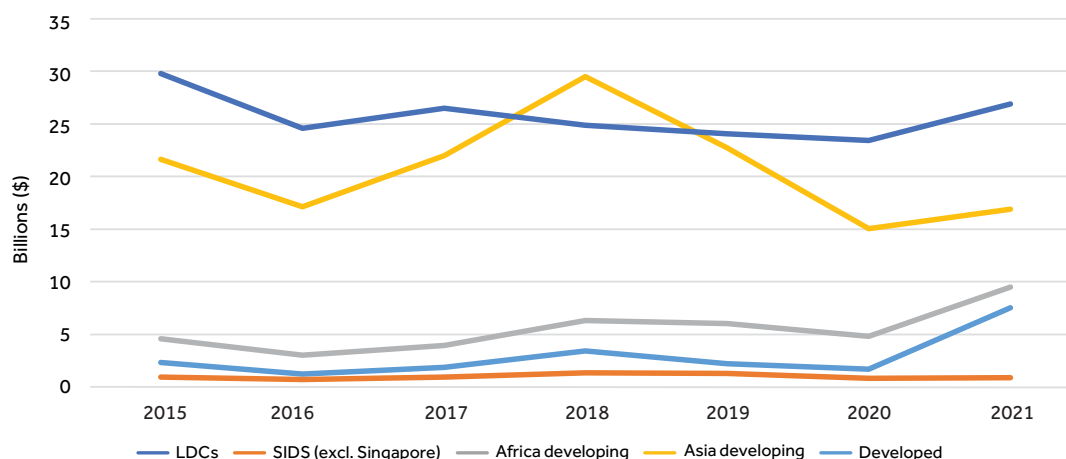
2 According to the International Monetary Fund (IMF), explicit subsidies occur where the retail price of a fuel is lower than its supply cost. The IMF does not discuss implicit subsidies; that is, when the retail price fails to include external costs and/or there are preferential consumption tax rates on energy.

Figure 2. Commonwealth fossil fuel subsidies (2015–21) (US\$ billions)



Source: Authors' calculations using www.fossilfuelsubsidytracker.org

Figure 3. Commonwealth fossil fuel subsidies by development level and region (2015–21) (US\$ billions)⁴



Source: Authors' calculations using www.fossilfuelsubsidytracker.org

across all regions of the Commonwealth (Figure 3). In 2021, Commonwealth fossil fuel subsidies amounted to about 11 per cent of global fossil fuel subsidies, the majority of which were petroleum subsidies (which accounted for more than half of total Commonwealth fossil fuel subsidies).³

Fossil fuel subsidies are provided by member countries at different stages of production and consumption. They can be provided for production (for gaining access to reserves, transportation and storage, refining, and electricity transmission and generation); for consumption (to support the use of fossil fuels in power and heat generation, and consumption in industry, the public sector and households); or general services (for example, policy measures that create enabling conditions for the fossil fuel sector through the development of institutions and infrastructure) (Baršauskaitė, 2022). Between 2019 and 2021, an average of about 85 per cent of fossil fuel subsidies provided by Commonwealth countries were consumer subsidies, while more than half were in the form of tax expenditures and concessions (Figure 4).

In 2021, the amount of fossil fuel subsidies provided by Commonwealth countries amounted to 0.45 per cent of total Commonwealth gross domestic product (GDP).⁵ Seven out of the top ten providers of fossil fuel subsidies in the Commonwealth between 2019 and 2021 were developing and least developed countries (Table 1). Transitioning to a fossil fuel-free society, therefore, is a huge challenge in many developing countries, where increased fuel prices risk hitting the most vulnerable the hardest (Harring, 2023).

4. The possible impact of fossil fuel subsidy reform

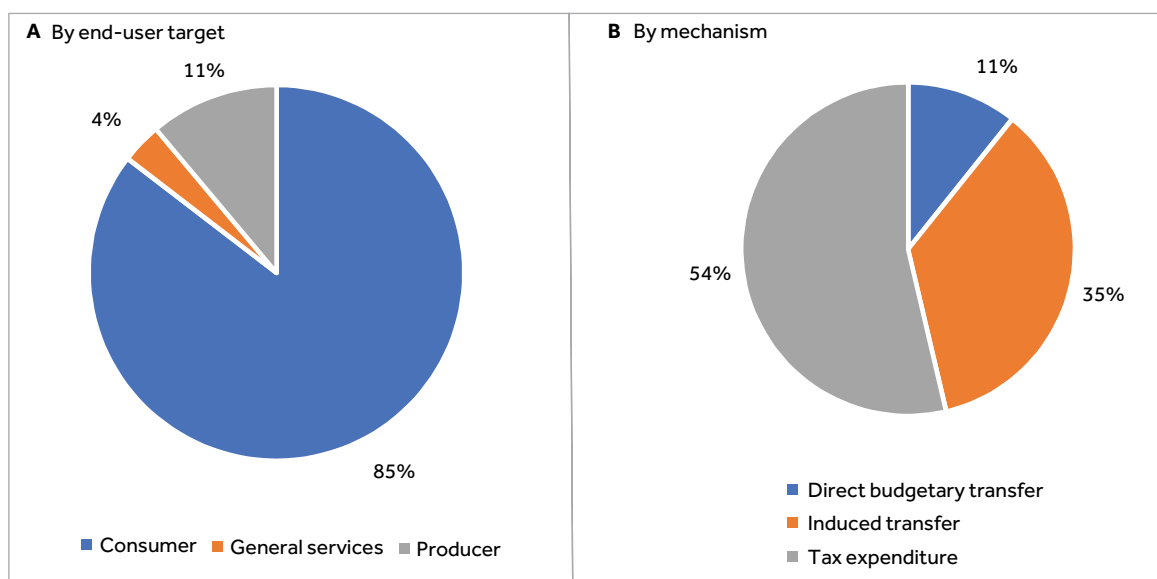
Removing or reducing fossil fuel subsidies is necessary since they distort markets, send the wrong price signals to users, widen fiscal deficits in developing countries and discourage the transition to renewable energy (IEA, n.d.). However, undertaking these reforms can also lead to potentially negative consequences in one area while making improvements in another (such as reducing emissions but contributing to job losses

3 Authors' calculations using www.fossilfuelsubsidytracker.org

4 See Annex for country-specific data. For the purpose of this figure, Singapore has been included in the category of Asian developing countries.

5 Calculated by the Commonwealth Secretariat.

Figure 4. Composition of fossil fuel subsidies in Commonwealth countries (2019–21 average)



Source: Authors' calculations using www.fossilfuelsubsidytracker.org, developed by IISD by aggregating data from IMF, IEA, OECD.

Table 1. Top ten Commonwealth countries providing fossil fuel subsidies (2019–21 average) (US\$ billions)

Commonwealth country	Coal	End-use electricity	Natural gas	Petroleum	Total	Percentage of average GDP
United Kingdom	0.75	0.63	5.50	6.79	13.67	0.45
Singapore	0.00	8.15	0.00	0.00	8.15	2.38
Australia	0.00	1.15	0.15	6.67	7.98	0.58
India	0.09	0.00	0.07	6.59	6.75	0.25
South Africa	0.81	0.80	0.00	2.35	3.95	1.25
Pakistan	0.00	0.99	2.54	0.28	3.81	1.18
Bangladesh	0.00	2.17	1.43	0.01	3.61	1.31
Canada	0.01	0.11	1.18	1.81	3.12	0.19
Nigeria	0.00	0.04	0.03	2.44	2.51	0.49
Malaysia	0.00	0.00	0.00	1.51	1.51	0.43

Source: Authors' calculations using www.fossilfuelsubsidytracker.org

in the fossil fuel sector). Other potential impacts include inflation and high energy prices, changes or reductions in access to energy, and potentially exacerbating poverty levels for low-income households (IISD, 2017).

4.1 Economic impacts

Fiscal pressures associated with fossil fuel subsidies are a fundamental driver for reforms in many middle- and low-income countries (Saddikki and Chaouti, 2022). These subsidies affect markets across the fossil fuel value chain and impose significant strain on government budgets. Combined with government spending on subsidies, other economic impacts include the weakening of competitiveness in the energy

sector by encouraging capital-intensive industries, depressing investment, as well as incentivising smuggling of fuels (Clements, et al., 2013). At the same time, however, the removal of these subsidies can lead to fuel price increases that place pressure on governments to not only put in place social cushioning and protection measures, but also to closely monitor the fossil fuel supply chain and crack down on smuggling and hoarding of fuels (Amnesty International, 2023).

Reforming fossil fuel subsidies could, therefore, have large negative impacts on economic growth and employment, especially in developing countries where fossil fuel production and fossil fuel-intensive industries contribute significantly to their export share. There are several ways

that businesses may respond to the rise in fossil fuel prices caused by a removal or reduction of subsidies, which can be either positive or negative. Positive impacts could include absorption of rising costs into profits without a shift in pricing schemes, demand or employment, if they have the capacity to do so, and the adoption of material efficiency improvements and technological processes through fuel switching or reducing the energy-intensity of production (OECD/IEA, 2021). Alternatively, businesses may pass the excess cost to end-consumers, which would adversely affect household income, or it may reduce energy consumption, output and employment, potentially resulting in more significant economic losses (Ibid.).

4.2 Social impacts

According to a 2021 study on global mortality and fossil fuel consumption, pollution from fossil fuels caused about 8.7 million deaths a year, nearly one in five of all deaths globally (Vohra, et al., 2021). Households, particularly women, are especially vulnerable, since they are responsible for cooking in most developing countries. In Bangladesh, for instance, households are primarily dependant on kerosene for lighting purposes. Subsidising kerosene increases its usage, creates indoor air pollution, and can cause serious health and safety impacts (IISD, 2020). Diverting resources previously earmarked for fossil fuel subsidies towards renewable energy investment can help address some of these issues by reducing overall reliance on fossil fuels.

Repurposing fossil fuel subsidies also provides governments with the necessary fiscal space to target social protection programmes to ensure that economically disadvantaged groups are not disproportionately affected. However, as previously stated, undertaking reforms can be extremely contentious, given their socio-political sensitivities. Access to cheap energy is crucial for household welfare, particularly for poorer families, and higher fuel costs would reduce households' disposable income and potentially exacerbate existing poverty levels (UNDP, 2021). Households are directly impacted by higher prices of fuels consumed for cooking, lighting, heating and personal transportation (Box 1). They are also impacted by higher prices for goods and services, reflecting increased production costs and consumer prices (Coady et al., 2015).

It, therefore, becomes essential for governments to conduct a welfare analysis on the impact of fossil fuel subsidy reforms on households and gauge the level of compensation required to maintain the same level of expenditure before the reform. These compensation options could be in the form of targeted cash transfers to poor households, social security payments and tax reforms, and programmes to increase employment (UNDP, 2021).

4.3 Environmental impacts

The energy sector accounts for 73 per cent of global human greenhouse gas emissions (Africa Renewal, 2021). The IMF predicts that reducing

Box 1: India's subsidies on liquefied petroleum gas (LPG)

Rural households in India typically use traditional cooking fuels such as firewood, coal and cow-dung cakes. In order to boost the use of clean cooking fuels, India has been increasing LPG access to its citizens since the early 2000s. In 2016, to boost access for poor households, the government launched the Pradhan Mantri Ujwala Yojana (PMUY) Scheme. Through PMUY, oil marketing companies in India provide subsidies to lower the costs of LPG connections and cylinders for adult women in households that live below the poverty line (BPL). As of March 2023, the scheme had nearly 96 million beneficiaries, with its success being attributed to its targeting and financing.

Enrolment in PMUY is limited to BPL households. All beneficiaries are issued biometric ID cards that must be linked to a bank account to minimise fraud. The oil marketing companies also offer loans to households to help pay connection costs that are not covered by the subsidy. Further, beneficiaries pay fully for cylinders upfront and receive the subsidy as a rebate, which is directly deposited into their bank account.

Although scheduled to end in 2023, the government has decided to extend subsidy provision to the end of 2023–24, citing the sharp increase in international prices of LPG.

Sources: WHO, 2022; Mint, 2023.

subsidies and raising fuel prices to their fully efficient level to their actual market price would decrease projected global fossil fuel CO₂ emissions to 36 per cent below baseline levels in 2025. This would be in line with the 2030 Paris climate goals of containing global warming to 1.5 to 2°C (IMF, 2022). The main push for fossil fuel subsidy reforms is, therefore, to disincentivise fossil fuel production and consumption, which would have a direct impact on mitigating climate change.

The environmental impacts of multilateral fossil fuel subsidy reforms on developing countries are generally positive. Reforms can lead to reduced emissions of greenhouse gases and other pollutants, which can help to mitigate climate change. In addition, reforms can promote energy efficiency and the development of renewable energy sources, which can help to reduce air pollution and improve air quality. Recognising the role of fossil fuels in exacerbating the climate emergency and the extensive loss and damage suffered by Pacific Islands through climate-related disasters, these countries adopted an outcome resolution to guide Pacific Islands to transition away from fossil fuel usage (Box 2).

Mere fossil fuel subsidy reforms, however, are insufficient on their own and must be accompanied by complementary incentives, including reallocation of subsidies towards renewable energy production and promotion. For example, research in Saint Lucia analysed the possible impact of a gradual phasing-out of price caps on petrol and diesel, along with the reallocation of this added revenue to renewable energy investment, energy efficiency and compensation to low-income households over ten years. It found that Saint Lucia's total national energy bill would reduce by 3.5 per cent, its GDP would increase by 1.9 per cent, and its total CO₂ emissions would decrease by 16.4 per cent (GGGI, 2021).

Implementing complementary energy and climate policies is key to enable a switch towards sustainable electricity, access to cleaner and sustainable fuels, and investment for renewable energy infrastructure (Skovgaard and van Asselt, 2018). This is necessary to prevent negative impacts of the reform and dissuade the switch to non-renewable and traditional forms of energy. In Ghana, for instance, researchers found that a 50 per cent price increase in LPG and a 20 per cent increase for diesel boosted

Box 2: Just transition to a 'fossil fuel-free' Pacific

In March 2023, Tonga, Fiji Islands, Niue, the Solomon Islands, Tuvalu and Vanuatu met in Port Vila, Vanuatu, and committed to creating a 'fossil fuel-free Pacific'. They called for an unqualified phase-out of coal, oil and gas, in line with the goal of limiting global temperature increases to 1.5°C. This commitment came in the wake of Vanuatu being struck by two severe cyclones and an earthquake in 48 hours, and in recognition of the role of fossil fuels in exacerbating climate change and its impacts on Pacific Island states. The countries adopted an outcome resolution to guide Pacific Island states to transition away from fossil fuel usage. Some highlights of the outcome include:

- adopting a Pacific Island Forum Leaders Declaration for a 'Just Transition to a Fossil Fuel Free Pacific' and avoiding the usage of terminology such as 'unabated' and 'inefficient' that creates loopholes for fossil fuel producers;
- joining the Beyond Oil and Gas Alliance and urging major producers to join;
- calling for a Fossil Fuel Non-Proliferation Treaty to end fossil fuel expansion;
- committing to transparency and disclosure of fossil fuel investment and projects through the Extractive Industries Transparency Initiative and Global Registry of Fossil Fuels;
- referencing fossil fuel phase-out explicitly in Nationally Determined Contributions (NDCs) and scaling up deployment of renewable energy and energy-efficient technology;
- calling for international partners to mobilise funds to ensure a just transition and build resilience in the Pacific; and
- calling for the International Maritime Organization to adopt legally binding obligations to establish a greenhouse gas emissions levy to facilitate a transition to carbon-free maritime shipping.

To further drive these outcomes, the countries established a Pacific Energy Commissioner, supported by leading technical experts, and a regional taskforce to be formalised by the Pacific Island Forum leaders in October 2023.

Source: Fossil Fuel Non-Proliferation Treaty, 2023.

consumption of charcoal by 17 per cent in urban households (Greve and Lay, 2023).

Fossil fuel subsidy reforms also need to be undertaken with care to avoid any negative energy access impacts. Repurposing subsidies to support households with respect to upfront costs for energy access, such as for a grid connection fee or equipment for clean cooking like a gas cooker and cylinder, can increase uptake of modern energy technologies and ensure energy access for low-income households (IISD, 2018). For example, India implemented an LPG subsidy scheme in 2016 that allowed poor households to transition away from solid biomass fuels, resulting in nearly 96 million LPG connections (Box 1).

5. Fossil fuel subsidy reform at the World Trade Organization (WTO)

In 2010, a group of WTO members set up an informal group called the Friends of Fossil Fuel Subsidy Reform, which intended to build political consensus on the significance of such reform. Recognising the negative socio-economic and environmental impacts of fossil fuel subsidies, New Zealand, along with 48 other WTO members as co-sponsors, launched the Fossil Fuel Subsidy Reform (FFSR) Initiative at the WTO in December 2021. The aim of the initiative is to rationalise and phase out inefficient fossil fuel subsidies that encourage wasteful consumption. Four Commonwealth developing countries, namely Fiji, Samoa, Tonga, and Vanuatu are co-sponsors of the FFSR initiative at the WTO. The FFSR initiative is intended to be a part of other broad multilateral discussions regarding the phasing out of fossil fuel subsidies, including UN Sustainable Development Goal (SDG) 12c, the UN Framework Convention on Climate Change (UNFCCC) Paris Agreement, the Asia-Pacific Economic Co-operation, and the Addis Ababa Action Agenda on Financing for Development. In their Ministerial Statement at the 12th WTO Ministerial Conference (MC12), members pledged to take into account the specific needs and conditions of developing countries and minimise any possible adverse impacts on their development to ensure that poor and affected communities are protected (WTO, 2020). They also adopted a new work plan that set up a forum to take stock of international efforts on fossil fuel subsidy reforms, to consider the developmental and social aspects of the reforms, and to take next steps towards the 13th WTO Ministerial Conference (MC13) (Ibid.).

6. Potential for Commonwealth developing countries to develop renewable energy

One option to reduce fossil fuel subsidies is to switch towards renewable energy. Commonwealth developing countries have the potential to develop renewable energy and transition away from fossil fuels. Renewable energy resource endowments in Commonwealth countries vary depending on their geographical location, climate conditions and natural resources. Some countries, especially small island developing states (SIDS), have the potential to develop different types of renewable energy depending on their resource endowment (Zhuawu et al., forthcoming). All Commonwealth developing countries have the potential to develop solar energy.

However, these countries' installed generation capacity shows that they are not fully utilising their existing resource endowments, as they have limited capacities to produce different types of renewable energy (Table 2). Over the past decade (2012–21), most Commonwealth developing countries' installed generation capacity for bioenergy, solar, wind, hydro and other renewables remained negligible compared to the global average of installed generation capacity. Their individual installed generation capacities in these types of renewable energy are well below world averages.

Instead, these countries have relied on fossil fuel energy over the last decade (Table 3). Most Commonwealth developing countries' electricity generation was derived from other fossil-based sources, including oil and petroleum products, as well as manufactured gases and waste, with The Bahamas, The Gambia, Grenada, Kiribati, Nauru, Saint Lucia and the Solomon Islands generating 100 per cent of their electricity from these sources. Only Malaysia (1.5 per cent), Namibia (1 per cent), Nigeria (0.4 per cent), South Africa (0.9 per cent), Trinidad and Tobago (1.1 per cent), and Zambia (3 per cent) generated shares of their electricity from other fossil-based sources that were below the world average of 3.9 per cent. Other countries such as Botswana (77.4 per cent), India (74.6 per cent), Malaysia (42.9 per cent) and South Africa (89.4 per cent) generated greater shares of electricity from coal than the global average of 38.2 per cent. Much of Commonwealth developing countries' clean energy was produced in the form of hydroelectricity, which in 24 member countries accounted for higher shares of total energy generation than the global average of 16.2 per cent. Encouragingly, countries

Table 2. Installed generation capacity (GW) (2012–21 average)

Country	Bioenergy	Coal	Gas	Hydro	Nuclear	Other fossil	Other renewables	Solar	Wind
World	95.51	1,986.98	1,613.44	1,126.87	393.18	373.29	20.55	401.15	505.47
Antigua and Barbuda	–	–	–	–	–	0.08	–	0	0
Bahamas, The	–	–	–	–	–	0.76	–	0	–
Bangladesh	0.01	0.62	7.05	0.23	–	2.55	–	0.21	0
Barbados	–	–	–	–	–	0.24	–	0.02	0
Belize	0.04	–	–	0.05	–	0.09	–	0	0
Botswana	–	0.64	–	–	–	0.16	–	0	–
Brunei Darussalam	–	0.07	0.18	–	–	0.01	–	0	–
Cameroon	–	–	–	0.75	–	0.39	–	0.01	–
Dominica	–	–	–	0.01	–	0.02	–	0	0
Eswatini	0.11	–	–	0.06	–	0.01	–	0	–
Fiji	0.05	–	–	0.14	–	0.15	–	0.01	0.01
Gabon	0	–	–	0.31	–	0.09	–	0	–
Gambia, The	–	–	–	–	–	0.094	–	0	0
Ghana	0.01	–	1.93	1.54	–	0.75	–	0.04	0
Grenada	–	–	–	–	–	0.051	–	0	0
Guyana	0.04	–	–	0	–	0.3	–	0	0
India	7.69	198.97	24.56	43.17	6.08	13.68	–	19.2	29.63
Jamaica	0.03	–	0.16	0.03	–	0.59	–	0.04	0.08
Kenya	0.08	–	–	0.84	–	0.74	0.58	0.08	0.16
Kiribati	–	–	–	–	–	0.01	–	0	–
Lesotho	–	–	–	0.07	–	0	–	0	–
Malawi	0.02	–	–	0.37	–	0.08	–	0.04	–
Malaysia	1.05	10.26	12.9	5.55	–	0.45	–	0.61	–
Maldives	–	–	–	–	–	0.31	0	0.01	0

Continued

Mauritius	0.09	0.19	-	0.06	-	0.41	-	0.05	0.01
Mozambique	0.01	-	0.1	2.19	-	0.11	-	0.03	-
Namibia	0	0.12	-	0.34	-	0.07	-	0.07	0.01
Nauru	-	-	-	-	-	0.02	-	0	-
Nigeria	0.01	0.28	9.81	2.11	-	0.01	-	0.02	-
Pakistan	0.36	2.18	13.52	8.29	1.08	4.85	-	0.52	-
Papua New Guinea	0.02	-	-	0.25	-	0.64	0.05	0	-
Rwanda	0	-	-	0.09	-	0.06	-	0.016	-
St Kitts and Nevis	-	-	-	-	-	0.06	-	0	0
Saint Lucia	0	-	-	-	-	0.09	-	0	-
St Vincent and the Grenadines	-	-	-	0.01	-	0.04	-	0	-
Samoa	0	-	-	0.01	-	0.03	-	0.01	-
Seyschelles	-	-	-	-	-	0.1	-	0	0.01
Sierra Leone	0.02	-	-	0.06	-	0.09	-	0	-
Solomon Islands	0	-	-	0	-	0.05	-	0	-
South Africa	0.26	41.57	0.28	0.75	1.94	2.43	-	3.04	1.51
Sri Lanka	0.03	0.78	0.03	1.73	-	1.23	0	0.2	0.14
Tanzania	0.07	-	0.1	0.58	-	0.36	-	0.01	0
Togo	-	-	0.01	0.07	-	0.15	-	0.01	-
Tongo	-	-	-	-	-	0.02	-	0.01	0
Trinidad and Tobago	0	-	1.9	-	-	0.02	-	0	0
Uganda	0.07	-	-	0.78	-	0.12	-	0.05	-
Vanuatu	0	-	-	0	-	0.02	-	0	0
Zambia	0.04	0.2	-	2.34	-	0.15	-	0.03	-

Source: IRENA Stat & Ember-Climat.e.org

Table 3. Various sources of electricity generation as a percentage of total generation (2012–21 average)

Country	Bioenergy	Coal	Gas	Hydro	Nuclear	Other fossil	Other renewables	Solar	Wind
World	2	38.2	22.8	16.2	10.4	3.9	0.34	1.8	4.3
Antigua and Barbuda	0	0	0	0	0	97.6	0	2.4	0
Bahamas, The	0	0	0	0	0	100	0	0	0
Bangladesh	0	5.2	66.1	1.4	0	26.9	0	0.4	0
Barbados	0	0	0	0	0	97.2	0	2.8	0
Belize	16.1	0	0	37.4	0	46.1	0	0.4	0
Botswana	0	77.4	0	0	0	22.5	0	0.2	0
Brunei Darussalam	0	14.9	78.8	0	0	6.4	0	0	0
Cameroon	0	0	0	64.9	0	34.9	0	0.2	0
Dominica	0	0	0	29.8	0	70.2	0	0	0
Eswatini	62.2	0	0	31.9	0	5.9	0	0	0
Fiji	12	0	0	50.7	0	36.6	0	0.6	0.2
Gabon	0.6	0	0	43.2	0	56.1	0	0	0
Gambia, The	0	0	0	0	0	100	0	0	0
Ghana	0.2	0	35.4	49.9	0	14.2	0	0.2	0
Grenada	0	0	0	0	0	100	0	0	0
Guyana	13.4	0	0	0	0	86.3	0	0.3	0
India	1.9	74.6	5.2	10	2.8	0.6	0	1.7	3.3
Jamaica	4	0	14.5	3.5	0	71.8	0	1.1	5.1
Kenya	1.6	0	0	37.2	0	16.5	39.7	0.6	4.3
Kiribati	0	0	0	0	0	100	0	0	0
Lesotho	0	0	0	100	0	0	0	0	0
Malawi	23	0	0	83.7	0	9.2	0	4.1	0
Malaysia	0.7	42.9	41.9	12.7	0	1.5	0	0.3	0
Maldives	0	0	0	0	0	96.8	0	3.2	0

Continued

Mauritius	11	24.8	0	3.4	0	58.3	0	2.1	0.3
Mozambique	1.1	0	4.6	86.4	0	7.91	0	0.1	0
Namibia	0	1.9	0	86.3	0	1	0	10.2	0.5
Nauru	0	0	0	0	0	100	0	0	0
Nigeria	0.1	2.2	74.9	22.6	0	0.14	0	0.1	0
Pakistan	1.2	5.6	42.4	27.3	5.9	15.8	0	0.5	1.3
Papua New Guinea	1.9	0	0	21.3	0	67.3	9.5	0	0
Rwanda	0	0	0	44.2	0	51.5	0	4.1	0
St Kitts and Nevis	0	0	0	0	0	95.7	0	0	4.3
Saint Lucia	0	0	0	0	0	100	0	0	0
St Vincent and the Grenadines	0	0	0	16.7		83.3	0	0	0
Samoa	0	0	0	25.6	0	65.6	0	8.7	0
Seyschelles	0	0	0	0	0	95.5	0	2.8	1.7
Sierra Leone	0	0	0	69.8	0	21.9	0	2.2	0
Solomon Islands	0	0	0	0	0	100	0	0	0
South Africa	0.2	89.4	0.5	0.4	5.6	0.9	0	1.4	1.7
Sri Lanka	0.8	22.4	0.8	36.4	0	36.1	0	1.2	2.2
Tanzania	9	0	9.5	34.1	0	46.9	0	0.5	0
Togo	0	0	2.2	38.9	0	58.1	0	0.8	0
Tonga	0	0	0	0	0	92.8	0	7.2	0
Trinidad and Tobago	0	0	98.8	0	0	1.1	0	0.1	0
Uganda	3.5	0	0	87.2	0	7.5	0	1.8	0
Vanuatu	14.8	0	0	0	0	73.8	0	5.7	5.7
Zambia	0.7	4.3	0	91.7	0	3	0	0.3	0

Source: IRENA Stat & Ember-Climat.e.org

such as Antigua and Barbuda, Barbados, Malawi, Maldives, Mauritius, Namibia, Rwanda, Samoa, Seychelles, Sierra Leone, Tonga, and Vanuatu generated electricity from solar energy that was above the global average of 1.8 per cent of total energy generation.

7. Challenges to developing renewable energy

Commonwealth developing countries face several challenges that limit their capacity to expand the generation of renewable energy. Most of them lack the financial resources to invest in renewable energy projects, especially given that the technologies for generating renewable energy require significant upfront investment. This makes it difficult for governments or private sectors to take on the financial risk (Braeckman et al., 2022). The limited resources for investment are further constrained in some countries that commit more money to support coal, oil and gas energy than clean forms of energy (Dufour et al., 2021; IISD, 2021). In addition, many countries have traditionally not been able to attract new investment in the energy sector and face significant challenges attracting investment in renewable energy, in part due to a lack of supportive policies for foreign direct investment (FDI) (Mai, 2023). In most instances, these countries lack adequate policies and regulations. This not only deters investment in renewable energy, but also does not provide a suitably stable and supportive policy and incentive framework for renewable energy development. In some countries, fossil fuel subsidies distort energy markets and make renewable energy less competitive against artificially low energy prices for fossil fuel-based alternatives (Monkelbaan and Steenblik, 2021; Bertheau et al., 2015).

As mentioned above, developing countries, including Commonwealth members, also lack the infrastructure to support renewable energy projects, such as grid connections and energy storage facilities. This can make it challenging to integrate renewable energy sources into existing grids. The problem is also compounded by the lack of technical know-how in increasing grid flexibility (Huang et al., 2019). The issue of technical know-how goes beyond expertise to integrate renewable energy into the existing grid to also include limited access to cutting edge renewable

energy technologies and expertise (Platonova, 2013). As a result, most developing countries rely on imported renewable energy technologies, which besides leading to dependency on other countries, also stifles local manufacturing capacity and discourages the development of local energy storage technologies. In addition, environmental concerns⁶ can arise when considering large-scale deployment of certain renewable technologies. In some cases, social and cultural factors might impede the adoption of renewable energy technologies, especially in rural areas where traditional energy practices thrive.

8. Way forward

What emerges from the above discussion is that multilateral fossil fuel subsidy reforms can have both positive and negative impacts on developing countries. As such, it is important to consider both the potential benefits and risks of reform to ensure that any reforms do not negatively affect vulnerable populations.

It is, therefore, essential to align fossil fuel subsidy reforms with sustainable development by evaluating the economic, social and environmental impacts of the reforms and adopting measures to counterbalance any negative effects. Reforms must support economic development, job creation and environmental sustainability, as well as the transition to clean energy. This requires directing investment and transferring technologies to developing countries to help them build capacity to generate clean energy using their existing resource endowments. Linked to this, is the need for developing countries to incentivise investment in clean energy and ensure that it is affordable and accessible to consumers, to ensure that they do not continue to rely on, or move to, unsustainable energy sources.

In addition, addressing the challenges faced by countries in transitioning to renewable energy requires a multifaceted approach, involving several actors. As such, discussions on fossil fuel subsidy reforms must involve several stakeholders such as investors, energy consumers, the government, inter-governmental organisations and civil society to ensure that the reforms maximise positive gains and minimise potential negative effects. Stakeholder engagement will also

6 Examples of environmental concerns include wildlife impact, water pollution, soil disturbances, land use and habitat disruption, sustainable amounts of water usage, electromagnetic interference etc.

enhance inclusivity in mobilising investment in renewable energy and in developing supportive policy measures to counterbalance the potentially adverse effects of reforms. In this regard, inter-governmental organisations such as the WTO and the UN can play a crucial role in supporting and promoting an inclusive transition to clean energy, while also supporting developing countries to embark on green growth paths for sustainable economic growth. In turn, to maximise their renewable energy potential, developing countries need to create stable and supportive policy frameworks for renewable energy development.

References

- Africa Renewal (2021) 'UNDP: More spent on fossil fuel subsidies than fighting poverty'. Available at: www.un.org/africarenewal/magazine/november-2021/undp-more-spent-fossil-fuel-subsidies-fighting-poverty
- Al Jazeera (2018) 'The "yellow vest" movement explained'. Available at: www.aljazeera.com/news/2018/12/4/the-yellow-vest-movement-explained
- Allianz Research (2021) 'Abolishing fuel subsidies in a green and just transition', 20 May. Available at: www.allianz.com/content/dam/onemarketing/azcom/Allianz_com/economic-research/publications/specials/en/2021/may/2021_05_19_Fossil_Subsidies.pdf
- Amnesty International (2023) 'Nigeria: Removal of fuel subsidy must not exacerbate poverty'. Available at: www.amnesty.org/en/latest/news/2023/06/nigeria-remove-fuel-subsidy-exacerbate-po/
- Baršauskaitė, I. (2022) *Background Note on Fossil Fuel Subsidy Reform*. IISD, Global Subsidies Initiative. Available at: www.iisd.org/system/files/2022-08/background-note-fossil-fuel-subsidy-reform.pdf
- Bertheau, P., C. Cader, H. Huyskens and P. Blechinger (2015) 'The Influence of Diesel Fuel Subsidies and Taxes on the Potential for Solar-powered Hybrid Systems in Africa', *Resources*, 3(4): 673–691.
- Braeckman, J.P., S. Markkanem and N. Seega (2022) 'Financiers' Perceptions of Risk in Relation to Large Hydropower Projects', *Environmental Research Infrastructure, Sustainability*, 1(2). Available at: <https://scite.ai/reports/financiers-perceptions-of-risk-in-YZ55mOLz>
- Clements, B., D. Coady, S. Fabrizio, S. Gupta, T. Alleyne and C. Sdrlevich (eds.) (2013) 'Energy subsidy reform: lessons and implications', 13 September 2013, Washington DC: International Monetary Fund.
- Coady, D., V. Flamini and L. Sears (2015) 'The Unequal Benefits of Fuel Subsidies Revisited: Evidence for Developing Countries', IMF Working Paper WP/15/250, November 2015, Washington DC: International Monetary Fund.
- Dufour, L., T. Moerenhout, A. Picciariello and E. Beedell (2021) 'Cleaning up their act? G7 fossil fuel Investments in a time of green recovery'. Available at: <https://learn.tearfund.org/resources/policy-reports/cleaning-up-their-act>
- Fossil Fuel Non-Proliferation Treaty (2023) 'Block of 6 Pacific countries commit to spearhead global fossil fuel phase-out effort'. Press Release, 17 March. Available at: <https://fossilfuel treaty.org/fossil-free-pacific>
- GGGI (Global Green Growth Institute) (2021) Fossil Fuel Subsidy and Taxation Reform Scenarios Modelling for Saint Lucia. Seoul, Republic of Korea: GGGI. Available at: <https://gggi.org/report/fossil-fuel-subsidy-and-taxation-reform-scenarios-modelling-for-saint-lucia/>
- Gilmour, A. (2022) 'Fossil fuel subsidies are not the answer to the energy crisis'. London: ODI. Available at: <https://odi.org/en/insights/fossil-fuel-subsidies-are-not-the-answer-to-the-energy-crisis/#:~:text=The%20following%20year%2C%20government%20responses,eclipse%20those%20of%20previous%20years.>
- Greve, H. and J. Lay (2023) "'Stepping Down the Ladder": The Impacts of Fossil Fuel Subsidy Removal in a Developing Country', *Journal of the Association of Environmental and Resource Economists*, 10(1), January.
- Harring, N. (2023) 'Public Acceptance of Fossil Fuel Subsidy Reform Could be Improved in Developing Countries'. University of Gothenburg. Available at: www.gu.se/en/news/public-acceptance-of-fossil-fuel-subsidy-removal-could-be-improved-in-developing-countries
- Huang, Y., N. Kittner and D.M. Kammen (2019) 'ASEAN Grid Flexibility: Preparedness for Grid Integration of Renewable Energy', *Energy Policy*, 128: 711–726.
- International Energy Agency (IEA) (2015) *Energy and Climate Change: World Energy Outlook Special Report*. Paris: IEA.

IEA (2023) 'The global energy crisis pushed fossil fuel consumption subsidies to an all-time high in 2022'. Available at: www.iea.org/commentaries/the-global-energy-crisis-pushed-fossil-fuel-consumption-subsidies-to-an-all-time-high-in-2022

IEA (n.d.) 'Energy subsidies: Tracking the impact of fossil-fuel subsidies'. Available at: www.iea.org/topics/energy-subsidies

IISD (International Institute for Sustainable Development) (2017) *Fossil Fuel Subsidy Reform and the Just Transition: Integrating approaches for complementary outcomes – GSI Report*. Available at: www.iisd.org/system/files/publications/fossil-fuel-subsidy-reform-just-transition.pdf

IISD (2018) *Getting on Target: Accelerating energy access through fossil fuel subsidy reform – GSI Report*. Available at: www.iisd.org/system/files/publications/getting-target-accelerating-energy-access.pdf

IISD (2020) *Gender and Fossil Fuel Subsidy Reform in Bangladesh: Findings and recommendations*. Available at: www.iisd.org/system/files/publications/gender-fossil-fuel-subsidy-reform-bangladesh.pdf

IISD (2021) *Achieving a Fossil-Free Recovery*. Available at: www.iisd.org/publications/report/achieving-fossil-free-recovery

IMF (International Monetary Fund) (2022) 'Fossil Fuel Subsidies'. Available at: [www.imf.org/en/Topics/climate-change/energy-subsidies#:~:text=Full%20price%20reform%20raises%20revenues,\(explicit%20and%20implicit\)%20subsidies](http://www.imf.org/en/Topics/climate-change/energy-subsidies#:~:text=Full%20price%20reform%20raises%20revenues,(explicit%20and%20implicit)%20subsidies)

Mai, T.N. (2023) 'Renewable Energy, GDP (Gross Domestic Product), FDI (Foreign Direct Investment) and Co2 Emissions in Southeast Asia Countries', *International Journal of Energy, Economics and Policy (IJEPP)*, 2(13): 284–289.

Mint (2023) 'Govt extends ₹200 subsidy on LPG cylinder under Ujjwala scheme by 1 year', 24 March. Available at: www.livemint.com/news/india/govt-extends-rs-200-subsidy-on-lpg-cylinder-under-ujjwala-scheme-by-1-year-11679676142158.html

Monkelbaan, J. and R. Steenblik (2021) 'Fossil Fuel Subsidy Reform: What Role for the World Trade Organization?'. Working Paper No.3 in Trade and Environmental Sustainability Series. Available at: https://geneva.fes.de/fileadmin/user_upload/documents/2021/2021_11_Fossil_Fuel_Subsidy_Reform.pdf

OECD (Organisation for Economic Co-operation and Development) and IEA (2021) *Update on recent progress in reform of inefficient fossil-fuel subsidies that encourage wasteful consumption 2021*. Available at: www.oecd.org/fossil-fuels/publicationsandfurtherreading/OECD-IEA-G20-Fossil-Fuel-Subsidies-Reform-Update-2021.pdf

Platonova, I. (2013) 'International Development Partnerships and Diffusion of Renewable Energy Technologies in Developing Countries: Cases in Latin America', *Innovation and Development*, 1(3): 144–144.

Reuters (2022) 'Analysis: Kazakhstan reminds world leaders of costly fuel subsidy dilemma'. Available at: www.reuters.com/markets/commodities/kazakhstan-reminds-world-leaders-costly-fuel-subsidy-dilemma-2022-01-06/

Saddikki, A. and A. Chaouti (2022) 'Drivers and Barriers of Fossil Fuel Subsidy Reforms in Developing Countries: A Review', *Journal of Economics Studies and Research*, Volume 2022. IBIMA Publishing. Available at: <https://ibimapublishing.com/articles/JESR/2022/212515/>

Skovgaard, J. and H. van Asselt (2018) *The Politics of Fossil Fuel Subsidies and their Reform*. Cambridge University Press. Available at: www.cambridge.org/core/books/politics-of-fossil-fuel-subsidies-and-their-reform/international-politics-of-fossil-fuel-subsidies-and-their-reform/4510627164C49617E41C6024D6D28512

UNDP (UN Development Programme) (2021) *Fossil Fuel Subsidy Reform: Lessons and Opportunities*, New York: United Nations Development Programme.

Vohra, K., A. Vodonos, J. Schwartz, E.A. Marais, M.P. Sulprizio and L.J. Mickley (2021) 'Global mortality from outdoor fine particle pollution generated by fossil fuel combustion: Results from GEOS-Chem', *Environmental Research*, 195, April. Available at: www.sciencedirect.com/science/article/abs/pii/S0013935121000487

WEF (World Economic Forum) (2023) 'Fossil fuel consumption subsidies soared to record heights in 2022'. Available at: www.weforum.org/agenda/2023/02/fossil-fuel-consumption-subsidies-energy-2022/

WHO (World Health Organization) (2022), *Increased access to clean cooking through subsidies*, WHO/HEP/ECH/AQH/2022.1, Geneva: World Health Organisation.

WTO (World Trade Organization) (2020) 'Ministerial Statement on Fossil Fuel Subsidies'. WTO Document WT/MIN(22)/8, 10 June 2020, Geneva: World Trade Organisation.

Zhuawu, C., N. Balchin and K. De Klerk (forthcoming) *Powering up trade and technology transfer to harness renewable energy opportunities in LDCs*. London: Commonwealth Secretariat.

Annex: Commonwealth countries' fossil fuel subsidies (2015–21) US\$ millions⁷

Member country	2016–2018 Average	2019–2021 Average
Antigua and Barbuda	22.07	23.94
Australia	7,374.11	7,975.19
Bahamas, The	101.52	92.80
Bangladesh	1,950.16	3,610.46
Barbados	6.77	0.00
Brunei Darussalam	159.67	165.30
Cameroon	38.03	69.95
Canada	2,371.89	3,121.83
Cyprus	72.21	32.32
Fiji	38.03	18.93
Gabon	74.76	49.07
Ghana	79.27	219.01
Guyana	0.04	0.05
India	11,518.13	6,746.03
Jamaica	0.39	0.40
Lesotho	2.32	1.98
Malaysia	1,695.13	1,506.23
Maldives	101.68	95.15
Mauritius	47.26	70.95
Nauru	0.00	0.01
New Zealand	7.43	16.21
Nigeria	1,097.36	2,507.13
Pakistan	3,729.39	3,806.93
Papua New Guinea	65.05	317.13
Rwanda	2.44	22.24
Saint Lucia	0.44	0.11
Seychelles	0.00	0.01
Sierra Leone	0.00	4.72
Singapore	5,543.92	8,151.28
South Africa	3,135.38	3,953.14
Sri Lanka	217.45	578.42
St Kitts and Nevis	1.03	1.88
St Vincent and the Grenadines	3.44	4.15
Togo	40.46	80.70
Trinidad and Tobago	627.35	597.49
Uganda	0.00	0.15
United Kingdom	15,463.68	13,665.56
Zambia	198.28	194.88

⁷ The table covers only Commonwealth member countries for which data is available. 0.00 signifies unavailable or minimal data for the corresponding year(s).

International Trade Policy Section at the Commonwealth Secretariat

This Trade Hot Topic is brought out by the International Trade Policy (ITP) Section of the Trade Division of the Commonwealth Secretariat, which is the main intergovernmental agency of the Commonwealth – an association of 56 independent countries, comprising large and small, developed and developing, landlocked and island economies – facilitating consultation and co-operation among member governments and countries in the common interest of their peoples and in the promotion of international consensus-building.

ITP is entrusted with the responsibilities of undertaking policy-oriented research and advocacy on trade and development issues and providing informed inputs into the related discourses involving Commonwealth members. The ITP approach is to scan the trade and development landscape for areas where orthodox approaches are ineffective or where there are public policy failures or gaps, and to seek heterodox approaches to address those. Its work plan is flexible to enable quick response to emerging issues in the international trading environment that impact particularly on highly vulnerable Commonwealth constituencies – least developed countries (LDCs), small states and sub-Saharan Africa.

Scope of ITP Work

ITP undertakes activities principally in three broad areas:

- It supports Commonwealth developing members in their negotiation of multilateral and regional trade agreements that promote development friendly outcomes, notably their economic growth through expanded trade.
- It conducts policy research, consultations and advocacy to increase understanding of the changing international trading environment and of policy options for successful adaptation.
- It contributes to the processes involving the multilateral and bilateral trade regimes that advance more beneficial participation of Commonwealth developing country members, particularly, small states and LDCs and sub-Saharan Africa.

ITP Recent Activities

ITP's most recent activities focus on assisting member countries in their negotiations in the World Trade Organization and various regional trading arrangements, undertaking analytical research on a range of trade policy, emerging trade-related development issues, and supporting workshops/dialogues for facilitating exchange of ideas, Commonwealth members.

Selected Recent Meetings/Workshops Supported by ITP

21 March 2023: Public event on Assessing the Business and Trade Dimensions of the 2022 Birmingham Commonwealth Games, in partnership with the UK's Department for Business and Trade. The event reflected on the legacy of the Commonwealth Games and explored how businesses can capitalise on the trade and investment relationships established during the Games.

16 November 2022: Public event on Enabling Climate Smart Trade and Investment: From Policies to Actions, organised for the ICC's Make Climate Action Everyone's Business Forum. The event examined how trade and trade policies can support climate action and how countries can integrate environmental and social considerations into trade agreements to achieve the SDGs.

2 November 2022: Public event on Maximising the Gains from Digital Trade: Solutions and Priorities for Developing Countries and LDCs, organised jointly with the Enhanced Integrated Framework (EIF) and hosted at the WTO in Geneva. The event reflected on lessons from country experiences and EIF projects, explored the concept of Aid for Digital Trade and identified innovative new ways to support LDCs, and particularly their MSMEs, to build capacity for digital trade.

31 October 2022: Joint Commonwealth Secretariat-UNCTAD workshop on Understanding the IPR-related Landscape for Graduating LDCs: Issues and Challenges. The workshop, hosted at the United Nations in Geneva, was attended by technical experts from the Centre for Policy Dialogue, United Nations Committee for Development Policy, ODI, South Centre, UNCTAD, WIPO and WTO, who discussed issues, challenges and opportunities related to intellectual property rights for graduating LDCs.



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