



Deception vs Reality

The Misleading Debate About Energy Subsidies

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Executive Summary

In 2019, the International Monetary Fund published a working paper that concluded governments around the world were subsidizing fossil fuels by US \$5.2 trillion annually. The purpose of this paper is to reveal the misleading language and failed logic behind the IMF's analysis and claims that environmental campaigners have made based on that analysis.

Much confusion surrounds the definition of a subsidy. The simplest is a form of financial aid or support to an economic sector or business that is intended to promote economic and social policy. The World Trade Organization (WTO) has developed a different definition to be used in settling disputes about the use of subsidies to distort trade. The IMF adopted the WTO terminology but tried to lump together a wide range of different types of subsidies allegedly to determine their impact on investment, output and emissions. It added together the effects of different types of financial measures, such as tax expenditures and royalty relief measures, without accounting for important interactions among these and the broader fiscal/tax system. This approach does not examine the impacts of taxes, royalties and subsidies on investment at the margin, which is the basis upon which investment decisions are made. Further, it is not based on economically meaningful benchmarks, which are the bases for comparison between the actual taxes paid and what would have been paid in the absence of a subsidy.

The IMF divided the alleged subsidies to fossil fuels into different categories, including producer subsidies and consumer subsidies. Environmental campaigners present the subsidies as entirely benefitting the energy producers. In fact, the IMF's estimate of producer subsidies amounts to just 6% of the \$5.2 trillion figure, with 94% going to consumers. In turn, most of the subsidies that allegedly go to consumers reflect the difference between end-use prices and what consumers would pay if the price of "negative externalities" were included: local air pollution, alleged effects of climate change, traffic congestion and road accidents, and health impacts. It is called a subsidy based on economic theory, which states that when the consumption of a good results in an external cost to society, then "efficient" pricing requires that consumers face a price that reflects these costs. However, deciding not to price an externality differs from granting a subsidy. Nowhere does anyone actually plan to impose on any product, let alone fuels, taxes allegedly representing the costs of environmental externalities.

The International Institute for Sustainable Development (IISD) issued a report in 2010 that claimed that federal and provincial governments in Canada subsidized the oil industry by \$2.8 billion in 2009, with about half of that coming from the federal government. This study is the main source of the claim that the Canadian oil industry is heavily subsidized. According to the IISD, almost 84% of the subsidies identified were "tax expenditures: associated with fast write-offs and other tax breaks in the corporate income tax system, as well as royalty reductions associated with various royalty programs".

Finance Canada annually reports on the value of the federal government's tax expenditures. The most recent (2021) report notes instead that almost all of the tax expenditures formerly in place (i.e., before 2014) have been phased out. The only item left to report on is flow-through share deductions against Corporate Income Tax and Personal Income Tax for oil and gas and coal mining. These declined from \$20 million in 2018 to a projected \$8 million in 2022.

The claims about large subsidies to the Canadian oil and gas industry ignore other important considerations. First, oil and natural gas consumers in Canada are already heavily taxed; the total revenues to governments annually from the excise taxes and HST on motor fuels are about \$25 billion. Second, the "subsidies" granted to oil and gas producers are far outweighed by the revenues that these producers provide to governments in corporate income taxes, royalties and land bonus payments, which are about \$10 billion per year. Third, any subsidies to oil and gas producers are small by comparison with the dozens of subsidies and other market advantages provided to renewable energy and electric vehicle industries. In Ontario alone, the cost of subsidies to wind and solar electricity generation provided through favourable rates exceeds \$4 billion per year.

We may all have questions about the benefits of governments handing taxpayers' dollars out in subsidies to various industries, but one thing is clear. As we search for ways to reduce government subsidies, the largest scope for reductions is definitely not in the oil and gas industry.

Deception vs Reality

The Misleading Debate About Energy “Subsidies”

In 2019, the International Monetary Fund published a working paper that concluded governments around the world were subsidizing fossil fuels by US \$5.2 trillion annually.¹ This was widely reported in the media, with few, if any, questioning the methods used by the IMF to arrive at this conclusion. An appendix to the paper included an estimate that energy subsidies in Canada exceeded \$34 billion per year. This figure was duly repeated and broadcast by many environmental groups in Canada including The Tyee, the Dogwood Institute, and the International Institute for Sustainable Development, all of which inflated the number and made presentations advertising the totals. As usual on matters relating to climate and energy policy, the Canadian media accepted their statements.



The purpose of this paper is to reveal the logic (or, more accurately, the failed logic) behind the IMF's analysis and to offer some contextual information that would allow an objective observer to assess the validity of the policy prescriptions that have been made based on the World Bank analysis.

What is a Subsidy?

According to Wikipedia, a subsidy is “*a form of financial aid or support extended to an economic sector (business, or individual) generally with the aim of promoting economic and social policy. Subsidies come in various forms including: direct (cash grants, interest-free loans) and indirect (tax breaks, insurance, low-interest loans, accelerated depreciation, rent rebates)*”.

An indirect subsidy, one might add, could include a government policy or regulation that mandates the use of a certain product, prohibits the use of alternatives to that product, or in some other way gives a product or seller a commercial advantage in the marketplace. Investing in a company does not constitute a subsidy. Similarly, just because an organization purchases an energy commodity does not define that transaction as a subsidy, unless the purchase was only made for policy, not commercial, reasons.

¹ David Coady et. al. *Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates*, IMF working paper, May 2019

An example of such an indirect subsidy is a legislative mandate for a provincial or regional electrical power authority to establish or buy a certain amount of Renewable Energy, or to grant preferential access to the power grid for wind or solar power generators over conventional power generators. This is usually justified by saying that wind and solar must have immediate access to the grid when weather conditions are favourable. However, in a competitive power market, since wind and solar have no external fuel costs they are able to offer a bid price for power generation at 'zero' dollars (as they make up the value through the government granted 'Renewable Energy Credits' (REC) which wind and solar are earn as they operate. Interestingly, those are direct subsidies from taxpayers, and the value of the REC can be further enhanced through trade or sale to other businesses needing an 'offset'). These types of 'indirect' subsidies for wind and solar destroy the competitive market for all other forms of power generation, yet this type of market distortion is seen as 'good' by climate activists.

Going back to the definitions used by the IMF, let's see what other terms apply to 'subsidies'.

There is a different definition that was developed by the World Trade Organization (WTO) and the Association for Supply Change Management (ASCM). This is from the WTO web site:

"The WTO agreement on Subsidies and Countervailing Measures disciplines the use of subsidies and it regulates the actions countries can take to counter the effects of subsidies. Under the agreement, a country can use the WTO's dispute settlement procedure to seek the withdrawal of the subsidy or the removal of its adverse effects. Or the country can launch its own investigation and ultimately charge extra duty ('countervailing duty') on subsidized imports that are found to be hurting domestic producers."

The IMF's Approach

The IMF's definition of subsidies is based largely on the WTO/ASCM's one. There's a problem with that. **As noted previously, it is clear that the ASCM definition of a subsidy is designed specifically to identify and remediate trade distortions. Probably one of the best known such issues is the softwood lumber dispute between the US and Canada.^{2 3} Though the US has a shortage of supply and relies on Canada to supply softwood lumber (for construction), it has also claimed that Canada provides unfair support to the domestic industry and has thus imposed import tariffs to 'level the playing field' for US producers of softwood lumber. This is an example of trying to remediate specific perceived trade distortions.**

² https://www.international.gc.ca/controls-controles/softwood-bois_oeuvre/index.aspx?lang=eng

³ https://www.international.gc.ca/controls-controles/softwood-bois_oeuvre/background-generalites.aspx?lang=eng

If we return to the climate activist claims of subsidies to fossil fuels, it is clear that the purpose of the ASCM was to address specific trade distortions, not to add together a wide range of subsidies for the purposes of determining their impact on investment, output and emissions. In other words, the IMF employed a definition of a subsidy that was designed for a different purpose.

Kenneth McKenzie and Jack Mintz, two well-respected public policy experts from the University of Calgary, identify important failings in the IMF's definition of subsidies.

*"A recent report on government subsidies to the Canadian energy sector prepared for the International Institute for Sustainable Development exemplifies this flawed approach along several dimensions: it is not based on a robust underlying economic framework, it fails to account for complex interactions between tax and royalty systems in existing fiscal policy, and it uses a definition of subsidies that was created for a different purpose."*⁴

Notably, their research adds together the effects of different types of financial measures, such as tax expenditures and royalty relief measures, without accounting for important interactions among these and the broader fiscal/tax system. It does not examine the impacts of taxes, royalties and subsidies on investment at the margin, which is the basis upon which investment decisions are made. Further, it is not based on economically meaningful benchmarks. I will return to this point later.

The IMF divided the alleged subsidies to fossil fuels into different categories, including producer subsidies and consumer subsidies. Let's examine each category.

The IMF's estimate of producer subsidies amounts to just 6% of the \$5.2 trillion figure, with 94% going to consumers.

The consumer subsidies are just that. Their "incidence", or effect, is on consumers, and while they may provide an incentive for increased purchases, that is at most an indirect benefit to producers in an open market in which producers are free to sell wherever they wish. These consumer subsidies partly reflect the difference between the prices that apply in the wealthier countries of Europe and those that apply in the countries in which the crude oil is produced. **Thus, the fact that gasoline consumers in Venezuela or Saudi Arabia pay prices close to production costs and that do not include high excise taxes is treated as a subsidy.**⁵ This, presumably, is based on the view that the taxes the Europeans pay is the "proper" level. That is the first example of strange logic.

The consumer subsidies calculated by the IMF also reflect the difference between end-use prices and what consumers would pay if the price of "negative externalities" were included: local air pollution, alleged effects of climate change, traffic congestion and road accidents, and health impacts. These outcomes of a use of the product (fossil fuels) are called a

⁴ Kenneth McKenzie and Jack Mintz. *The Tricky Art of Measuring Fossil Fuel Subsidies: A Critique of Existing Studies*. University of Calgary, September 2011

⁵ https://www.globalpetrolprices.com/gasoline_prices/

subsidy based on economic theory, which states that when the consumption of a good results in an external cost to society, then “efficient” pricing requires that consumers face a price that reflects these costs. This marks an attempt to place a dollar figure on the cost of environmental damages, as though the environmental damages are easily calculated and easily attributed to fuel use. The methodologies used to calculate the dollar values of these “externalities” are both complex and highly debatable.

Thus, treating externalities as though they were clear and self-evident financial costs is the second example of failed logic. Deciding not to price an externality differs from granting a subsidy. Calling it a subsidy is a misuse of terminology intended to deceive. The IMF worsens this practice by greatly exaggerating the costs of the externalities. For example, it calculates that China’s coal air pollution costs \$720 billion per year. Two recent studies in fact show that China’s total air pollution costs \$27-\$38 billion, or one-twentieth as much.⁶ This is the cost for all air pollution, less than half of which can be blamed on coal. Another example is that the IMF claims that gasoline and diesel-powered cars cause a huge amount of congestion and traffic accidents. That is a problem unlikely to be solved even if all vehicles were to convert to electricity; congestion and collisions do not depend on which fuel powers the vehicles.

Sean Sweeney of the Murphy Institute in New York summarized the effect of the IMF’s approach.

“In other words, roughly 94% of the IMF’s \$5.2 trillion in ‘fossil fuel subsidies’ exists only in theory. These subsidies cannot be ‘removed’ or ‘phased out’ because there is nothing there. Post-tax subsidies -perhaps better described as ‘aspirational’ subsidies - would only materialize if the externalities were actually paid for.”

Nowhere does anyone actually plan to impose on any product, let alone fuels, taxes allegedly representing the costs of environmental externalities. Sweeney offers some insightful comments.

“Reading the IMF, OECD, and similar reports on subsidies, it’s hard not to conclude that the calculations are being inflated and then weaponized to serve a purpose – and the purpose is not primarily to pressure fossil fuel interests to clean up their act...If the dollar value of subsidies has indeed been inflated for political and ideological purposes, then the same can be said of the emissions reductions estimates that derive from them.”

Worldwide, about \$424 billion is actually spent to reduce consumer fuel prices – a high amount but far less than the IMF’s headline-grabbing claim of \$5.2 trillion to fossil fuel producers. None of the governments that provide these subsidies are among the wealthier OECD countries. In 2017, Iran, China and Saudi Arabia spent about \$40 billion a year, while Russia, Egypt, Indonesia, Venezuela and India each spent \$15-\$20 billion. Such subsidies are often used as means to avoid political unrest. **“Removing” the subsidies (more accurately imposing higher prices and taxes on fossil fuels) would hurt many low-**

⁶ Bjorn Lomborg. *The IMF’s Huge Miscalculation of Energy Subsidies*. Forbes, January 7, 2020

income people. Of course, inducing poverty is one way to reduce greenhouse gas emissions, but it is not one that the IMF would probably admit to have had in mind.

Politicians also love to play the subsidy claims game.

Demand Justin Trudeau end Fossil Fuel Subsidies

The climate crisis is putting everything we value at risk. Parts of the country are on fire, you can't breathe the air, and people are dying.

Mr. Trudeau pretends to be a climate leader, but provides more public financial handouts to big oil than any other country in the G20.

First Name

Last Name

Email

Postal Code

Phone

The climate crisis is putting everything we value at risk. Parts of the country are on fire, the air is hard to breath, and people are dying.

While Mr. Trudeau pretends to be a climate leader, he continues to give big oil and gas billions in fossil fuel subsidies.

Under Trudeau, big oil has received more public financial handouts than any other country in the G20 – nearly \$14 billion a year.

Justin Trudeau says there's a crisis, but doesn't act like there is one. He promised to eliminate fossil fuel subsidies but then increased them.

In fact, Canadians fossil fuel producers received 14.5 times more money than renewable energy producers.

Jagmeet and the NDP are demanding action. Canadians expect their government to act now. Not in ten years.

Join Jagmeet in pushing Justin Trudeau to go beyond empty words and eliminate fossil fuel subsidies by the end of 2022 and invest that money in renewable energy.

“Subsidies” to Producers in Canada

The International Institute for Sustainable Development (IISD) issued a report in 2010 that claimed that federal and provincial governments in Canada subsidized the oil industry by \$2.8 billion in 2009, with about half of that coming from the federal government. This study is the main source of the claim that the Canadian oil industry is heavily subsidized. According to the IISD, almost 84% of the subsidies identified were “tax expenditures: associated with fast write-offs and other tax breaks in the corporate income tax system, as well as royalty reductions associated with various royalty programs”.

There are several problems with this. The methodological foundations of the IISD report were called into question by Kenneth McKenzie and Jack Mintz.⁷ McKenzie and Mintz noted that traditional methodologies tend to place subsidies in the realm of tax expenditure analysis, which they view as fundamentally flawed and misleading. Conceptually, a tax expenditure arises when the actual tax rate applied is less than the generic tax rate, often referred to as the “benchmark”, that the government applies to all firms. In a sense, the government considers itself entitled to a declared share of a firm’s income and any reduction or relief from that share constitutes government spending.

Measuring the size of the “subsidy” so established can be complicated by several factors. For example, an allowance for accelerated depreciation of a production asset will reduce the income tax owing from that project in its early years of operation and increase them in

⁷ Kenneth McKenzie and Jack Mintz. *ibid*

the later years. The total amount of tax paid is theoretically the same, but the company gains a benefit because of the time value of money. Similarly, with respect to royalties paid to provincial governments that are the owners of the resource, the “tax expenditure” approach treats the base (or “benchmark”) royalty system (that is, the royalty system without special programs that lower royalty rates) and its accompanying price and production-sensitive royalty schedules as the market value of access to the oil and gas. Thus, any royalty reduction in the amount that some companies or project owners must pay relative to the base system is considered a subsidy.

McKenzie and Mintz offer a detailed critique of this system and propose an “economic view” based upon economic rents for determining what constitutes a subsidy. The explanation with respect to accelerated depreciation, which has been very important to the oil sands industry, follows:

“Notwithstanding the different methodologies available, annual tax expenditure estimates are not provided for accelerated deductions because adequate data are not generally available to calculate them with a reasonable degree of accuracy. In many cases, this is due to differences in categorization of assets and recording of related expenses between the tax system and possible benchmarks such as financial statements and studies of economic depreciation. In some cases, the accelerated category encompasses a range of assets or expenses, but tax filings do not provide any detail on the particular type of assets in which companies invest.”

Finance Canada annually reports on the value of the federal government’s tax expenditures. The most recent (2021) report⁸ provides a good discussion of the complexities in calculating the differences between the benchmarks and the actual income tax rates. In the report, there is a separate section on the “expenditures supporting the fossil fuel sector”. In keeping with the previous quotation, it contains no estimates of the federal tax expenditures associated with the accelerated capital cost allowance (ACCA) for coal mining and oil sands assets, for the accelerated deductibility of some pre-development expenses of oil sands mines and coal mines, and for the Atlantic Investment Tax Credit for oil and gas and coal mining. **The report notes instead that all of these tax expenditures either have been or are being gradually phased out (ACCA for oil sands starting in 2007; ACCA for coal mines starting in 2013; accelerated deductibility of pre-development expenses for oil sands mines starting in 2011 and**

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Steve says WHAT ABOUT SUBSIDIZES FOSSIL FUELS WHICH WE DO TO THE TUNE OF MORE THAN 1 BILLION dollars A YEAR. THE FEDERAL GOVERNMENT COULD SNAP ITS FINGERS AND ELIMINATE A BUNCH OF THOSE.

Chris says IN 2009 AND 10 I SOMEHOW GOT ASSIGNED TO BE AND LABELLED AS CANADA'S EXPERT ON THE FOSSIL FUEL SUBSIDY ISSUE FOR THE G20 DISCUSSIONS BECAUSE THE G20 COUNTRIES HAD MADE A COMMITMENT TO REDUCE FOSSIL FUEL SUBSIDIES.

AND ONE OF THE THINGS THAT I LEARNED AT FINANCE CANADA IS THAT IN FACT WE AS A COUNTRY DO NOT HAVE EXPLICIT FOSSIL FUEL SUBSIDIES.

WHAT WE DID HAVE WERE A SET OF TAX PREFERENCES, AND MOST OF THEM, BY THE TIME I CAME ALONG IN 2009, HAD BEEN ELIMINATED. SO I QUESTION THE 1 BILLION dollar NUMBER.

Interview transcript: Steve Paikin of TVO asks Chris Ragan, economist, about fossil fuel subsidies in Canada.

⁸ <https://www.canada.ca/en/department-finance/services/publications/federal-tax-expenditures/2021.html>

for coal mines starting in 2013; Atlantic Investment Tax Credit in 2012.) The only item left to report on is flow-through share deductions against Corporate Income Tax and Personal Income Tax for oil and gas and coal mining. These declined from \$20 million in 2018 to a projected \$8 million in 2022. So, the grand total of federal tax “subsidies” to oil and gas in 2021 was a whole \$8 million!

Context and Conclusion

The claims of subsidies to the oil and gas industry in Canada ignore two four important contextual considerations.

The first is that the use of oil and natural gas in Canada is already heavily taxed, which discourages consumption. In 2021, the average excise tax plus HST on gasoline in Canada was 47 cents per litre⁹, and to this was added carbon dioxide taxes and various special taxes imposed by municipalities. **With net gasoline and diesel fuel sales for vehicles of about 53 billion litres, the total revenues to governments from the excise taxes plus HST was about \$25 billion.** The total tax on a 64-litre fill up ranged from \$77.48 in Alberta to \$97.35 in Vancouver, and these costs are much higher in 2022. Natural gas was subject to the carbon dioxide tax and HST.

The second is that whatever the “subsidies” granted to oil and gas producers, these are far outweighed by the revenues that these producers provide to governments in corporate income taxes, royalties and land bonus payments. **Over the last five years, upstream oil and gas firms and associated industries have provided an average of \$10 billion per year in revenues to the federal and provincial governments.**¹⁰

The third consideration is that **whatever governmental support is provided to fossil fuel producers or users pales into insignificance compared to the immense subsidies provided by federal and provincial governments to so-called clean energy alternatives.** In May, 2020, I posted an article on the Friends of Science web site in which I tried to catalogue all the different types of subsidies and other market assistance provided to renewable energy.¹¹ In the case of solar and wind energy projects, the subsidies, or market advantages, fall into several different categories, including these:

- Funding of technology-specific research and development, conducted either in government research facilities or in private research laboratories
- Funding for technology demonstration projects
- Grants, contributions and low-interest loans made either to suppliers or purchasers
- Preferential procurement practices

⁹ <https://www.taxpayer.com/media/CTF%20-%20GTHD%202021%20Report%20-V5%20-%20May%2018,%202021.pdf>

¹⁰ *Energy Fact Book 2021-2022*. Natural Resources Canada

¹¹ <https://blog.friendsofscience.org/wp-content/uploads/2020/05/EMPTY-WALLETS-NO-RESILIENT-RECOVERY-PART-2-Final-cover.pdf>

- Tax incentives such as credits, deductions, and exemptions that are not provided to other firms and allowing firms to pass these benefits on to outside investors in the form of flow-through shares
- Preferences granted through regulation, including mandated minimum purchases by utilities
- Preferential, above-market utility rates, as used in “feed-in-tariffs” regimes, often guaranteed at fixed rates for the life of the contract
- Restrictions on local government ability to impose property and other taxes on solar and wind project sites

The pervasiveness and size of these subsidies makes it more difficult to judge the true competitiveness of renewable energy sources. **In Ontario alone, the cost of subsidies to wind and solar electricity generation provided through favourable rates exceeds \$4 billion per year.**

[Canada.ca](#) > [Natural Resources Canada](#) > [NRCAN](#)

ecoENERGY for Renewable Power



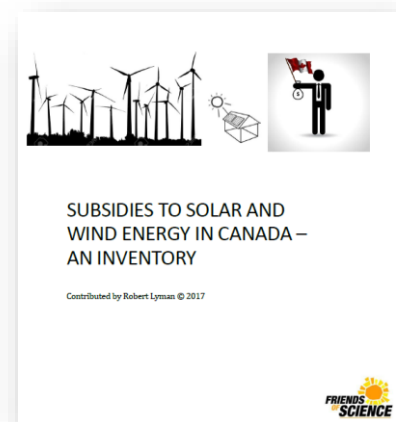
ecoENERGY for Renewable Power

The ecoENERGY for Renewable Power program was launched in April 2007 to encourage the generation of electricity from renewable energy sources such as wind, low-impact hydro, biomass, photovoltaic and geothermal energy. Although no new contribution agreements have been signed after March 31, 2011, projects with contribution agreements receive a one cent per kilowatt-hour (kWh) incentive for eligible production during their first ten years of operation. The program itself will end on March 31, 2021.

As of March 31, 2011, 104 projects qualified for funding under the program representing investments of about \$1.4 billion over 14 years and almost 4500 megawatts of renewable power capacity.

<https://www.nrcan.gc.ca/nrcan/ecoenergy-renewable-power/14145>

The fourth important consideration is that business subsidies of one kind or another are endemic in Canada. According to a recent research paper published by the School of Public Policy of the University of Calgary,¹² **the federal government and the four largest provinces spend about \$29 billion per year on business subsidies**, delivered through program spending, the tax system, government business enterprises and direct investments by government. Apart from the political motivations of elected officials, business subsidies are intended to improve economic performance and to achieve some social objectives. We may all have questions about the benefits of governments handing taxpayers’ dollars out in subsidies to various industries, but one thing is clear. As we search for ways to reduce government subsidies, the largest scope for reductions is definitely not in the oil and gas industry.



From our 2017 archive. Subsidies to ‘clean-tech’ are much more substantial and broad reaching now.
<https://blog.friendsofscience.org/2017/11/05/subsidies-to-solar-and-wind-energy-in-canada-an-inventory/>

¹² John Lester. *Business Subsidies in Canada: Comprehensive Estimates for the Government of Canada and the Four largest Provinces*. University of Calgary, January 2018

About the Author

ROBERT LYMAN is an economist with 27 years' experience as an analyst, policy advisor and manager in the Canadian federal government, primarily in the areas of energy, transportation, and environmental policy. He was also a diplomat for 10 years. Subsequently he has worked as a private consultant conducting policy research and analysis on energy and transportation issues as a principal for Entrans Policy Research Group. He is a frequent contributor of articles and reports for Friends of Science, a Calgary-based independent organization concerned about climate change-related issues. He resides in Ottawa, Canada. [Full bio.](#)

About Friends of Science Society

Friends of Science Society is an independent group of earth, atmospheric and solar scientists, engineers, and citizens that is celebrating its 20th year of offering climate science insights. After a thorough review of a broad spectrum of literature on climate change, Friends of Science Society has concluded that the sun is the main driver of climate change, not carbon dioxide (CO₂).

Friends of Science Society

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