

# HOW MUCH IS ENERGY SUBSIDIZED?

*Robert A. James*<sup>†</sup>

## INTRODUCTION

I wrote an article on the energy numeracy problems that are encountered by a new attorney without an undergraduate degree in a technically oriented field.<sup>1</sup> This article is a sequel of sorts. I thought of covering subsidization in the first article, but discovered that an understanding of this concept goes far beyond numbers.

In presenting on this topic, I am accompanied by the English writer George Orwell (1903-1950). Most of us know Orwell from secondary school as the author of the dystopian novels *Animal Farm* and *1984*. He was also a perceptive critic of his contemporary society. I am unsure how he would feel about being appropriated for a paper addressing law and economics—it was said that Orwell “could not blow his nose without moralising on the state of the handkerchief industry.”<sup>2</sup> Still, he had high aspirations for all human endeavors, and offered clear and prescient insights in the 1930s and 1940s that are valuable today.

My earlier piece offered examples of numbers that people talk about without supplying a context.<sup>3</sup> If a company tells you that it has a wind farm with a capacity of 10 megawatts, should you be impressed? If an oil

---

<sup>†</sup> Partner, Pillsbury Winthrop Shaw Pittman LLP. Based on a speech given to the Environmental Law & Policy Colloquium at Stanford Law School on January 23, 2019. These remarks are those of the author alone, and do not necessarily represent the views of his firm, its personnel, or their clients. He nonetheless thanks his colleague Irina Tsvetkova for her research assistance.

<sup>1</sup> Robert A. James, *Numeracy for Energy and Environmental Lawyers*, 8 JOURNAL OF LAW (5 J. LEGAL METRICS) 33 (2018) (Numeracy for Lawyers).

<sup>2</sup> Cyril Connolly, SUNDAY TIMES, Sept. 29, 1968. See generally BERNARD CRICK, GEORGE ORWELL: A LIFE (1980).

<sup>3</sup> Numeracy for Lawyers at 51.

refinery processes 50,000 barrels of crude oil per day (bpd), is that big or not? In most cases, there is a central figure and a distribution around it. A 50,000 bpd refinery is a bit on the small side, for example; full-scale refineries are typically 200,000-400,000 bpd, with some outliers as low as 30,000 and as high as a million.<sup>4</sup>

I quickly found that questions about subsidy are not of that character. The reported figures were not packed around a mean. Instead, the numbers varied by fantastic orders of magnitude, showing that something entirely different was going on.

It seems like such a simple question—how much is energy subsidized? This brings me to the first Orwell quotation, from his devastating critique of colonialism, *Shooting an Elephant*: “[A] story always sounds clear enough at a distance, but the nearer you get to the scene of events the vaguer it becomes.”<sup>5</sup> Anyone who has conducted due diligence reviews will know this sensation. Someone may have told you from afar exactly what the company owns and precisely how it is doing. The deeper you delve into the details, however, the less confident you tend to feel.

The source from which we mostly hear about subsidies in our daily life is the set of politicians. Independent Senator Bernie Sanders proposed legislation in 2015 aimed at eliminating “[s]ubsidies for polluters now in place [that] are projected to cost taxpayers more than \$135 billion in the coming decade.”<sup>6</sup> There is no point having a subsidy of the fossil fuel industry, he stated, when we need to be moving in evolutionary terms towards a decarbonized future.<sup>7</sup> Fast forward to 2019: we are living in the upswing of the progressive wing of the Democratic party, and the Green New Deal resolution evidences that Senator Sanders’s 2015 bill may be, if anything, too modest and too slow—the resolution’s proponents contend that the country needs to move to carbon-free electricity generation by the year 2050.<sup>8</sup> There is no price tag in the resolution itself, but other sources speak of the trillions of dollars that would be shifted from support

---

<sup>4</sup> *Id.*

<sup>5</sup> GEORGE ORWELL, *Shooting an Elephant*, in *NEW WRITING* (Autumn 1936).

<sup>6</sup> Press Release, Senator Bernie Sanders (Vt.), End Polluter Welfare Act (Apr. 22, 2015), <https://www.sanders.senate.gov/newsroom/press-releases/end-polluter-welfare-act>.

<sup>7</sup> *Id.*

<sup>8</sup> H.R. Res. 109, 116th Cong. (2019).

of fossil fuels towards support of renewables of one type or another.<sup>9</sup> Subsidy is thus both a target and a tool of the energy policy comments from this part of the political spectrum.

Politicians on the right also care about subsidies. President Trump asked, “Who wants to have energy when you need a subsidy?”<sup>10</sup> Behold, have we found something on which the President and Senator Sanders agree? Is it possible that they both oppose subsidies?

Unfortunately, when you look at the full picture, the politicians are talking about subsidies in different ways. First comes the common justification for many an act, namely that everybody is doing it. Secretary of Energy Rick Perry said, “We subsidize a lot of different energy sources. We subsidize wind energy, we subsidize ethanol, we subsidize solar, we subsidize oil and gas. . . . Government’s picking winners and losers every day.”<sup>11</sup> It was thus one step, from asking why have subsidies at all, to asking why not have subsidies like everyone else. The next step is that a current regime vows to end subsidies, all right—to end the subsidies created by the prior regime. “[W]e will end [electric vehicle] subsidies and others of the Obama administration,” said the director of the President’s National Economic Council, Larry Kudlow.<sup>12</sup>

In politics, subsidies are part of the appeal to different constituencies. The immediate reaction is “Well, what did you expect? These are politicians, each speaking to his or her base.” Can we look at more objective sources? What about government agencies and reputable think tanks—are they apolitical? Here again let us listen to Orwell: “In our age there is no such thing as ‘keeping out of politics.’ All issues are political issues.”<sup>13</sup>

In Part I of this article, I present the wildly disparate subsidy figures reported by these institutions. I call them “figures” and not “estimates” because “estimate” would suggest that the numbers could be averaged or

---

<sup>9</sup> See, e.g., John Cassidy, *The Good News About a Green New Deal*, NEW YORKER, Mar. 4, 2019, <https://www.newyorker.com/news/our-columnists/the-good-news-about-a-green-new-deal>.

<sup>10</sup> David Roberts, *Rick Perry Tells the Truth About Energy Subsidies, Contradicting His Boss*, VOX (Aug. 15, 2018), <https://www.vox.com/energy-and-environment/2018/8/15/17691822/trump-administration-hypocrisy-energy-subsidies-rick-perry>.

<sup>11</sup> *Id.* (quoting Secretary of Energy Perry’s testimony before the House Energy and Commerce Committee’s Subcommittee on Energy).

<sup>12</sup> Vivian Salama and Mike Colias, *Trump, Looking Beyond G.M., Seeks to End All Electric Car Tax Credits*, *Kudlow Says*, WALL ST. J., Dec. 3, 2018.

<sup>13</sup> GEORGE ORWELL, *Politics and the English Language*, 13 HORIZON 252 (1946).

otherwise directly compared—and they cannot.

In Part II, I discuss the definitions of “subsidy” that have been offered. I look closely at one institution’s definition, that of the International Monetary Fund (IMF).

In Part III, I explore, in a series of questions, what people may really be talking about when they talk about subsidies. I close by introducing an Energy Policy Palette to help us get beyond the definitional debates and into the conversations of substance that we should be having.

## I. WHAT IS YOUR NUMBER?

I thought that subsidies were ripe for analysis when I saw that the answers to the single, seemingly simple question posed in the title of this article ranged from *trillions of dollars annually*—perhaps a quadrillion dollars over current law students’ lives—to *zero*.

Recall that Senator Bernie Sanders spoke of ending about \$135 billion in fossil-fuel subsidies over the next decade—so \$13 billion or so annually.<sup>14</sup> The Senator’s 2015 figure looks modest indeed compared to some of the other numbers that have been more recently reported. Fossil infrastructure critics, for example, recite a litany of ways in which we have spent and continue to spend money supporting the internal combustion engine and carbon fuel sources.

In his article *Reframing the transportation debate*, Chris Nelder points out that we have installed a base of airports and highways anchoring the use of fossil fuels at \$6 trillion in original cost, \$20 trillion in replacement cost.<sup>15</sup> Every year, many billions more are spent just to keep up those facilities.<sup>16</sup> Every day, we spend idle time in our individual vehicles, as opposed to public transit that is more easily capable of shifting to electric sources.<sup>17</sup> The developed world economy depends for its oil on the Strait of Hormuz; thus, the costs of the U.S. Navy cruising the Indian Ocean, and of military bases and deployments in the Middle East, are said to be for the

---

<sup>14</sup> See notes 6 and 7 above and the accompanying text.

<sup>15</sup> Chris Nelder, *Reframing the transportation debate*, ZDNET (Oct. 19, 2011), <https://www.zdnet.com/article/reframing-the-transportation-debate/>.

<sup>16</sup> *Id.*

<sup>17</sup> *Id.*

account of our energy budget—billions more annually.<sup>18</sup> The article adds to those costs the acquisition and maintenance expenses for all the fossil fuel vehicles that we use, of every shape and size, on the land, on the sea, and in the air.<sup>19</sup> Here then is a view of trillions of dollars of subsidization of fossil fuels that embraces not just the cost of the molecules, but also the cost of creation and maintenance of the country's entire infrastructure.

In a 2015 working paper and a revised edition published in 2017,<sup>20</sup> the staff of the IMF<sup>21</sup> report a slightly smaller appraisal of the subsidies for fossil fuels alone: \$5.3 trillion annually. Although the IMF tends to be portrayed as a rather conservative organization—it puts governments on austerity programs and its president was un-invited from speaking on college campuses—breathtaking headlines tumbled out when this study was released:

- *Report Shows The Oil Industry Benefits From \$5.3 Trillion in Subsidies Annually*<sup>22</sup>
- *Big Oil's astronomical hand-out: Fossil fuels receive \$5.3 trillion in global subsidies each year*<sup>23</sup>
- *Fossil fuels subsidised by \$10m a minute, says IMF*<sup>24</sup>

As we will see shortly, these descriptions of subsidy flows to fuel producers are somewhat misleading. A more accurate story read, “Consumers

---

<sup>18</sup> *Id.*

<sup>19</sup> *Id.*

<sup>20</sup> David Coady, Ian Parry, Louis Sears & Baoping Shang, *How Large Are Global Energy Subsidies?* (IMF Working Paper 15/105, May 2015) (IMF 2015), available at <https://www.imf.org/external/pubs/ft/wp/2015/wp15105.pdf>; David Coady, Ian Parry, Louis Sears & Baoping Shang, *How Large Are Global Fossil Fuel Subsidies?*, 91 WORLD DEVELOPMENT 11 (2017) (IMF 2017). There is now a more recent similar figure, but I refer to the figure in the 2015 and 2017 papers to keep to a timeframe consistent with that of the other sources. See David Coady, Ian Parry, Nghia-Piotr Le & Baoping Shang, *Global Fossil Fuel Subsidies Remain Large: An Update Based on Country-Level Estimates* (IMF Working Paper 19/89, May 2019).

<sup>21</sup> Importantly, the staff of the IMF expressly disclaim speaking on behalf of the organization. For convenience, however, I will refer to the staff and the organization collectively. See IMF 2015 at 1 (“The views expressed in IMF Working Papers are those of the author(s) and do not necessarily represent the views of the IMF, its Executive Board, or IMF management.”).

<sup>22</sup> Rmuse, POLITICUSUSA (June 9, 2015), <https://www.politicususa.com/2015/06/09/report-shows-oil-industry-benefits-5-3-trillion-subsidies-annually.html>.

<sup>23</sup> Lindsay Abrams, SALON (May 18, 2015), [https://www.salon.com/2015/05/18/big\\_oils\\_astronomical\\_hand\\_out\\_fossil\\_fuels\\_receive\\_5\\_3\\_trillion\\_in\\_global\\_subsidies\\_each\\_year/](https://www.salon.com/2015/05/18/big_oils_astronomical_hand_out_fossil_fuels_receive_5_3_trillion_in_global_subsidies_each_year/).

<sup>24</sup> Damian Carrington, THE GUARDIAN (May 18, 2015), <https://www.theguardian.com/environment/2015/may/18/fossil-fuel-companies-getting-10m-a-minute-in-subsidies-says-imf>.

should be paying a whopping \$5 trillion more a year for energy to cover the hidden health and environmental costs of using fossil fuels.”<sup>25</sup> So coal, oil and gas users should be paying *more* to the companies or governments. That is not as exciting a headline, but it is closer to the point of the study.

For its part, the International Energy Agency (IEA) published a figure of \$640 billion in 2014, which includes almost \$500 billion for fossil fuels alone.<sup>26</sup> The IEA acknowledges that there are also renewables subsidies, but concludes that they are dwarfed by the fossil fuel subsidies.<sup>27</sup> Although the IMF and the IEA are similar institutions, note that their figures are separated by a factor of 10 (\$5.3 trillion IMF versus \$500 billion IEA).

The next annual subsidy figure is \$160 to \$200 billion for fossil fuels, limited to the twenty or so members of the Organization for Economic Cooperation Development (OECD).<sup>28</sup> The OECD includes North America, Japan, and much of Europe, and thus a large slice of the world’s energy consumption.<sup>29</sup> But the IMF, the IEA and the OECD include more or less the same member countries and have more or less the same economic data missions. How can these Ph.D. economists coming out of the same schools—Stanford, Oxford, Tokyo University, MIT, among others—reach such different conclusions? One researcher suggests that OECD economists are more likely to come from backgrounds in agricultural policy, where subsidies have long been seen as beneficial.<sup>30</sup>

The wide range of subsidy figures is not unique to the various international organizations already cited. In the United States, for example, the Energy Information Administration (EIA) (the Department of Energy unit

---

<sup>25</sup> Ian Talley, *IMF Estimates Trillions in Hidden Fossil-Fuel Costs*, WALL ST. J., May 18, 2015. A trenchant critique of the IMF methodology is also well worth reading. See Tim Worstall, *IMF Report on \$5.3 Trillion In Energy Subsidies; Careful, It’s Not Quite What You Think*, FORBES (May 19, 2015), <https://www.forbes.com/sites/timworstall/2015/05/19/imf-report-on-5-3-trillion-in-energy-subsidies-careful-its-not-quite-what-you-think/#5f896f134bfa>.

<sup>26</sup> International Energy Agency, *WORLD ENERGY OUTLOOK 21* (2016). The IEA reported a \$325 billion subsidy figure for fossil fuels alone in 2015, without headlining an accompanying figure for the total subsidy.

<sup>27</sup> *Id.*

<sup>28</sup> Angel Gurría, Secretary General, Organization for Economic Cooperation and Development, Opening Remarks (as prepared for delivery), OECD Inventory of Support Measures for Fossil Fuels 2015 (Sept. 21, 2015), <https://www.oecd.org/about/secretary-general/oecd-inventory-of-support-measures-for-fossil-fuels-2015.htm>.

<sup>29</sup> See <https://www.oecd.org/about/>.

<sup>30</sup> Jakob Skovgaard, *The devil lies in the definition: competing approaches to fossil fuel subsidies at the IMF and the OECD*, 17 INT’L ENVIRONMENTAL AGREEMENTS 341, 350 (2017).

that keeps track of energy statistics) says that annual subsidies for fossil fuels and renewables are about \$15 billion (divided more or less equally between the two).<sup>31</sup> And the U.S.-based non-governmental organization (NGO) Oil Change International (OCI) is in the same ballpark as the EIA, with a U.S. figure of \$20 billion, although it believes the subsidy was overwhelmingly in favor of fossil fuels.<sup>32</sup> On the other hand, the Institute for Energy Research (IER) says that almost all of the \$15 billion in U.S. energy subsidies, some 93%, go to renewable energy, *not* to fossil fuels.<sup>33</sup> What is more, because renewable energy output is a small fraction of total energy, if one expresses energy subsidies per unit of energy output, like a megawatt-hour, the fossil fuel subsidy is less than a dollar, whereas the wind subsidy for wind is \$35 and the solar subsidy was over \$300.

Finally, the American Petroleum Institute (API) and Her Majesty's Government agree that there are no energy subsidies furnished by their respective nations. API, a trade association that includes a number of the larger oil companies, states that federal subsidies to the oil industry are a myth—"the oil and natural gas industry currently receives not one taxpayer 'subsidy,' 'loophole' or deduction."<sup>34</sup> API adds that "[b]etween 2013 and 2017, the oil and natural gas industry paid an effective tax rate of 34 percent versus 26.7 percent for the S&P 500 industrials."<sup>35</sup> Similarly, the United Kingdom's Department of Energy and Climate Change, a signatory to the various climate treaties, replied to a 2015 inquiry asking how much the country subsidizes fuels by simply saying "[t]he UK has no fossil

---

<sup>31</sup> U.S. Energy Information Administration, *Direct Federal Financial Interventions and Subsidies in Energy in Fiscal Year 2016* 3 (Apr. 2018), available at <https://www.eia.gov/analysis/requests/subsidy/pdf/subsidy.pdf>. Most of the American subsidy numbers were quite a bit lower in 2016 compared to 2013, when the incentives included the stimulus funding given to all types of energy following the recession of 2008-09. *Id.* at 8.

<sup>32</sup> Janet Redman, *Dirty Energy Dominance: Dependent on Denial — How the U.S. Fossil Fuel Industry Depends on Subsidies and Climate Denial* 4, 9 (Oil Change International, Oct. 2017), available at [http://priceofoil.org/content/uploads/2017/10/OCI\\_US-Fossil-Fuel-Subs-2015-16\\_Final\\_Oct2017.pdf](http://priceofoil.org/content/uploads/2017/10/OCI_US-Fossil-Fuel-Subs-2015-16_Final_Oct2017.pdf).

<sup>33</sup> Institute for Energy Research, *Fossil Fuels Dominate U.S. Energy Production, But Receive a Small Percentage of Federal Fuel Subsidies* (Jan. 9, 2019), <https://www.instituteforenergyresearch.org/renewable/fossil-fuels-dominate-u-s-energy-production-but-receive-a-small-percentage-of-federal-fuel-subsidies/>.

<sup>34</sup> Stephen Comstock, *The Truth on Oil and Natural Gas "Subsidies"*, ENERGY TOMORROW BLOG (Jan. 19, 2014), <https://www.api.org/news-policy-and-issues/blog/2014/01/29/the-truth-on-oil-and-natural-gas-subsidi>.

<sup>35</sup> American Petroleum Institute, *Oil & Natural Gas: Supporting the Economy, Creating Jobs, Driving America Forward* (2018), [https://www.api.org/~media/Files/Policy/Taxes/DM2018-086\\_API\\_Fair\\_Share\\_OnePager\\_FIN3.pdf](https://www.api.org/~media/Files/Policy/Taxes/DM2018-086_API_Fair_Share_OnePager_FIN3.pdf).

fuel subsidies.”<sup>36</sup> Some critics dismiss these statements as spin—“a classic political strategy to simply deny that key interventions are subsidies at all.”<sup>37</sup> I would remind you of Orwell’s observation that *all* comments in the political arena should themselves be deemed to be political.<sup>38</sup>

Table 1 summarizes these figures, all measured in roughly the same 2014 or 2015 timeframe.

Table 1. How Much Is Energy Subsidized?

| Source                  | Figure                                                                                             |
|-------------------------|----------------------------------------------------------------------------------------------------|
| Nelder                  | <i>Trillions and trillions, for U.S. fossil fuels</i>                                              |
| IMF                     | <i>\$5.3 trillion annually, for global fossil fuels</i>                                            |
| IEA                     | <i>\$640 billion annually globally, ~\$500 billion for global fossil fuels</i>                     |
| OECD                    | <i>\$170 billion annually, for OECD country fossil fuels</i>                                       |
| EIA                     | <i>\$15 billion annually, for U.S. federal subsidies; split between renewables and fossil fuel</i> |
| OCI                     | <i>\$20 billion annually, for U.S. federal subsidies; almost all for fossil fuel</i>               |
| IER                     | <i>\$15 billion annually, for U.S. federal subsidies; almost all for renewables</i>                |
| API                     | <i>Zero for federal U.S. oil subsidies</i>                                                         |
| UK Climate Change Dep’t | <i>Zero for UK fossil fuel subsidies</i>                                                           |

There are trillions on the board, and there are zeroes on the board. I trust you will agree with me that I do not yet have a good answer to the question in the title of my article.

<sup>36</sup> U.K. Department of Energy & Climate Change, *Freedom of Information Request* (FOI 2015/15308, Aug. 17, 2015), [https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment\\_data/file/455512/FOI\\_2015\\_15038\\_PUB.pdf](https://assets.publishing.service.gov.uk/government/uploads/system/uploads/attachment_data/file/455512/FOI_2015_15038_PUB.pdf).

<sup>37</sup> Doug Koplow, *Defining and Measuring Fossil Fuel Subsidies* 40 (2018).

<sup>38</sup> See note 13 above.

## II. WHAT IS YOUR DEFINITION OF “SUBSIDY”?

What is going on? At root, of course, is that the answer to the question in my title depends on the meaning of the word “subsidy.” We must defer conversation about substantive issues, namely the role of energy policies and the economics and politics of energy fuel sources and energy uses, and instead engage in a discussion of how we define our terms.<sup>39</sup>

### *A. Measuring Subsidies*

There is a thriving literature on how to calculate subsidies. One approach is to identify the payments or costs you believe constitute subsidies in a given sector like energy, and stack them up. This is referred to as the inventory method.<sup>40</sup>

Another approach is instead to confirm what a consumer pays in a given country for the energy in question, and to compare that to what the energy should have cost—either based on a cost buildup within that country, or on the price of the energy on the world market or in a comparable country. This is referred to as the price-gap method.<sup>41</sup> There are also hybrid approaches where inventories and price-gaps are used for different types of subsidy. Subsidies granted to producers are often accounted for separately from subsidies granted to consumers.<sup>42</sup>

The challenge for all these methods is establishing the baseline from which one starts calculating what an energy subsidy is. This is a bit like standing onshore, trying to measure the height of someone standing aboard a boat that is rising and falling in the waves.

In his assessment of World Trade Organization (WTO) subsidies, Alan Sykes notes that “[m]uch of what governments do—from highway construction to educational funding to the administration of the courts to direct fiscal outlays to firms—directly or indirectly promotes business activity.”<sup>43</sup> We taxpayers collectively pay for a court system allowing oil

---

<sup>39</sup> Cf. RICHARD A. POSNER, AN AFFAIR OF STATE: THE INVESTIGATION, IMPEACHMENT, AND TRIAL OF PRESIDENT CLINTON 55, 57 (1999) (discussing the meaning of “is”).

<sup>40</sup> See Koplow, note 37 above, at 24.

<sup>41</sup> *Id.*

<sup>42</sup> *Id.* at 24, 26.

<sup>43</sup> Alan O. Sykes, *The Questionable Case for Subsidies Regulation: A Comparative Perspective*, 2 J. LEGAL ANALYSIS 473 (2010).

companies as well as others to assert and defend their rights; transportation systems benefitting energy as well as non-energy shippers; military forces protecting borders for all of us; a tax collection system under which real property mortgage interest is generally deductible; and a host of other widespread benefits. Conversely, governments levy taxes and impose regulations across the population and across industries. In a world in which government actions are so intense and so pervasive, where do we draw a line and say below this line is not a subsidy at all, but above this line, we will call it an energy subsidy?

Little if any light is shed on the agency and think-tank figures for energy subsidization by looking at economic and legal authorities. That is not where the battle is being waged. Instead, there is a heavy dose of political thinking going on, inside and outside each institution. There is thus a need to appraise the political as well as the economic approach employed by each source.

## B. *The Devils in the Specific Definitions*

1. *Defining the IMF Subsidy Term.* The IMF staff papers are transparent sources of information about the subsidization of energy. They explain their own definition of “subsidy” in considerable detail, and provide a data set that allows others to understand the numbers.<sup>44</sup> The IMF staff are quite candid that their definition is far broader than the definitions used by their peer institutions,<sup>45</sup> and further still beyond the dictionary<sup>46</sup> and WTO<sup>47</sup>

---

<sup>44</sup> IMF 2015 at 10.

<sup>45</sup> *Id.* at 4-5.

<sup>46</sup> The MIT economics dictionary says that a subsidy is a payment made by the government (or possibly by private individuals) that forms a wedge between the price consumers pay and the costs incurred by producers, such that price is less than marginal cost. MIT DICTIONARY OF MODERN ECONOMICS (4th ed. 1992). Oxford University’s Finance and Banking Dictionary says a subsidy is a payment by a government to producers in order to induce the producers to sell at a lower price. OXFORD DICTIONARY OF FINANCE AND BANKING (6th ed. 2018). And the University’s Economics Dictionary says a subsidy is a payment by a government to either producers or consumers, and that the purpose of a subsidy was not just to induce a lower price, but to ensure that the producers receive more consideration than the consumer pays. OXFORD DICTIONARY OF ECONOMICS (5th ed. 2017) (emphasis added). Some subtle differences are readily apparent. The bonus lesson here is always to consult more than one dictionary.

<sup>47</sup> Pursuant to its 1947 General Agreement on Trade and Tariffs and as more specifically provided in its more recent Agreement on Subsidies and Countervailing Measures, the WTO holds that a subsidy is a financial contribution by a government in one of the following forms: (i) a direct financial

definitions of “subsidy,” which are anchored on monetary payments.<sup>48</sup> Possessed with these disclosures, we can understand how they produced the figure of \$5.3 trillion in subsidies per year, when other institutions report figures that are small fractions of that number.<sup>49</sup> Reading their work is a worthwhile exercise, even if one ultimately disagrees with the IMF’s conclusions.

The IMF staff defines both a consumer subsidy and a producer subsidy.<sup>50</sup> The producer subsidy is easier to explain: it is a payment or other benefit given to a producer of a commodity that is not intended to be passed along to the consumer.<sup>51</sup> If the government confers on oil companies a capital gains tax break or a low-interest loan, the IMF reflects its value in its inventory of energy subsidies. If a national oil company does not pay dividends, so it does not have a cost of equity capital compared to its peer firms, that avoided cost is treated as a subsidy.

Now let us look at the consumer subsidy. This subsidy is expressed as the difference between what a consumer pays for energy and what that consumer should pay.<sup>52</sup> What the consumer pays is a straightforward fact: the researchers take into account the net price including all taxes for units of energy, typically transportation fuel (diesel or gasoline) or electricity. That price is compared to the price that the consumer should pay, and the latter of course is a constructed number.

The constructed number has three pieces. The first is a supply price.<sup>53</sup> The IMF starts with what capital and operating expenses the producer and distributor incur to produce and deliver the energy. But the IMF research-

---

transfer—a payment of money; (ii) a forbearance of an obligation, like an exemption from a tax otherwise due; (iii) provision of goods and services at a price below market price; or (iv) enumerated benefits that are specific to import/export scenarios. *See* Agreement on Subsidies and Countervailing Measures art. 1, Apr. 15, 1994, Marrakesh Agreement Establishing the World Trade Organization, Annex 1A, Multilateral Agreements on Trade in Goods-Results of the Uruguay Round (1994).

<sup>48</sup> The dictionary and legal definitions are narrow in the eyes of most of the investigators described above, as they focus on actual payments by government or, in the WTO’s case, a forbearance of obligations otherwise owed to government. *See* note 47 above.

<sup>49</sup> IMF 2015 at 5, 29.

<sup>50</sup> *Id.* at 4-5, 10-11. There are interesting but separate questions why both consumer subsidies and producer subsidies exist, and when a government or political system uses one rather than the other to achieve a policy goal.

<sup>51</sup> *Id.* at 11.

<sup>52</sup> *Id.* at 10.

<sup>53</sup> *Id.* at 7.

ers use a supply price “evaluated at efficient prices.”<sup>54</sup> That is, they examine whether the producer or distributor benefits from a subsidy, say, on steel employed in building a pipeline or refinery; if so, the researchers add the subsidy cost to the constructed supply price. The researchers similarly seek to identify anything they think inefficient in the input markets.

The second piece is taxes, often an excise tax collected per unit.<sup>55</sup> In the United States, this is typically a gasoline tax, or a sales tax assessed and collected on the final sale for consumption; elsewhere, it may be a value-added tax (VAT) assessed and collected at various points in the supply chain. The IMF researchers look at whether the tax on energy is lower than what is imposed on other goods, and if so, increases that energy tax in the constructed price.<sup>56</sup> If you are in a country in which the VAT on fuel is collectively 5%, but the VAT on purchases of other goods sums to 20%, the IMF staff might impute 15% more VAT into their constructed price. (As one of the critics of their approach said, if your country does not have a tax, one will be provided to you by the IMF.<sup>57</sup>)

The IMF researchers thus begin with facts—the actual price the consumer pays, the actual supply price, and the actual tax. The IMF then increases the constructed supply price to reflect what is considered a more efficient allocation of resources, in terms of the input costs and equalized tax burdens.

The third piece of the constructed sales price is a Pigouvian tax addressing externalities.<sup>58</sup> A.C. Pigou was an advocate of taxes on products that correct for externalities created by activity of the producer or consumer.<sup>59</sup> I had thought that the quid pro quo of such a tax was that the money so raised was used to correct the problem, but that feature is not a part of the definition. It is enough that you increase the price of the good that causes the externality; what the government does with the money is a separate question, though often there is a connection.

In the United States, we see enactments of taxes on alcohol, tobacco, and sugary soda beverages in response to the health care costs and human

---

<sup>54</sup> *Id.*

<sup>55</sup> IMF 2015 at 9.

<sup>56</sup> *Id.*

<sup>57</sup> Worstal, note 25 above.

<sup>58</sup> IMF 2015 at 7.

<sup>59</sup> See generally ARTHUR C. PIGOU, *THE ECONOMICS OF WELFARE* (4th ed. 1932).

health risks occasioned by these substances. Some of that money makes it back into targeted health programs; some does not. Gasoline taxes are imposed, and proceeds are steered towards the construction and repair of public highways worn down by the associated vehicle traffic.

The traditional realm of Pigouvian taxes is the body of laws that are enacted by a legislative body. The IMF researchers take the concept to a different level, because they look for externalities that are *not* addressed by such an enactment.<sup>60</sup> The economic impact of the externality becomes what they call an “implicit subsidy.”<sup>61</sup> Adding a value for that impact to the constructed supply price for the product, in the calculation of consumer subsidy, results in what they call an “efficient tax.”<sup>62</sup> We certainly do not find these two terms defined in the MIT or Oxford dictionaries.

The differences among the definitions leading to the Table 1 figures are apparent. The IEA parts company with the IMF when the IEA states it will only recognize actual government actions that confer economic benefits on producers or consumers.<sup>63</sup> Similarly, the OECD focuses on what the government does or taxes (not what it does not do or does not tax).<sup>64</sup> The EIA, OCI and IER all focus on the federal budget line-items in their efforts to identify how much money the government will spend or forego; hence their agreement with a \$15 to \$20 billion approximate annual figure for subsidization, despite their profound disagreement over the relative mix of beneficiaries.<sup>65</sup> Finally, both the API and the UK say that a subsidy has more or less the dictionary definition: an outward financial transfer, typically by a government.<sup>66</sup> They hold that a subsidy is created when the United States Treasury or Her Majesty’s Treasury writes a check and gives that outlay to the producer. By this logic companies, in complying with the tax code, are simply complying with the law, even if that code has beneficial features for their particular industry.

---

<sup>60</sup> IMF 2015 at 8.

<sup>61</sup> See, e.g., IMF 2015 at 23 (“The revenue gain is quite a lot lower than the post-tax energy subsidy, as it accounts for the price-induced reduction in energy use and implicitly assumes tax rebates are used to promote adoption of emission control technologies for coal, which lowers net revenue.”).

<sup>62</sup> *Id.* at 7, 9.

<sup>63</sup> See notes 26 and 27 above and the accompanying text.

<sup>64</sup> See note 28 above and the accompanying text.

<sup>65</sup> See notes 31-33 above and the accompanying text.

<sup>66</sup> See notes 34-36 above and the accompanying text.

2. *Applying the IMF Definition.* Equipped with an understanding of the IMF's definition, we can now see whence the IMF's \$5.3 trillion figure comes. The predominant difference between the IMF figure and the IEA and OECD figures (\$800 billion and \$160-200 billion, respectively) is attributable to just two sources.

The first is consumer fuel subsidies, largely in the developing world. The German state agency GIZ regularly surveys prices across many countries and ranks them based on what the consumer pays at the pump.<sup>67</sup> At the low end of the 2016 data we find oil states and politically volatile countries. Iran, for example, had a gasoline price of 40 cents, 0.40 U.S. dollar, per liter.<sup>68</sup> As much as twenty percent of the Iranian gross domestic product has been earmarked to fuel subsidies; it has formed one-seventh of the global subsidies in some time periods, when the price in that country was only 10 cents per liter. Another country, Venezuela, had a gasoline price of only 0.8 cents, 0.008 U.S. dollars, per liter—even before the height of the current governmental and economic crisis.<sup>69</sup>

The United States is in the middle of the gasoline pump prices, at 71 cents per liter.<sup>70</sup> On the other side of the U.S. there are countries with higher prices, especially in Europe; in Norway the price of gasoline was \$1.78 per liter.<sup>71</sup> The European prices can fairly be said to be Pigouvian; high prices (and low prices) certainly affect behaviors on the use of energy.

Developing-world fuel subsidies are one large component of the IMF's \$5.3 trillion.<sup>72</sup> This partially explains why figures for just the OECD countries, and for just the United States, are so much lower than the IMF figure. Many of the subsidies that the investigators are identifying are in oil states and emerging-economy countries, where prices are kept much lower than they would otherwise be.

---

<sup>67</sup> See Deutsche Gesellschaft für Internationale Zusammenarbeit (GIZ) GmbH, German Federal Ministry for Economic Cooperation and Development, *Non-alternative facts on international fuel prices in 2016*, <http://www.indiaenvironmentportal.org.in/files/file/Non-alternative%20facts%20on%20international%20fuel%20prices.pdf>. See also Benjamin K. Sovacool, *Reviewing, Reforming, and Rethinking Global Energy Subsidies: Towards a Political Economy Research Agenda*, 135 *ECOLOGICAL ECONOMICS* 150 (2017).

<sup>68</sup> GIZ, note 67 above.

<sup>69</sup> *Id.*

<sup>70</sup> *Id.*

<sup>71</sup> *Id.*

<sup>72</sup> IMF 2015 at 29.

The second major contributor to the IMF \$5.3 trillion figure is the staff's Pigouvian efficient tax, correcting what are seen as "implicit subsidies."<sup>73</sup> This hypothetical tax addresses environmental and traffic congestion harms the IMF links to fossil fuels that are not being captured in the product price:

- Particulate emissions lead to health costs, illness and deaths, so the IMF puts price tags on those health costs, the air filters and other devices used to protect against particulates, and the decreased economic contributions and tax payments of workers lost to occupational disease and premature mortality;
- A carbon price is imputed as placeholder compensation for the climate change damage caused by carbon dioxide and methane emissions;
- The IMF includes in the gasoline and diesel price the lost time of drivers due to traffic congestion, accidents, and road damage in the pump price, apparently on the theory that public transportation powered by clean electricity could take the place of fossil-fuel powered automobiles. Of course, electric vehicles can contribute to traffic jams, but the IMF attributed traffic costs to fossil fuels.<sup>74</sup>

In the eyes of the IMF researchers, the fact that a state failed to enact a tax is an "implicit subsidy." By including the health costs and the other impact costs of the fossil fuel, the researchers are achieving on paper the equivalent of enacting what they term an "efficient tax." The researchers do not say that they inquired whether any particular country's political system ever considered such a tax, or whether such a tax was proposed but rejected through the political processes. Neither do they say whether a rejection of such a tax in the political process could be legitimate.

These are certainly bold maneuvers to make in any heated political climate. In the IMF researchers' 2015 working paper, they wrote that a good time to reform subsidies, by withdrawing fossil fuel subsidies and raising taxes on fossil fuels, is when the underlying commodity prices are low, "as the public opposition to reform is likely to be somewhat muted."<sup>75</sup>

---

<sup>73</sup> *Id.*

<sup>74</sup> *Id.* at 7-8, 10.

<sup>75</sup> *Id.* at 29.

There is something chilling about the phrase “*public opposition to reform*,” reform that is not supported by a political system. It sounds Orwellian—or even like Rousseau’s general will overriding popular sentiment.<sup>76</sup> Suffice it to say that this sentence does not appear in the IMF staff’s 2017 published version.

I had already begun inserting Orwell quotes in this piece when an article in the *Telegraph* came to my attention: “[T]here is something rather Orwellian about describing a failure to tax something as a subsidy . . . Re-branding externalities as subsidies might make for good headlines in the Left-wing press, but it also makes for stifled debate and woolly thinking.”<sup>77</sup>

We indeed saw above those headlines, critiques of subsidies of Big Oil,<sup>78</sup> when according to the economists it is consumers who should be paying even more money, in order to drive down the demand for fossil fuels.

My first instinct was to agree with the author that the IMF researchers had done violence to the meaning of “subsidy.” But my second thought was to ask what was gained by engaging in a debate about definitions. This is not a debate on matters of substance, such as the impacts of fossil fuels or the health costs of industrial activities. It is and remains just a debate on whether one should call an externality a subsidy.

### III. HOW CAN WE COMMUNICATE ABOUT SUBSIDIES?

If you are talking about subsidy, or listening to someone talk about subsidy, then a definition is in play, whether explicit or implicit. It is a good idea to recognize that, and to be aware other people may be using the same word in different ways.

But definitional disputes would not seem to explain differences as vast as a quadrillion versus zero. There is also a question of political discourse and rhetoric: *what are we really talking about when we talk about subsidies?* If we do not have a clear picture of each participant’s purpose in having the conversation, we will continue to talk past one another even when definitions are explicit.

---

<sup>76</sup> See JEAN-JACQUES ROUSSEAU, ON THE SOCIAL CONTRACT; OR, PRINCIPLES OF POLITICAL RIGHTS (1762).

<sup>77</sup> Sam Bowman, *IMF fuel subsidies are not what they seem*, TELEGRAPH, May 24, 2015.

<sup>78</sup> See note 23 above and the accompanying text.

*A. Subsidies Beyond the Definitions*

How many people's minds will be changed during a debate over definitions? Can we really convince someone, by arguing over definitions, that he or she should change position on an underlying environmental or energy policy?

Let us progress from the discussion of definitions, which may or may not be fruitful, to the broader question of how we can have conversations with one another about subsidies. This is not merely a matter of terminology. A difference as large as that between a quadrillion dollars and zero is also a matter of underlying motivations. Following is a series of questions designed to elicit the concerns and goals of each of those engaging in a dialogue about subsidies.

1. *In what discipline is the speaker engaging?* The EIA specifically says that it is just looking at line-items in federal budgets—grant money or research and development (R&D) money going out, less tax revenues coming in. It totals up the net money that the government spends on energy-specific activity.<sup>79</sup> The EIA is thus engaging in something akin to the discipline of accounting.

The IEA and the OECD, on the other hand, are willing to take regulatory policy other than transfers of government money into account, so long as the policy prescribes a transfer of costs or benefits from one group to another group.<sup>80</sup> Those agencies are engaging in what might be called regulatory policy analysis.

The IMF is essentially transforming the energy economy, on paper at least, by saying that in some cases, a country's taxes should be higher and its subsidies lower than they actually are.<sup>81</sup> The IMF is engaging in what we might call political economy or even political philosophy.

The bookend figures—and how often it is the case that extremes resemble one another—come from parties that do not purport to be part of such disciplines. The fossil fuel infrastructure reformers envision a completely transformed energy future, and the API and the UK are using the terms akin to the economics dictionary definitions limited to outlays by governments.<sup>82</sup>

---

<sup>79</sup> See notes 31-33 and 65 above and the accompanying text.

<sup>80</sup> See notes 26-28 and 64 above and the accompanying text.

<sup>81</sup> See Part II.B above.

<sup>82</sup> See notes 15-19, 34-36, and 66 above and the accompanying text.

2. *Why does the speaker care about subsidies?* The IMF staff appears strongly motivated to encourage rational economic decision-making reflecting all impacts of each energy source. Any subsidy or tax that moves the supply and demand curves away from where they should be causes more fossil fuel to be consumed in Venezuela and less renewable energy to be used in the United States than is efficient to do so, taking externalities into account.

Another speaker may champion subsidies in order to encourage a nascent technology or business in a home country. There are many examples of this kind of stimulus: the Asian Tigers, the United States railroads, and other situations where a domestic government has favored a new industry so that it can effectively compete in broader markets.

If nurturing an industry is a goal of such speakers, it is fair to ask what they think should happen when the domestic industry successfully establishes itself. When the home force becomes viable, will they stop feeding steaks to the tiger? Or will those subsidies now be a sacred entitlement?

Are speakers concerned with subsidies because they are seeking to mitigate effects of societal change? For example, are they trying to compensate coal miners for the impacts of transitioning from a disfavored fuel source or activity? Will they be trying to compensate truck drivers (or attorneys) who will be displaced by artificial intelligence or robots? Or is a speaker merely seeking to move costs or benefits up or down the supply chain, to a place where a subsidy or tax is easier to provide or collect, assess and target?

Is the speaker seeking to treat one energy input like other energy inputs—to put them on a “level playing field”? Or is the speaker comparing one energy input to another sector entirely? For example, oil companies may contend that a depletion allowance puts them on a level playing field with industrial companies able to depreciate their physical plants. They are comparing themselves not to renewable power generators, but instead to owners of factories. The API notes that the equivalents of many petroleum deductions are available to all extractive resources companies, or to all business taxpayers.<sup>83</sup>

---

<sup>83</sup> See note 34 above (noting that the percentage-depletion deduction “is available to all extractive industries (such as gold, iron, clay and others) in the U.S. and is in no way unique to the oil and natural gas industry.”).

3. *What do the speakers want done with subsidies?* Do they want to create one, or take one away, or take away all of them? Do they want to improve the subsidies, either by making them more efficient or by concentrating them on the people that deserve them the most? (One problem with selling gas for a penny a liter is that the rich and the poor both pay a penny; a voucher system may be more effective.)

How do the speakers intend to effect any desired change in the subsidy landscape? Will they look for opportunities when “the public opposition to reform is likely to be somewhat more muted,” as the IMF researchers suggested in their working paper?<sup>84</sup>

David Victor reminds us that government leaders try to stay in power, and that popular subsidies help government leaders stay in power.<sup>85</sup> “Once a subsidy is created, regardless of its original purpose, interest groups and investments solidify around the existence of the policy and make change difficult.”<sup>86</sup> Those groups, who might have had nothing to do with each other before the subsidy was introduced, will tend to oppose the removal of that benefit.

Given those realities, what can an advocate of change in subsidies do about them? One should not imagine that a subsidy can be removed without some cost. Some groups likely will demand compensation over some time period. Political capital and financial capital will be needed for such a transition. Victor urges transparency in communicating why the subsidy is counter-productive, reforms so that any remaining subsidies are targeted at the right people for the right reasons, and consideration of policy tools other than subsidies that are more efficient ways of achieving a given policy goal.<sup>87</sup>

4. *What next?* Assume that the speaker is successful in removing or reforming a subsidy. What will happen next? What will people do in response? The speaker may assume he or she knows. Here is Orwell’s cautionary note: “People can foresee the future only when it coincides with their own wishes, and the most grossly obvious facts can be ignored when they are unwelcome.”<sup>88</sup>

---

<sup>84</sup> IMF 2015 at 29.

<sup>85</sup> David G. Victor, *The Politics of Fossil-Fuel Subsidies* 7, 14 (International Institute for Sustainable Development, Oct. 2009), available at [https://www.iisd.org/gsi/sites/default/files/politics\\_ffs.pdf](https://www.iisd.org/gsi/sites/default/files/politics_ffs.pdf).

<sup>86</sup> *Id.* at 7.

<sup>87</sup> *Id.* at 8, 26.

<sup>88</sup> GEORGE ORWELL, *London Letter* (Dec. 1944), in *PARTISAN REVIEW* (Winter 1945).

An example of the complications of subsidy removal is the “transitional gains trap.”<sup>89</sup> At the moment a subsidy is introduced—say a per-liter benefit to a fuel producer—the incumbent producers clearly receive a benefit. They had already bought the business; now their returns are greater because they are receiving a subsidy. But what happens when they sell their business, or expand their facilities, or compete with others for new capital or labor? The superior rate of return will lead participants to bid up the price of those inputs. Someone investing in a business that already enjoys a subsidy will pay more and expect more.

On the other hand, a second, later owner of this same business is not getting an extraordinary rate of return. It paid fair value for a business that includes the subsidy. You can imagine how hard the second owner is going to fight to keep that subsidy in place, and how creative it will be in response to any attempt to eliminate it. Policy discussants should be humble about their ability to predict what will happen when we either institute or seek to remove a subsidy.

### *B. The Energy Policy Palette*

The challenge with definitions, however necessary they may be for a numerical figure to have meaning, is that debate ensues on the terms and not on the policies. Instead of talking about terminology, can we finesse the definition trap and enlarge the field of debate to encompass all the possible policies?

My analogy, depicted in the chart attached as an Appendix, is to a palette. Consider an art class in which stubbornly independent students are drawing different things: a landscape, a still life, a portrait. They are not likely to agree on the common subject, or how to compare any artwork to another. One artist might select a solitary hue, while others might try out the entire rainbow. But all the artists can agree that there exist all the colors that are displayed on their common palette.

Similarly, industry trade associations will not accept that the salaries of sailors in the Fifth and Seventh Fleets should be incorporated into the price of diesel. Fossil-fuel infrastructure reformers will not accept that only checks drawn on the United States Treasury count as subsidies. Most

---

<sup>89</sup> Gordon Tullock, *The Transitional Gains Trap*, 6 BELL J. ECON. 671 (1975).

observers are somewhere in the middle; I doubt many of us would either include the cost of the military, or limit the calculation to Treasury checks. But these activities and many more in fact constitute policy tools.

If you want to talk about externalities, talk about externalities. So what if many people, perhaps almost all people, would not call an externality a subsidy? I suggest that, at least on occasion, we move beyond arguing over the limits of the word “subsidy,” and instead consider what policy tools exist, whether they are being used, how they perform, and whether they should be changed or discarded.

In my palette, I have grouped policies into eight categories. The upper left-hand column is where the dictionary definitions of “subsidy” reside—money and other direct financial transfers. Going down the column, we come to taxes and exemptions. Next, we have the international trade tools, including but not limited to the consideration of import/export costs and benefits in which the World Trade Organization is interested. After that, we encounter economic regulation more broadly, not just for imports and exports, but for other purposes. This stage might be where the OECD researchers fully join the conversation, for example.

Along the right-hand side of the palette, I have summarized a host of activities in which governments engage, whether specific to the energy industry or across the entire economy. In a continuation of the financial theme, governments can make grants, lend producers or consumers money, or provide government full faith and credit or guarantees to reduce credit costs. Following that, there are all sorts of services or products that are provided by governments for free or at a low cost: for example, grants for basic research, or the Coast Guard’s clearing harbors for everyone. I use the rather antiquated term “boon” to apply to any of these kinds of goods, services or technology that are being provided for free, or below cost, or below market. You may break them back apart as you please in your conversations.

Next are transfers of risk in an energy activity. These transfers can take risks from an individual participant and distribute them to their entire industry, so that if one person has a problem, some of it may be spread to and borne by a wider class of participants. Alternatively, such risks can be transferred to insurers, or in some cases absorbed by the government itself. The classic example is the Price-Anderson Act, where the first layer spreads certain risks from the nuclear reactor operator to private insurers,

the second layer features indemnity and insurance procured by the entire industry, and the third layer manifests itself in a government liability program.<sup>90</sup> All these kinds of risks can be allocated by governments and private parties in a wide variety of ways.

And finally, the palette firmly places externalities on the policy page, even if most parties do not regard them as subsidies. Some may take the cost of the impacts into account in assessing the efficient price of the product, and others may engage in a discussion about why that cost is not currently imposed. We can talk with each other about what is it in the political system that results in the current treatment of these externalities. We can ask what it would take, in a given political system, to cause more of those externalities to be borne in the product price, and what might happen if a different treatment of the externality were instituted.

## CONCLUSION

Definitions are vital to understanding and communication, but they can also get in the way of substantive dialogue. If you spend all your time debating whether one can call an externality a subsidy, I am not sure you will persuade anyone on the other side. You will have simply moved the debate to the realm of semantics rather than that of energy policy. When you get locked in a definitional dispute, consider enlarging the conversation with reference to your preferred elements of a palette.

This brings me to three final points from Orwell. First, “[i]f thought corrupts language, language can also corrupt thought.”<sup>91</sup> It is true that if our thinking is fuzzy, we are likely to use language in a fuzzy way. But Orwell observes that the converse is also true—if we use language in a fuzzy way, and use terms without making sure that other people understand how we define them, that usage will lead to fuzzy thinking.

Second, “[p]olitical language—and with variations this is true of all political parties, from Conservatives to Anarchists—is designed to make

---

<sup>90</sup> Price-Anderson Nuclear Industries Indemnity Act, Pub. L. No. 85-256, 71 Stat. 576 (1957). A paper maintains that this Act is not a “direct subsidy” of the nuclear industry. See Geoffrey S. Rothwell, *Does the US Subsidize Nuclear Power Insurance?* (Stanford Institute for Economic Policy Research, Jan. 2002), available at [http://www.siepr.stanford.edu/papers/briefs/policybrief\\_jan02.pdf](http://www.siepr.stanford.edu/papers/briefs/policybrief_jan02.pdf). Why not? Because the author cites the MIT Dictionary of Modern Economics definition requiring “a payment.” (He does acknowledge that “there is a potential (or expected) subsidy.”) *Id.*

<sup>91</sup> See note 13 above.

lies sound truthful and murder respectable, and to give an appearance of solidity to pure wind.”<sup>92</sup> We should be wary and watchful of political communication. Note that Orwell indicts the left as well as the right here. I have not witnessed homicide in my journey on this particular subject, but my vessel has certainly been buffeted at times—from both port and starboard—by what feels like pure wind.

Last, use “language as an instrument for expressing and not for concealing or preventing thought.”<sup>93</sup> We should employ language, in talking about subsidies and policies, in a way that encourages the articulation of ideas and the fostering of constructive dialogue. We should avoid harboring an unstated definition that would surprise our companions, conceal our own thought, or, worse yet, prevent clear thinking by ourselves or on the part of others.

Define your terms, to be sure, but do not let your terms confine your thought or your conversations. Heeding Orwell, I offer this prescription for escaping from *Animal Farm* and moving beyond 1984.

# # #

---

<sup>92</sup> *Id.*

<sup>93</sup> *Id.*

APPENDIX



# The Energy Policy Palette

Rob James, Pillsbury Winthrop Shaw Pittman LLP, [rob.james@pillsburylaw.com](mailto:rob.james@pillsburylaw.com), May 2020

## MONEY

|                                                                        |                                                                                                        |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Direct financial transfers to producers or consumers | <b>BEYOND:</b><br>fuel subsidies (tran petrol, \$0.10/liter) grants for and purchases of biofuel crops |
|------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------|

## TAXES

|                                                                                                                                                      |                                                                                                                    |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Deductions and credits on income, depletion, depreciation, EOR credits, ITC (solar), PTC (wind), expensing of drilling costs, MLPs | <b>BEYOND:</b><br>foreign income and excise credits; loss carryforward; LIFO accounting practices; ethanol credits |
|------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------|

## CUSTOMS

|                                                                                                |                                                                                              |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Quotas, tariffs, duties, embargoes, international market-access restrictions | <b>BEYOND:</b><br>ban on imports of fuel; tariffs on solar cells ethanol, steel and aluminum |
|------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------|

## REGULATIONS

|                                                                                                 |                                                                                                                        |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Price controls, rate caps, domestic market-access, local content requirements | <b>BEYOND:</b><br>coal preference, renewable portfolio standards, feed-in tariffs, eminent domain for private entities |
|-------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------|

## LOANS

|                                                                                                                   |                                                                                                                                        |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Low-interest, low security, preferential loans and guarantees, government full faith and credit | <b>BEYOND:</b><br>DOE loans, guarantees; ARRA guaranty programs Agricultural loans and guarantees for efficiency; Exportbank financing |
|-------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------|

## BOONS

|                                                                                                        |                                                                                                               |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Government services and property without compensation, or below cost or world prices | <b>BEYOND:</b><br>Low royalties; data, R&D, transportation network TVA power and water improvements, highways |
|--------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------|

## RISKS

|                                                                |                                                                                                                                       |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Transfers of exposures to industry or public | <b>BEYOND:</b><br>Price-Anderson Act; decommissioning costs; Strategic Petroleum Reserve deduction of legal settlements and judgments |
|----------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------|

## EXTERNALITIES

|                                                                                                                                             |                                                                                                                                                                                                                                                             |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>ENERGY:</b><br>Incorporating, or possibly failing to incorporate, costs of pollution, health care & other impacts into the product price | <b>BEYOND:</b><br>Particulate, healthcare costs; CO <sub>2</sub> and CH <sub>4</sub> emission impacts; traffic, congestion, accidents same impacts for autos, power and cement plants; sprawl; national security deployments and foreign aid in Middle East |
|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

# Journal of Legal Metrics

*Editor-in-Chief*

Joshua Cumby

*Senior Editors*

Adam Aft, Craig Rust, Tom Cummins,

Thomas R. DeCesar & Rosanne Rust

---

## About the cover

By Adam Aft & Joshua Cumby. We're proud to present for the first time this aggregation of the stats collected in our ongoing Appellate Review series, which tracks the parallel affirmation rate of the United States Courts of Appeals and whose sixth installment appears in this issue of the Journal of Legal Metrics. *See also* Tom Cummins & Adam Aft, *Appellate Review*, 2 Journal of Law (1 J. Legal Metrics) 59, 74 (2012); Tom Cummins & Adam Aft, *Appellate Review II – October Term 2011*, 3 Journal of Law (2 J. Legal Metrics) 37, 46 (2013); Tom Cummins, Adam Aft & Joshua Cumby, *Appellate Review III – October Term 2012 and Counting*, 4 Journal of Law (3 J. Legal Metrics) 385, 394 (2014); Joshua Cumby, *Appellate Review IV – October Term 2013 – The Prodigal Sums Return*, 8 Journal of Law (5 J. Legal Metrics) 65, 68 (2018); Joshua Cumby, *Appellate Review V – October Term 2014*, 9 Journal of Law (6 J. Legal Metrics) 54, 58-59 (2019).

We've chosen to rank the Courts of Appeals by batting average—wins (W) divided by at bats (AB)—rather than wins alone, as the first is a more representative (and thus fairer) way to gauge their relative success in games umpired by the Supreme Court of the United States. After all, the Courts of Appeals don't get to pick which games they play; the best they can do is choose the winning side. We've also divided the twelve courts we track into two conferences: East and West. And if the Appellate Review World Series were taking place today, the Fourth and Tenth Circuits would play for the championship.

---