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A Planetary Petroleum 'Windfall' Fund for carbon abatement technologies

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'A 1% levy on global wholesale oil and gas sales could generate US$160 billion over the next five years for research into carbon abatement technologies'

Between 23-27 January 2008, global political and business elites and opinion formers meet again at Davos in Switzerland for the annual meeting of the World Economic Forum. They convene at a time when windfall revenues accruing to hydro-carbon development companies and oil and gas exporting states are entering their third year, with prospects that the high prices will continue for some time to come. At the same time, few now doubt the risk that the world's climate is changing, in large part due to human consumption of fossil fuels. History seems to be presenting us with an unprecedented coincidence of ecological risk and economic opportunity. This Opinion outlines a proposal to address this risk head-on, through the institutionalisation of a planetary petroleum fund dedicated to research into carbon emissions abatement technology.

Some projections

In 2008, the spot price of oil is expected to average US$85 a barrel (West Texas Intermediate), and natural gas US$7.8 per thousand cubic feet (The Henry Hub).[1] These are historically high prices and, as indicated by the futures markets, seem likely to continue. At these prices, annual global sales of oil and gas on the wholesale markets in 2008 will be about US$3 trillion dollars, equivalent to the GDP of Germany.

A Planetary Petroleum Fund

The World Economic Forum meeting provides an ideal opportunity for delegates to propose to the members of the Security Council of the United Nations a motion to establish a Planetary Petroleum Windfall Fund. This proposal will require dialogue with heads of governments of oil- and gas-exporting countries and with the executives and shareholders of the major oil- and gas-producing companies.

The fund would derive its revenue from a 1% voluntary levy on global sales of crude oil and gas. Existing production-sharing and other agreements between oil companies and host governments are long-term contractual commitments. Making contributions to the fund mandatory would thus be fraught with legal complications. A voluntary approach negotiated between oil companies and governments under the auspices of the UN would prevent the fund from failing at the first hurdle.

The levy would be collected by producing companies in the same way that revenues are raised at present. To reduce bureaucracy, the levy would be paid directly from sales accounts into the fund on a quarterly basis. Approved independent third-party verification of all monetary transfers and disbursements from the fund would be integral to the arrangements. It would be managed as an escrow account by a major reputable financial institution (or, given the uncertainty in the financial markets at present, by a number of institutions in order to spread risk).

The levy would be the first priority from production sales; it would take precedence over royalty payments, the recovery of expenditure costs by companies, as well as production sharing — the split of profit oil — between companies and state. In effect, the levy would be a front-end royalty payment.

Design parameters

The levy must remain feasible in the context of near-term patterns of investment by companies and fiscal management by states. It would adhere to at least two criteria.

First, it would apply only when oil prices are above US$60 per barrel, or some other arbitrary windfall threshold. For example, with the costs of production rising year on year, and different lifting costs for different fields, it might be possible to set the threshold at some multiple of field development costs. This, however, complicates the verification process. A simpler dollar-per-barrel threshold may be preferable, although this would of course marginally penalise high cost fields.

Agreeing a flat 1% levy, applied to total revenues and not only to that portion above the threshold, would further simplify the operation of the fund. Thus, if the threshold is set

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at US$60 per barrel, and the average wholesale price for the quarter is US$61 per barrel, then $0.61 in every barrel sold would accrue to the fund. At US$100 per barrel, the levy would be $1. At $60 per barrel and below, the levy would be 0%. Although rather 'lumpy', such simplification would support communication of the fund to the general public, demystifying its workings and strengthening its popular appeal and thus political backing.

The second criterion would be to exempt the world's poorest countries from the levy (perhaps by using the World Bank definition of those classified as low-income – i.e. Bangladesh, Chad, India, Nigeria, Pakistan, Papua New Guinea, Sudan, and Vietnam). These countries urgently need to invest all available revenue in reducing poverty and meeting relevant Millennium Development Goals. Arguably, the imperative to reduce poverty in these countries outstrips any global urgency to lower greenhouse gas emissions.

Anticipated funds

A fund framed by these two criteria could generate about US$30 billion in 2008 — equivalent to around a third of all official aid to developing countries from OECD countries,[2] or 10 times the total philanthropic financial contributions of the top 500 global corporations.[3]

Between 2008 and 2012 (assuming similar prices continue), the fund would receive US$155 billion. Depending on how prices change, the fund could receive as much as US$200 billion (for example at US$100 per barrel) or as little as US$125 billion if prices fall to US$61 per barrel. Either way, these are large numbers. So what would the fund be used for? And why call it a planetary fund?

Purpose of the fund

The fund would be dedicated entirely to the research and development (R&D) of technologies that reduce the emission of greenhouse gases into the atmosphere. Eligibility criteria would include R&D into hard technologies, including, but not limited to, carbon abatement technologies (CATs). Examples include:[4]

- higher efficiency conversion processes for fossil-fuel combustion, which can contribute to emission reductions of 10-30%;
- fuel-switching to lower carbon alternatives, such as natural gas and co-firing with 5-10% CO_2 neutral biomass; and
- carbon capture and storage with the potential to reduce emissions by 85-90%.

The fund would also support soft technologies, such as innovative regulatory, fiscal or market measures that governments might implement through policy directives or secondary legislation.

All patents for the R&D on hard technologies would be owned by the UN, and the organisation would be mandated to share freely these and new regulatory and market instruments with any party wishing to develop the technology further or to commercialise it for a mass market.

The urgent need for R&D on emissions technology means that the fund would disburse grants (as well as possibly subsidised loans to R&D companies) immediately on receipt of funds. The fund would therefore not act as a petroleum fund in the conventional sense. The immediacy of disbursements would mean managing the receipts essentially as cash flow, with capital held in short-term deposits rather than long-term, high-yielding, assets. Nor would the fund act as an endowment trust, with disbursements dependent on some permanent income mandate.

Detailed eligibility criteria for fund disbursements would need to be negotiated, but the presumption would be to balance the priority of investing in quality research that carries potential for mass application, with a spread of grants and soft loans for R&D activity to the participating countries.

The imperative to act

It is probably true that never before in the history of modern mankind has such an ecological risk and such an economic opportunity coincided. Not only that, but the source of this risk is potentially the same as the source of its mitigation. As we deplete the planet's reserves of hydro-carbons, and through its consumption, bear the risk of runaway global warming, a Planetary Petroleum Windfall Fund would ensure that a portion of the increased revenues from oil and gas sales be used to develop technologies that sustain the ecology of the planet and life as we know it.

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Endnotes

1 Official energy statistics of the U.S. Government –Energy Information Administration Short-Term Integrated Forecasting System http://tonto.eia.doe.gov/steo_query/app/pricepage.htm on 09 January 2008.

2 Total ODA from members of the Development Assistance Committee (DAC) of the OECD amounted to US$ 103.9 billion in 2006. www.eepa.be/wcm/content/view/195/101 on 10 January 2008.

3 World Economic Forum (2005) 'Building on the Monterrey Consensus: The Growing Role of Public-Private Partnerships in Mobilising Resources for Development', Geneva: World Economic Forum.

4 See, for example, 2007 A Strategy for Developing Carbon Abatement Technologies for Fossil Fuel Use UK: Department for Business, Enterprise and Regulatory Reform. www.dti.gov.uk/energy/sources/sustainable/carbon-abatement-tech/strategy/page19434.html

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