

Energy Subsidies: Political Drivers and Options for Better Targeting

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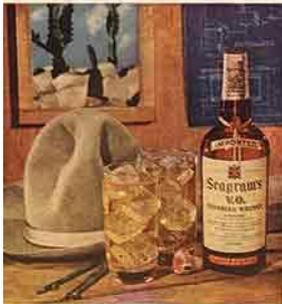
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Realizing a Greater Good is Always Central to Selling a Subsidy to the Public

BY MEN WHO PLAN BEYOND TOMORROW



Deserts Will Bloom Through Atomic Power



NEW "BREAD BASKETS" of the world can grow where only sand and scrub had been. Harnessed atomic energy will transform deserts into rich fruit and grain country... provide power to tap subterranean water for irrigation, power to run machines, to operate utilities. Already Atomic scientists are adapting the world's newest wonder to this peacetime use.

AMONG the good things of life, Americans by the millions rate high the wholly unique Canadian whisky they order by name—Seagram's V.O. This lightest of all Canadian whiskeys, this clean-tasting imported blend is Canadian whisky at its glorious best.

This Whisky Is Six Years Old—86.3 Proof, Seagram-Distillers Corporation, N.Y.

Seagram's V.O. Canadian

CANADIAN WHISKY—A BLEND... OF RARE SELECTED WHISKIES

- Dreams are always better when you are spending somebody else's money (and drinking Seagram's).
- *But whose dream?*
- *What timeframe?*
- *What options foregone?*
- *What measures of success?*
- *New problems created?*

Subsidy Policies Have Two Sides: Symbolic and Instrumental

- ***Symbolic*** - selling and defending policies.
 - Helping the poor
 - Creating new jobs and industries
 - Achieving energy security/independence.
 - Mitigating climate change, reduced pollution.
- ***Instrumental*** - actual resource transfers policies generate.
 - Reducing risk/increasing returns for well-connected private investors or industries.
 - Delivering jobs or pork to legislative districts.
 - Power matters.
- Symbolic goals *are* partly real, but often marginalized, distorted in the statutory details and implementation.

Multiple Instruments, Poor Transparency, Measurement Challenges all Worsen Efficacy of Subsidy Policies

- **Financial transfers (grants, R&D support)**
- **Below-market provision of goods or services, including risk-bearing, intermediation benefits**
 - Loans, loan guarantees
 - Indemnification
 - Government-owned enterprises
 - Provision of market intelligence
- **Tax breaks [special taxes] for particular activities**
- **Purchasing preferences or mandates [bans]**
- **Insufficient financial accrual for facility closure, known externalities**
- **Granting [revocation] of property rights**

High



Budget
Visibility and
Ease of
Quantification

Low

Stated Recipient or Not, Subsidies Flow to the Powerful

Fossil Fuel Sector Capture of Post-Hurricane Katrina Gulf Opportunity Zone Bonds*

Category/Project	Issued Amount	% of Total Issued
Fossil Fuel Infrastructure	\$ 4,502,193,000	57.4%
Joint use infrastructure, including fossil fuels	\$ 620,000,000	7.9%
All applicants	\$ 7,839,749,820	
Four of five largest projects were in fossil fuels Sector		
Recipient	Amount Issued	Project
Marathon Oil, refinery	\$ 1,000,000,000	Oil refinery
Lake Charles Cogen Project	\$ 1,000,000,000	Petroleum coke gasification
Exxon Capital Ventures	\$ 300,000,000	Expansion of existing refinery
Valero Energy Corporation	\$ 300,000,000	Hydrocracker unit
FF in Top Five, total	\$ 2,600,000,000	
% of all Issues	33%	

Source: Earth Track tabulations based on data provided by the Louisiana State Bond Commission, applications as of 3 January 2012.

**Gulf Opportunity Zone Bonds are a special class of tax-exempt bonds allowed to help rebuild the Gulf after Hurricane Katrina in 2005. They greatly increased the allowable issuance of tax-exempt bonds for private activities in the affected states, including Louisiana. The tax-exempt status of interest payments enables borrowers to obtain a lower interest rate on the debt.*

Below the Surface: Largest Subsidies to Fossil Fuels Routinely Left Out of Tallies

Solar, Wind, Geothermal

Visible and Quantified

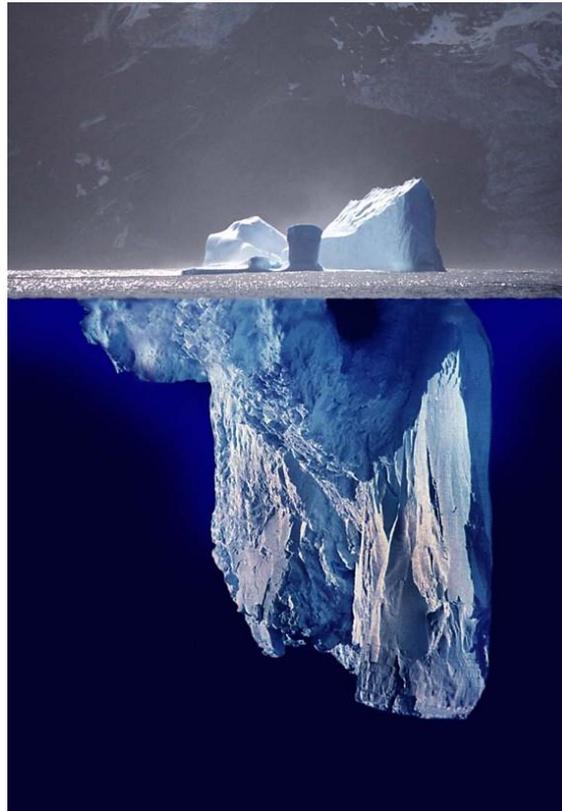
- Tax credits.
- Accelerated depreciation.
- Price premiums via RPS or Feed-in-tariff programs.
- Government R&D.

Visible but Poorly Quantified

- Federal loan guarantees.

Excluded from Subsidy Tallies

- Water use, centralized solar plants.



Photomontage credit: Uwe Kils

Fossil Fuels

Visible and Quantified

- Special depletion and expensing rules and deductions.
- Government R&D.
- Manufacturer's tax credit.

Visible but Poorly Quantified

- Federal loan guarantees.
- Dual-use taxpayers/FTC.
- Accident liability caps.
- Accelerated depreciation.

Excluded from Subsidy Tallies

- Leasing and royalty subsidies.
- Tax-exempt corporate structures.
- Tax-exempt debt for plants, subsidized pollution controls.
- Energy security, stockpiling costs.
- Free use of water for mining and power.
- Bulk shipping infrastructure.
- Insufficient user fees.
- Mine and well closure, reclamation.
- Health, environmental damages

Valuation Challenges: U.S. “Official” Estimates Well Below Others

Study, Publication Date, Sponsor	Data Year(s)	Fuels Included	Total Subsidies/Year, Average Values
B. Fossil fuels			
EIA (1992)—oil and gas portion only	1992	O&G portion	(\$0.5)
EIA (1999 and 2000)—oil and gas portion only	1999	O&G portion	\$2.1
EIA (2008)—oil and gas portion only*	2007	O&G portion	\$2.1
Koplow and Martin (1998) for Greenpeace	1996	Oil only	\$32.2
International Center for Technology Assessment (2005)	2003	Oil, mostly defense-related	\$133.2
Wahl (1996) for the Institute for Local Self Reliance	1996–97	Oil, with some natural gas	\$257.8
Hwang (1995) for the Union of Concerned Scientists	1990–91	Oil, with some natural gas	\$270.4
International Center for Technology Assessment (1998)	1998	Oil, with some natural gas	\$1,412

Source: Koplow, *EIA Energy Subsidies Estimates: A Review of Assumptions and Omissions*, 2010.

*Oil and gas portion for EIA’s 2011 study (2010 data) is not materially different, at \$2.8 billion.

Improving Subsidy Efficiency (1)

- **Is a subsidy really needed?**
 - Can price signals be clarified (pricing of congestion, externalities, remove cross-subsidies on power distribution)?
 - Can distortionary subsidies to competition be removed, increasing market access?
 - What type of problem are you trying to solve?
 - Basic research (Manhattan project-type of approach).
 - Standard setting (e.g., neutral grid access for decentralized providers).
 - Multiple pathways (where a competitive model might be best).
- **Contestability.** Define the policy **objective**, not the policy **pathway**.
 - “Lower ghg/vehicle mile traveled” versus “corn ethanol”.
 - Broader market whenever possible (all carbon sources versus transport sector only).
 - Don’t ignore the demand side (many policies do).
 - Competitive bidding across potential solutions rather than earmarks.
- **Visibility.** Public needs full picture on all subsidies to an activity; right now, only plant managers know how much they are getting.
 - Risk transfers as well as financial transfers.
 - Government-provided goods and services.
 - Ratepayer-provided capital financing (e.g., CWIP) or take-or-pay risks.

Improving Subsidy Efficiency (2)

- **Duration and Phase-out**
 - Authorization periods should not be too short (wind PTC) or too long (percentage depletion).
 - Termination needs to be hard wired, preferably requiring a super-majority to extend.
 - Multi-year phase-down of rates much better than single-year elimination.
- **Structure of Payments**
 - Pay for successful completion, not for “entering the game” – RPS versus loan guarantees.
 - Pay attention to interactions that distort competitive tenders (e.g., RPS layered on top of PTCs and highly accelerated depreciation).
- **Don’t subsidize away the impediments of particular fuel cycles; force the costs through prices.**
 - Coal pollution control bonds, cost of CCS.
 - Cost of water for centralized thermal power.
 - Waste management, accident risks for nuclear.
 - Cost of capital for nuclear and coal-to-liquids.
 - Supply volatility for oil (SPR, defense of shipping lanes).