

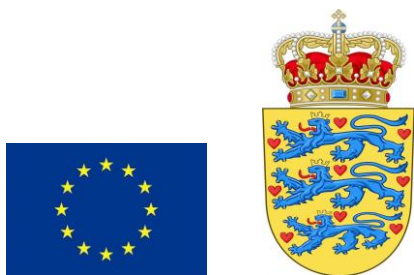


Investing Fossil Fuel-based Revenues towards Renewable Energy

Jewellord T. Nem Singh
University of Sheffield, UK
j.nemsingh@sheffield.ac.uk

* This paper builds on selective qualitative data collection from a variety of printed sources, including donor agency reports, government documents, NGO reports, newspaper archives, and interviews available online. It also builds upon the author's previous research in Brazil, Chile and Mongolia. A workshop was held in Lucerne, Switzerland on June 11, 2015 to discuss some of the ideas in the paper with selected parliamentarians involved in climate action. The author would like to thank Dr. Eliza Massi for her valuable research assistance in compiling the secondary data and literature for this paper.

UNDP Disclaimer: The views presented in this paper are the author's and do not necessarily represent those of the United Nations, including UNDP, or its Member States.



This document has been produced with the financial assistance of the European Union and the Danish Ministry of Foreign Affairs. The views expressed herein can in no way be taken to reflect the official opinion of the European Union.

About the Author

Jewellord T. Nem Singh is a Lecturer in International Development at the University of Sheffield, United Kingdom. Dr. Nem Singh conducts research on the politics and governance of natural resources, emerging markets and globalization, and citizenship in the Global South. He is co-editor of *Resource Governance in Developmental States in the Global South: Critical International Political Economy Perspectives* (with France Bourgouin, Palgrave Macmillan, 2013) and *Claiming Rights: Demanding Justice in the Global South* (with Jean Grugel, Anders Uhlin and Lorenza Fontana, Palgrave Macmillan, 2015). He has also worked as expert consultant for the United Nations Research in Social Development (UNRISD) and Publish What You Pay (PWYP).

| | | | |
|-------|---|----|----|
| I. | Introduction | 5 | |
| II. | Why Invest in Clean Energy? | 9 | |
| III. | What Should Countries Consider When Setting Up a Natural Resource Fund? | 12 | 12 |
| IV. | A Survey of Natural Resource Funds | 13 | |
| V. | Key Principles of Natural Resource Funds | 19 | |
| VI. | The Role of Parliaments in Setting up and Overseeing Natural Resource Funds | 23 | 23 |
| VII. | The Role of Parliament in Earmarking NRFs for Renewable Energy | 38 | |
| VIII. | Moving Forward: Challenges and Opportunities | 40 | |
| | Appendix 1: List of Natural Resource Funds | 46 | |

I. Introduction

Natural resource funds (NRFs) are investment vehicles set up and owned by governments to set aside natural resources revenues for the future. These government accounts can be used for a number of objectives. They can be used to finance specific infrastructure or development programs, to stabilise the economy, to cover budget deficits or to smooth public expenditure by setting aside revenues acquired during periods of rapid economic expansion which could then be used during periods of economic downturns, or yet to save for future generations. NRFs are a specific type (or subset) of sovereign wealth fund (SWFs). The difference between NRFs and SWFs is that NRFs are mainly financed by oil, gas and mining revenues (e.g. copper, gold or diamond) while SWFs may be financed through fiscal surpluses (e.g. trade surpluses) or pension contributions. Most SWFs are financed by revenues from oil and gas extraction (59.5%) (Sovereign Wealth Fund Institute, 2015).

Norway's Government Pension Fund Global, funded by surplus wealth from oil income, is the largest SWF in the world, holding assets worth US\$882 billion (as of 2014). Norway is followed by the United Arab Emirates (UAE) Abu Dhabi Investment Authority Fund, established in 1976 and funded by surplus from oil exports, which is currently worth US\$773 billion. Chile's Economic and Social Stabilisation Fund in turn is financed by copper revenues and it is the largest mineral-based SWF, holding assets worth US\$15.2 billion. For illustration, Figure 1 shows a list of existing natural resource funds in billions of US dollars. The list can be found in a table in Appendix 1.

For better visualisation, Figure 2 shows the same data with the exception of Norway, Abu Dhabi Investment Authority, Saudi Arabia, Kuwait and Qatar, because these five NRFs are too big that they are skewing the graph. As seen in both graphs, funds range in size from Norway's astonishing US\$882 billion to Timor Leste's US\$16.6 billion, to Gabon's US\$400 million (as of 2014).

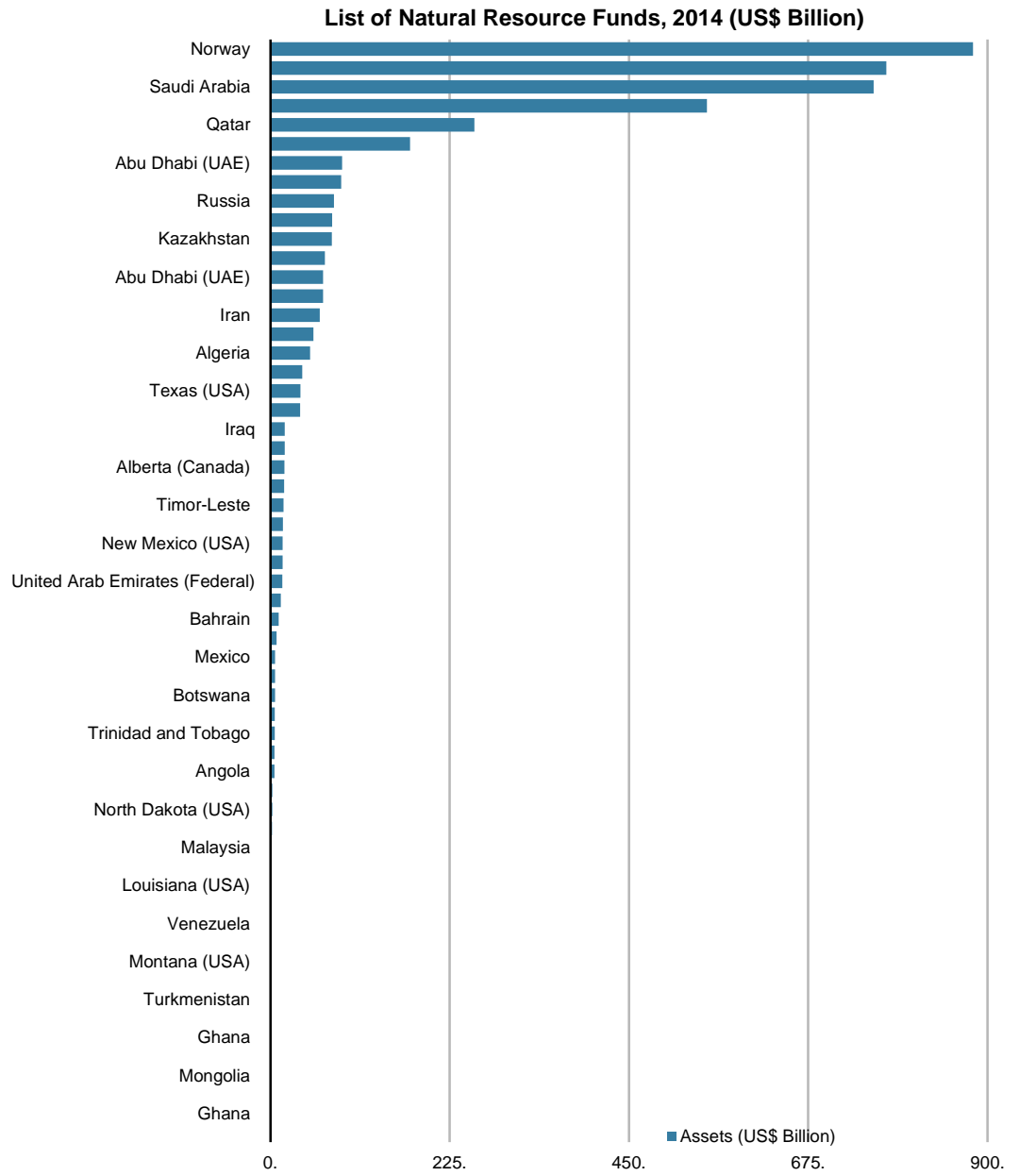
Natural resource endowments have proved both beneficial and detrimental to countries. The discovery of natural resources (particularly oil, gas and minerals) can bring a windfall to

governments. For commodity exporters, natural resource rents have put huge fiscal revenues at the disposal of governments, leading to an economic boom especially during periods of high commodities prices. However, despite their apparent benefits, natural resource wealth could also be detrimental to a country. The sudden inflow of large amounts of capital – mostly foreign exchange earnings associated with revenues from oil, gas and minerals – can lead to exchange rate appreciation, fiscal volatility, and macroeconomic instability. This has consequences for the competitiveness of the domestic manufacturing sector and for the capacity of governments to spend in socio-economic programs and to promote growth. In this context, several commodity exporting countries have established NRFs to address the negative effects of commodity price volatility and exchange rate fluctuations associated with large inflows of foreign capital, and in many cases, to save some of these revenues for future generations or invest in development related programs.

Much has been written to explore the developmental potential of NRFs given the establishment of funds in Africa and Southeast Asia. These NRFs hold, manage, or administer financial assets, and through a set of investment strategies overseas, enable governments to save resource revenues for the benefit of both present and future generations. They offer points of access for governments to tap into international financial markets. The rising popularity of NRFs was facilitated by the rapid accumulation of foreign exchange reserves by developing countries, which are estimated at US\$4 trillion in assets as of July 2014 (Bauer 2014: 3).

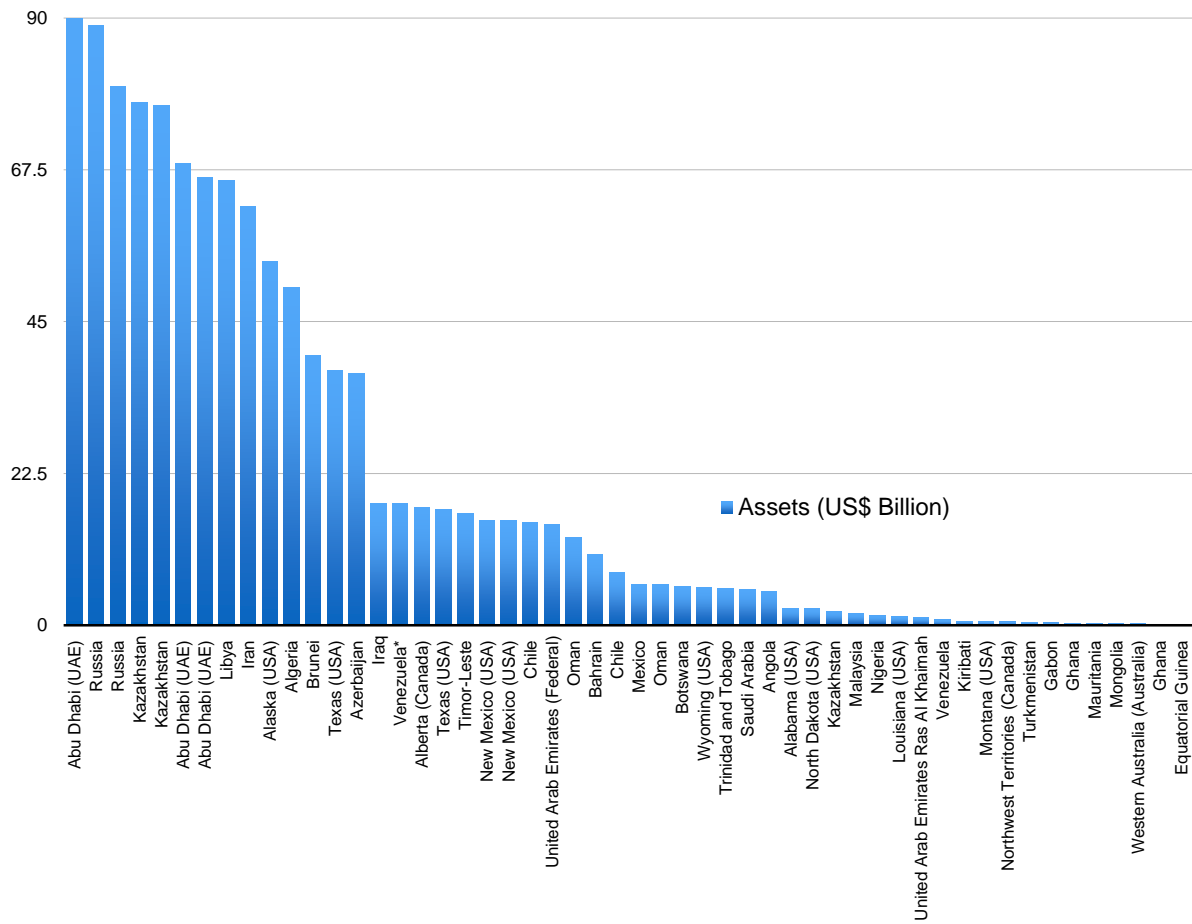
The wealth of NRFs' could be tapped for renewable energy investments. Such investments would help secure clean energy access, with immeasurable benefits for sustained economic development, energy security, and climate change mitigation. Parliaments have an important role to play in setting up NRFs and overseeing the management of natural resource wealth. This paper explores how they can promote the development of renewable energy by earmarking a share of NRFs' wealth for such investments.

Source: Sovereign Wealth Fund Institute, 2014.



List of Natural Resource Funds, 2014 (US\$ Billion), except Norway, Abu Dhabi, Saudi Arabia, Kuwait, and Qatar

112.5



Source: Sovereign Wealth Fund Institute, 2014

II. Why Invest in Clean Energy?

The United Nations Development Program and Climate Parliament argue that “facilitating access to renewable energy is one of the most critical long-term policy decisions a country can make” (UNDP, p. 16). Investments in clean energy programs carry both short and long term benefits, such as the creation of green jobs, reduced or no global warming emissions, improved environmental quality and consequently improved public health, and a reliable and inexhaustible source of energy. Some of the main reasons for investments in renewable energy are outlined below:

- **Economic benefits:** Unlike fossil fuel-based technologies, which are capital intensive, investments in renewable energy tend to be labour-intensive and therefore have much larger potential for job creation. From project development, component manufacturing, installation, operations and maintenance to supporting services, such as transportation, sales, and consulting services, the renewable energy industry has the potential to generate a number of local jobs. Renewable energy can generate four times as many jobs per dollar invested than fossil fuels industries. In addition, the indirect economic effects cannot be ignored: increases in employment and household income will benefit unrelated businesses, injecting capital in the overall domestic economy. Renewable energy projects also generate taxes which can then be used by local governments to support social programs and public services. Finally, renewable energy has a role to play in stabilizing energy prices. Unlike fossil fuel prices, which are set in international markets and are therefore vulnerable to dramatic price swings, renewable energy prices are relatively stable over time. Since renewable energy reduces a country’s need to import oil, gas, or coal to generate energy, import costs are further kept down.

- **Reduced Global Warming Emissions:** There is a growing scientific consensus that human activity is driving up the planet’s temperature, affecting the environment and climate in unpredictable ways. “According to the latest research, on current trends global temperatures will increase by at least 4°C during this century, an increase which the World Bank has described as ‘catastrophic’. In its latest report, the International Panel on Climate Change (IPCC) stated that it is extremely likely that human influence has been the dominant

cause of this observed rise in temperature.” Compared to carbon-intensive or fossil fuel energy sources, renewable energy has a low emissions footprint, contributing this way towards reducing carbon emissions without compromising access to energy.

- **Energy security:** Throughout most developing countries, strong winds, sunny skies, and fast-moving water are abundant. They can in turn provide a constant and inexhaustible source of energy. Countries without indigenous energy supplies are forced to import foreign oil, gas and coal, leaving them vulnerable to price shocks and dependent on the political goodwill of trading partners. This can result in budget deficits, public borrowing and fuel shortages when the supply is disrupted. Since reserves of fossil fuels are finite, their price will inevitably rise over the long term. By developing their country’s domestic renewable resources, parliamentarians can build a long-term plan for access to inexhaustible energy, ensuring their country is less reliant on foreign sources of energy.

- **Health benefits:** Developing renewable energy sources creates health benefits beyond the economic, security and environmental benefits. Six million people die annually from indoor and outdoor air pollution caused by burning fossil fuels and traditional biomass – more than from AIDS and malaria combined. Pollution from coal power plants cost the European Union (EU) five million lost working days in 2012, and shortened the lives of EU citizens by 240,000 lost life-years. In China, air pollution – due mostly to coal which accounts to about 90 percent of its sulfur dioxide emissions – is estimated to have contributed to 1.2 million premature deaths in 2010. Hence, renewable energy offer significant health benefits and economic benefits as it contributes to reduce premature deaths, lost workdays, and to decrease overall healthcare costs.

Oil Rich Qatar and other GCC States begin its investment on renewable energy

Qatar is actively pursuing alternative and renewable energy sources. The Gulf Cooperation Council (GCC) region is heavily dependent on exploitation of oil and gas and is vulnerable to efforts to curb fossil fuel use and greenhouse gas emissions. Domestic economic growth will likely cause many GCC countries to experience increases in the fraction of energy that is consumed domestically, which, of course, renders it unavailable for export. Expectations for rising living standards and increasing dependence on energy-intensive desalination compound the energy challenges.

Qatar has put forward an ambitious program of renewable energy. It aims to generate 20 percent of its energy needs from renewables – solar power – by 2030. Given the region's economic and geographical characteristics, there are several opportunities for the region to develop alternative energy source:

- (1) Solar energy: The region has the highest solar potential in the world, with a regional annual average global solar radiation (GSR) estimated at 6 kWh/m² per day. Estimates of the direct normal irradiance available to solar concentrating technology are around 4.5 kWh/m² per day.
- (2) Wind energy: The coastal and gulf areas may find wind energy an alternative source. Countries with more than 1,400 hours of wind per year are viable to develop wind energy. The leading country is Saudi Arabia with 1,789 hours per year.
- (3) Biofuels energy: The region has the potential to harvest algae biofuels because of its large, non-arable land, extensive coastline, and high annual solar irradiance. In particular, its existing physical infrastructure and human capital in oil refineries, power plants, desalination plants, and sewage and wastewater treatment plants provide the capacity for CO₂ capture, salt reuse and water treatment in the algae biofuel industry.

Sources:

- (1) Al Jazeera (2014) "GCC Invests Billions in Renewable Energy", <http://www.aljazeera.com/video/middleeast/2014/06/gcc-invests-billions-renewable-energy-2014692123896119.html>.
- (2) El-Katiri, Laura and Muna Husain (2014) "Prospects for Renewable Energy in GCC States: Opportunities and the Need for Reform", *OIES Paper MEP 10*, Oxford: Oxford Institute for Energy Studies & University of Oxford, available at <http://www.oxfordenergy.org/wpcms/wp-content/uploads/2014/09/MEP-10.pdf>.
- (3) Meltzer, Joshua; Hultman, Nathan and Langley, Claire (2014). *Low-carbon Energy Transitions in Qatar and the Gulf Cooperation Council Region*. The Brookings Institute. Available at <http://www.brookings.edu/research/press/2014/02/low-carbon-energy-transitions-qatar-hultman>

III. Why Should Countries Consider Setting Up a Natural Resource Fund?

Natural resource wealth provides many benefits but also presents major problems for resource-rich countries, exposing them to explosive booms when commodity prices are high and busts when they collapse. Countries rich in natural resources have to face both economic and political challenges. Economically, although revenues from resource exploitation can be used to cover budget deficits, invest in social programs, and reduce poverty, they are also highly price-sensitive and vulnerable to contraction in demand and speculation in international markets. This in turn causes macroeconomic instability and budget deficits when prices of commodities decline, or when there is a reduction in international demand. This price volatility characteristic of commodities adversely affects the overall fiscal health and macroeconomic stability of commodity-based economies (Nem Singh & Bourgoignie 2013: 6). The relative absence of value added in extractive resources together with price volatility makes long-term planning difficult and oil and mineral revenues an unreliable source for government income. For instance, between 2000 and 2014, oil prices went from US\$30 per barrel in 2000 to US\$140 per barrel in 2008, falling again to as low as US\$60 in 2015.

Additionally, the discovery and production of natural resources may lead to the 'Dutch Disease,' which is caused by the large inflow of foreign capital attracted by the production of natural resources. Such large inflows of foreign capital leads to an over-appreciation of the real exchange rates which in turn adversely impacting the competitiveness of the domestic tradable sector – in other words, the competitiveness of the domestic manufacturing sector (Ross 2001; Sachs & Warner 1995, 1999). Weakening of the domestic industry and over dependence on natural resources exports makes the economy vulnerable to commodities' prices swings and as a result to instability. Investment and consumption related to commodity revenues raise the cost of labour and the relative prices of non-tradable goods (services). As labour and capital inputs shift towards the booming resource sector, the development of the manufacturing sector may suffer. Countries that shift from manufacturing to oil or mineral exports during a resource boom may lose their technological edge and then struggle to recover once the boom ends (Krugman 1987).

There are also political problems associated with resource extraction. Resource booms create an illusion of infinite wealth for local elites. Large inflows of revenues during commodities boom may lead to increases in government spending. Such increases in spending may not necessarily be in productive infrastructure or development programs, but due to rent-seeking behavior of corporations or groups within a country or by politicians interested in improving the odds of reelection. Politicians may also be tempted to use resource rents to buy-off the opposition, create electoral coalitions and respond to short-term popular pressure, or even to support existing governments to retain their political power. Governments in developing countries can find themselves overwhelmed by pressure from multinational corporations domestic lobbies, organised labour and the affected peasant and mining communities, which can lead to the breakdown of effective state policies as redistributive conflicts escalate during boom times (Herb 2014; Hertog 2010; Karl 1997; Mazzuca 2014; Richardson 2009).

To address some of these economic and political problems, several oil and mining-rich developing countries began to set up NRFs. These NRFs serve multiple purposes. In the short term, they reduce the pressures for real appreciation of exchange rates and preserve the competitiveness of the manufacturing sector. They also hedge risk away from commodity risk or domestic shocks, smooth budget expenditures over time, and build a reserve that can support government budgets and fiscal stimulus during an economic downturn. Over the long run, NRFs limit the propensity to overspend resource revenues, saving them for future generations. Therefore, by channeling revenues to *pre-defined* and *transparent* uses - spending in a downturn, saving funds for future generations, or investing in specific projects or sectors - NRFs divert mining and oil revenues for private gain by restraining consumption and earmarking some of these funds for public infrastructure and other productive investments in resource-producing countries.

IV. A Survey of Natural Resource Funds

Natural resource funds are created to save present resource wealth of natural resource-rich countries for future generations. When commodity booms occur, natural resources exporting governments receive large amounts of fiscal revenues. Turning oil, gas and mining revenues into financial assets allows national governments to balance their short-term needs of macroeconomic stabilisation and long-term commitments to economic development and renewable energy. To do this, countries have set up three different types of natural resource

funds. Each fund is created to meet a specific objective, which also determines the operational and managerial rules as well as the overall regulation of these funds. They are as follows:

A. Stabilisation Funds

Economic activities and government revenues dependent on global commodity prices can negatively affect economic growth, inflation, investment, and government spending (Balding 2012; Roache 2008). A stabilisation fund is one way to insulate resource-dependent countries from the impact of volatile commodity prices. Put simply, stabilisation fund is a government account designed to smoothen public expenditures by setting aside revenues during periods of economic growth, which the government can then withdraw to avoid budget cuts in case the price of commodities falls. Also referred to as a “rainy day fund” or “anti-cyclical fiscal expenditure programme”, countries which create them follow strict fiscal rules. For example, deposits into the account are usually based upon a specified price of a commodity and authorised withdrawals can only be done when commodities’ prices fall below a determined price level, negatively affecting government budgets (Balding 2012: 8-9).

These funds are typically invested in assets that are easily accessible and can be withdrawn to cover budget deficits when governments face an unexpected decline in oil or mineral revenues. Governments may also set up these funds to build up foreign reserves and to reduce dependency on external lenders during an economic shock. This is especially important given that external intervention oftentimes come with conditionalities, which can be perceived as locally unsuitable or politically undesirable. As an investment, stabilisation funds are considerably more short-term oriented and are usually not invested in risky assets. They hold a variety of

liquid assets that can be quickly mobilised should the government require access to them (Dixon & Monk 2011: 6).

BOX 1

Origins of Stabilisation Funds

The high oil prices in the early 1970s compelled several states to set up stabilisation funds. Nine funds were created, including the Abu Dhabi Investment Authority (ADIA), Saudi Arabia Monetary Agency (SAMA), Temasek Holdings of Singapore, the Government Investment Corporation of Singapore (GIC), the Social and Economic Stabilisation Fund of Chile (SESF), and the State General Reserve Fund of Oman.

These countries created their funds after a large fiscal surplus from revenue increases from oil exports. Singapore, by contrast, suffered from fiscal volatility given that it is a small and open-trading country exposed to the international economy. However, Singapore's trade and fiscal surpluses in the 1970s enabled the government to set up stabilisation funds that also served as industrial investment vehicles for long-term economic development.

Source:

Balding, Christopher (2012) *Sovereign Wealth Funds: The Intersection of Money and Politics*. Oxford: Oxford University Press.

CASE STUDY

The Fiscal Stability Law in Mongolia

Mongolia is now a mining-based economy based on the export of coal, copper, iron ore, gold, and molybdenum. Between 2002 and 2008, the mining industry dramatically accelerated its economic growth through foreign direct investment (FDI)-financed expansion of the sector, specifically in coal and copper, which accounts for 2/3 of its exports. Mongolia's budget revenues account for at least 30 percent of its GDP over the years. Its expenditure on social welfare has increased as a result of the commodity boom. While poverty rate declined from 38.7 percent in 2010 to 27.4 percent in 2012, inequality and unemployment has slowly changed. However, the 2008 financial crisis highlighted the weakness of the country's fiscal regulatory framework. Its overall balance budget has been negative over the years (see figure below). In this context, the IMF and the World Bank launched a series of missions to support the fiscal policy reforms of Mongolia. The Parliament passed two key pieces of legislation, notably the Fiscal Stability Law in 2010 and Integrated Budget Law in 2011, to provide comprehensive principles on macro-fiscal management, budgeting, and the establishment of a natural resource fund, the Fiscal Stability Fund.

The Fiscal Stability Fund (FSF) was created to manage the impact of fluctuating commodity prices to budget and government planning. The fund is funded through excess volatile revenues, budget surplus, unspent budget allocations from special accounts from the previous fiscal year, and the return on investment from the fund assets. The funds can be withdrawn if any of the following conditions take place:

- (1) if the government needs to cover any gap in the budget based on a market drop to the estimated structural price of the minerals;
- (2) if the government needs to transfer to the national budget at a time when the GDP growth rate is equal to zero or negative; or
- (3) if there is a major condition which results a recovery cost to the budget that exceeds 5 percent of the GDP.

The FSF is now at 505.4 billion Mongolian Tugrik (equivalent to roughly US\$ 261 million at current prices), is managed by the Ministry of Finance (manager) and the Central Bank (operational manager). Together with countercyclical policies, the FSF aims to cushion the impacts of the country's commodity dependence.

Sources:

- (1) Dutu, Richard (2012) *Managing Mongolia's Wealth: Constructing and Stimulating a Formula for the Fiscal Stability Fund*. World Bank, available at <https://www.mof.gov.mn/wp-content/uploads/resource/MANAGING%20MONGOLIA'S%20WEALTH.pdf>.
- (2) International Monetary Fund (IMF) Article IV Consultation: <http://www.imf.org/external/pubs/ft/scr/2014/cr1464.pdf>.
- (3) Isakova, Asel, Alexander Plekhanov, and Jeromin Zettelmeyer (2012) "Managing Mongolia's Resource Boom", *Working Paper No. 138*. London: European Bank for Reconstruction and Development.
- (4) World Bank (2013) "Poverty Rate Came Down to 27 Percent in 2012", available at <http://www.worldbank.org/en/news/press-release/2013/05/21/poverty-rate-came-down-to-27-4->

B. Development Funds

For many developing countries, there is a need and political pressure to spend surplus revenues for national development. As the International Monetary Fund (IMF) (2008) acknowledges, a development fund can provide fiscal revenues for investment that support wider socio-economic projects and industrialisation that can enhance the possibilities of reducing natural resource dependence and harness new sources of economic growth. Rather than directing public expenditure into the national budget, some countries enact legislation that earmark funds for productive investment in physical and social infrastructure projects such as in roads, water systems, hospital equipment, and education programmes. Hence, development funds allocate revenues to priority socioeconomic projects. This is particularly important in countries with low capital formation or investment rates. In some contexts, this function is directly tied to the goals of national development banks as funds could be allocated to specific development projects through a national development bank or development agency.

The key to make development funds succeed is to complement direct public investment through state budget allocation, national development banks, or through local development agencies (Dixon & Monk 2011: 6). While direct transfers of oil or mining revenues into the national budget can be subjected to oversight mechanisms of the parliament, a development fund is oftentimes legislated, making the rules on how governments can spend the money clearer and codified in law. In this manner, governments can diffuse political pressure to spend on current consumption and on recurring expenditures, such as on fuel subsidies (Bauer 2014: 14). An important point to stress when setting up development funds is that these revenues come from exhaustible resources such as oil and gas and minerals; therefore, a *fair* manner to spend national income from extractive industries is by investing them towards long-term development rather than consumption. The Ghana Infrastructural Investment Fund enacted in 2014 (see Box below and Appendix 2 for the sample legislation) provides an example of key aspects of a development fund and how it can be used for socio-economic infrastructure projects.

CASE STUDY
Ghana Infrastructure Investment Fund Act 2014

The Ghanaian Parliament has just passed the Ghana Infrastructure Investment Fund (GIIF) Bill in 2014, which is set to be operational beginning 2015, and its primary objective is to mobilise and earmark financial resources to manage, coordinate, and invest in a diversified portfolio of infrastructural projects. Its overall aim is to provide financial support for national industrial development. Under Article 8, a Governing Board is created consisting of a Chairperson, a Chief Executive Officer (CEO), and seven other members to be duly appointed by the President of the Republic. The Board is responsible for investing and managing the GIIF. Specifically, the Board will advise on which projects to be financed by the GIIF, including joint ventures (JV) and public-private partnerships (PPP).

Article 5 specifies the following sources for the Fund:

- An amount of money equivalent to two and one half percentage points of the existing Value Added Tax revenue with effect from the 2014 financial year;
- An amount of money equivalent to twenty-five percent of Annual Budget Funding Amount to be applied to amortisation and direct infrastructure expenditure;
- Repayment inflows of moneys on-lent by the Ministry of Finance to government ministries, departments and agencies or state-owned enterprises, for capital project or infrastructure development;
- Proceeds from the disposal of state-owned equity investments;
- Grants, donations, gifts and other voluntary contributions to the Fund;
- Fees or other moneys earned by the Fund in pursuance of its functions under this Act;
- Money that accrues to the Fund from investment made by the Fund;
- Money that may become lawfully payable to the Fund or any other property that may become lawfully vested in the Board for the Fund; and
- Any other money that the Minister with the approval of Parliament determines to be paid into the Fund.

The funds can be used to create sub-funds, subsidiaries and affiliates if the Board deems them necessary to achieve the objectives of the fund. In addition, the fund can be mobilised to invest in, purchase, maintain, divest from, sell or realise assets and investments of any kind; as well as to borrow and raise money, on its own or in partnership with or through its affiliates, from domestic and international financial markets.

Aside from the Board, the Law also requires the creation of an Advisory Committee, consisting of the Minister of Finance, Governor of the Bank of Ghana, Director General of the National Development Planning Commission, a representative from the Office of the President, and three members of the private sector. The Committee's role is to advise the Governing Board as regards their investment decisions, stressing that the projects are in line with the national development policy guidelines on infrastructural investment.

C. Savings Funds

A strong argument is often made to set up Savings Funds to address inter-generational equity and social justice issues. Given that non-renewable and finite resources such as oil and mineral resources are owned by both present and future generations, it is important to create mechanisms to prevent the siphoning of existing revenues through consumption and ensure that wealth is saved for future generations. In many countries, these funds are used to mitigate the effects of the Dutch disease since savings funds force governments to commit towards long-

term savings as opposed to short-term spending. There are good reasons to keep the revenues into a savings fund. In countries where the labour force is underdeveloped or where the managerial capacity of the state is still weak, governments can avoid spending natural resources revenues immediately and reduce the waste of public revenues. The savings funds have inter-generational time horizons and are able to bear considerable risk. In other words, a portion of the fund's assets can be invested in risky assets, such as private equity and real estate (Dixon & Monk 2011: 8). For example, oil-rich Gulf states invested oil revenues accumulated during the first commodity price boom in the early 1970s in productive assets through savings funds. This enabled them to extend the benefits of the oil and gas industry revenues beyond the life of the oil reserves.

V. Key Principles of Natural Resource Funds

When establishing a natural resource fund, there are several important principles to bear in mind. First, a NRF needs to have a **clear objective**, in other words, why is the fund being created? What do we want to achieve with the creation of a NRF? What are the priorities? Is it infrastructure development? Macroeconomic stabilisation? Savings for future generations? The government may wish to establish a fund for fiscal stabilisation, for long-term savings, or for earmarking funds to spend towards infrastructure or socio-economic development. Depending on their respective **political contexts** and **national development priorities**, governments can create multiple funds with different rules around its management, or a unified fund where all resource revenues will be deposited into a single account. Irrespective of the structure of the fund, it is important that the rationale for creating the fund is clear and communicated across to the public, stakeholders, and key decision-makers.

Second, it is important to set up mechanisms that ensure accountability. Ultimately, this is one source of *public revenues*, and therefore, it is important to codify the principle of accountability within the legislation. In this context, one practical way to do this is to identify the **roles and responsibilities** of different decision-makers and stakeholders. While the roles of different political offices, government agencies or ministries differ from country to country - e.g. the Central Bank, the President or Prime Minister, the Minister of Finance, the external and internal auditors, the Parliament, advisory bodies, and the public accountability committees - each of them should recognise the complementarity of their roles. The law must also clarify the

individual responsibilities and lines of accountability of all those involved in governing the fund.

The most successful fund, the Norwegian Global Pensions Fund Global, is ultimately accountable to the Parliament, which in practice means that all relevant information are passed onto the parliament who then steer the management of the fund. With the support of an Advisory Board, the Parliament is more capable of making informed decisions regarding how a NRF wealth ought to be spent and what restrictions to put in place regarding how the funds are to be invested and managed.

Who Does What in Managing a NRF?

- (1) **Political Authority** - The body has the power to direct what the fund managers can and cannot do regarding the fund. In Norway, the Parliament makes decision and legislates the investment of its assets.
- (2) **Fund Manager** - This organisation decides on investments and makes the actual deposit and withdrawal of revenues into the fund. In many countries, this is usually the Minister of Finance, the Central Bank, or a special authority with financial expertise.
- (3) **Operational Manager** - This organisation is involved in the day to day management of the fund, and usually consists of a series of agencies in charge of the investment of the asset. In many countries, this function is carried out by the Central Bank.
- (4) **Advisory Bodies** - A consultative body advising the fund manager, and in some cases the Parliament, regarding investment strategies and fund management. In Chile, there are several advisory boards performing different functions, for example in calculating trend GDP and output gap, in projecting long-term international copper prices, and in evaluating fund management.
- (5) **Public accountability committees** - This body consists of representatives from the government, private sector and civil society organisations who assess whether managers comply with the laws and submit reports to different bodies (depending on legislation) on the activities and management of the fund.
- (6) **Internal and external auditors** - Depending on arrangements, the Auditor General and/or a professional auditing firm perform an audit and report to the Parliament or to the Executive.

Source: Natural Resource Governance Institute Reports (2014)

Third, to embed the principle of transparency, it is good practice for information about the savings and investments as well as profitability of the fund to be reported to the highest authority in a *timely* and *regular* manner. Some examples of the specific information to ask about the funds can be found in the Appendix section. It is important to secure the reporting and release of information regarding the Fund's operations and management to increase the accountability of the managers to the public.

Fourth, some degree of flexibility must be exercised in terms of setting up the management structure and fiscal rules of the fund. Given that political constraints vary from country to country, there is no single rule regarding what types of revenues a country may decide to divert into a NRF nor a single rule on deposits and withdrawals from the fund or an ideal rule whether to set up a unified or multiple funds. All these decisions are inherently political and specific to national economic, social, and political circumstances and dependent upon the social and economic objectives of the fund, priorities of the government, level of development of a country, and type and amount of natural resource revenue. Nevertheless, governments must take into account their respective technical capabilities to manage and monitor the fund, the presence of external or international support, as well as the ability of stakeholders to promote checks and balance in governing the fund.

The principle of flexibility can also be applied in the context of changing **the rules guiding the funds** if there is political support and public perception that the funds are not serving their purpose. NRFs are fiscal instruments that should be adaptable to the circumstances and development needs of countries. In the case of Norway (see Box 5), the Parliament has decided through a unanimous cross-party agreement to divest the investments of the fund away from coal companies. In Russia, the government set up a natural resource fund in 2004 but changed the regulatory framework in 2006 to augment the sources of the fund and include both oil and gas revenues. The government likewise decided to create two funds - a pensions and a stabilisation fund - in order to better manage the investment and expenditure of the funds. In other words, the rules must be changed in order to reflect the development needs of the country.

Fifth, the law should encourage the establishment of oversight mechanisms and institutions which will motivate all political actors to use the funds for public interest. While not all natural resource funds create a public oversight committee, national governments - especially parliamentarians - should encourage the creation of oversight institutions if they feel this might improve the monitoring of how the funds are invested and spent.

Finally, for NRFs to succeed, **cross-party consensus** and **broad political support** are indispensable. Politicians and citizens alike must support the reasoning behind the creation of the NRF(s). This requires comprehensive and open public consultation as well as engagement with civil society organisations. Parliament can play a significant role in communicating with civil society groups and engaging with other government agencies to discuss and reach a consensus on how oil, gas and mining revenues can be spent not just for *present* socio-economic development but also for *future* development, including potential investment in renewable energy sources.

Some key questions to ask when setting up the fund:

- (1) What is the purpose of the fund?
- (2) What are the key development priorities that the fund will address?
- (3) Are there existing models or examples of fund management that you might wish to examine further?
- (4) What are the individual roles of the different organisations involved in the management of the fund?
- (5) Are there organisations which can report to the Parliament to enhance the transparency of the fund?
- (6) What types of information can the Ministry of Finance provide to the Parliament?
- (7) What information can the Central Bank provide to the Parliament?
- (8) Can the internal auditors (Auditor General) submit a detailed report to the Parliament?
- (9) Can the external auditors be subjected to the same reporting standards to the Parliament?
- (10) Which committee(s) within the Parliament is in charge in looking at the details of the reports?
- (11) How are civil society organisations consulted in governing the fund? How much information does the public and civil society organisations receive about the fund?
- (12) In case there are public interest and accountability committees, how can parliamentarians get their feedback and are there opportunities to discuss the governance of the fund with them?
- (13) Are there regular meeting allocated to discuss these annual reports to the Parliament?
- (14) What possible actions can be undertaken in case there are anomalies in the fund?

VI. The Role of Parliaments in Setting up and Overseeing Natural Resource Funds

Parliament can play a significant role in enhancing the transparency and accountability of Natural Resource Funds. Furthermore, legislators can promote renewable energy by earmarking revenues from the NRF for renewable energy investment. To do so, parliamentarians have three different entry points for parliamentary action:

- ✓ **Law-making:** Parliamentarians debate, review, and pass legislation and can amend existing laws.
- ✓ **Oversight:** Parliamentarians monitor the activities of the executive branch of government, including the Ministries of Finance and the Central Bank. Their oversight prerogatives enable parliamentarians to hold government and its expenditures accountable, thereby ensuring that spending of public funds is in line with the legislation and budgets it has passed.
- ✓ **Representation:** As elected officials, parliamentarians are ultimately accountable to the public. They must engage with citizens and social interest organisations in a productive dialogue to ensure that the laws they pass and the work they do reflect the concerns and interests of the citizens.

The next section will review the various ways through which parliamentarians can promote policy changes and improve accountability of natural resource funds management.

A. Law-making and crafting legislation on natural resource funds

One of parliament's key roles is to review and pass legislation. The laws passed by a parliament determine the rules and principles governing a country. An effective and inclusive parliament is able to develop and pass responsive legislation that reflects the needs of citizens and the values of society. While the specific processes and procedures by which parliamentarians adopt laws differ from country to country, some general principles can be discerned:

- **Introduction:** The executive usually initiates the agenda in the development and writing of draft laws, for example, through a state of the nation address. However, depending on the political system, parliaments can also set the agenda by introducing bills, draft laws or amendments.
- **Stages of Review:** Draft laws must go through several deliberations and votes, depending on the structure of parliaments, and are ultimately approved in plenary sessions. In bicameral systems, draft bills are scrutinised in the upper and lower houses, and several stages of debate take place, with amendments introduced to accommodate the contending viewpoints across the parliament.
- **Committee Review:** The detailed, clause-by-clause discussion of the draft laws in the review process usually takes place at the committee levels, and only through a final approval from the committee can the bill be passed onto further discussion in the plenary. The committee may have the authority to directly amend the law or write a report outlining the specific recommendations for change before the draft law goes further into the review process.
- **Consultations with experts and civil society:** Committee inquiries and reviews oftentimes call upon academics, industry participants, and think tanks, and other experts, as well as the citizens, to partake in the process of reviewing the details of the draft laws.

These four principles of good practice on parliamentary actions should be observed in crafting the laws to govern natural resource funds. NRFs are created through the passage of a law that sets the rules, regulations, and guidelines through which the roles of decision-makers and stakeholders - the fund managers, operational managers, advisory boards, and public accountability committees - are explicitly articulated. Because the legislation sets the hard rules, ensuring that the parliament has a role to play in managing the fund as well as being able to exercise its various oversight functions is of primary importance in ensuring the transparent and accountability of NRFs.

In designing the law, there are some key elements that parliamentarians can examine more carefully:

- **Setting the objectives of the fund:** Parliamentarians can enquire the purpose of the funds, that is, whether the government, government agency, or MP introducing the bill aims to create a stabilisation, savings, or development fund, and in so doing, provide

better information for further discussion as regards the objectives of the fund. This can, in turn, allow parliamentarians to look for examples of the same types of funds and study more carefully the details of existing legislation.

- **Setting rules on deposits and withdrawals:** One important aspect of the fund is the rules and regulations under which the fund managers can deposit and withdraw funds. The law will need to set *specifically which* taxes, fees, revenues, or royalty rates from oil, gas and mining are to be deposited into the fund, as well as the procedures, and if needed, the process of transferring the money into the national budget. These rules may include a ceiling on how much can be taken out of the fund, the appropriation or earmarking of funds to specific expenditures such as infrastructure, health, education, or programs aimed at the development of clean energy.

- **Specifying instructions on disclosure of information:** The legislation should contain the specific rules and regulations regarding the *timely* and *transparent* release of information. These rules are typically subject to confidentiality clauses especially when the information being asked for may affect the performance of the fund's assets and investments. The annual reports may contain audited financial statements as confirmed by independent auditors, a report signed by the Finance Minister or Central Bank describing the activities of the fund (including the advice of the advisory board), the income derived from the investment of the fund within a fiscal year compared to previous years, the liabilities in case there are government borrowings, and the members of the board who are involved in managing the funds.

- **Ensuring accountability:** It is good practice to perform regular audits and reviews of compliance with rules and regulations. Ideally, the government should seek to write in legislation that the fund will be subject to audit either by the Auditor General, an independent auditing firm, or both entities to ensure that the fund is well-managed. The legislation can identify where these reports are to be submitted, and the Parliament may wish to ensure that these audits are directed to the Finance or Mines/Energy Committee in the Parliament, or whichever committee may be responsible for overseeing this process.

- **Setting up advisory boards:** Advisory boards provide recommendations to a wide range of decision-makers - the Government, Fund Managers, the Operational Manager, and in cases where they exercise the ultimate authority, the Parliament. Advisory boards can inform decision-makers and parliamentarians with the technical knowledge required to make decisions that will improve the governance of the fund. The legislation should contain how the appointment procedures are to be conducted, who has the power to exercise these appointments, the remuneration of the advisory board members, their terms of office, and the code of conduct to avoid conflict of interest as well as to set out the punishment should some of these rules be breached. It is vital that parliamentarians be involved in setting out the criteria in choosing the members of these boards because the advisory board can influence the decision-making around investments and management of the fund.

- **Creating public accountability committees:** In some cases, it is possible to create independent committees that will monitor the performance of all parties involved. The law should clearly identify the role of these committees and the procedures necessary to undertake the assessment whether the fund managers comply with laws. It is good practice to submit a report to the Parliament and the executive, and make these reports accessible to the public for the purposes of transparency. Similar to advisory boards, parliamentarians can be involved in setting out the rules and regulations in establishing these committees, committee members' tenure of office, remuneration, as well as criteria for selection. To further ensure transparency and accountability, different stakeholders should be involved in this committee. Parliaments could also set up guidelines for regular meetings with the aim of engaging with the broader public.

Appendix 3 provides an example of legislation on petroleum fund. The Timor-Leste Petroleum Fund Law is a good example of how parliament is strengthened in the overall management of the fund.

CASE STUDY

The Role of Parliament in Timor Leste

The Timor-Leste Petroleum Fund (PF) Law outlines the role of the NRF, which is to stabilise the flow of revenues and to mitigate the risks to the budget and the economy from the variations in oil prices and production. The Petroleum Fund serves as a mechanism to mitigate the Dutch Disease by preventing rises in the rate of inflation in the non-tradable goods and other services. Timor Leste legislation provides extensive oversight powers to the Parliament, in particular by giving it the power to approve transfers from the petroleum fund to the national budget during the budgetary process.

The transfer of funds follow a fiscal rule called the Estimated Sustainable Income (ESI), which refers to the ceiling to the transfer of money from the funds into the national budget. This is currently set at 3 percent of the total petroleum wealth. The PF Law requires the Government to provide an explanation to the Parliament if the requested transfer is greater than the ESI. In 2012, the Parliament agreed to transfer US\$ 1,594 million, which is greater than the ESI ceiling of US\$ 665.3 million, in order to finance major capital investments related to the Strategic Development Plan. The funds are then transferred from the PF account to the Government Treasury account in compliance with the budget passed by the Parliament through the annual budget law.

Under the PF Law, an Investment Advisory Board has been established to advise the Government on benchmark and risks for investment strategies, the performance of external investment managers, as well as advise Parliament on the performance and operation of the fund. The legislation gives the Parliament the right to request information, including minutes of the meetings and their recommendations to other agencies, in addition to specific advice on transfers from the fund and whether these transfers are consistent with the financial objectives of the fund.

Members of the Advisory Board include former government and parliamentary leaders, senior officials, appointees of the Parliament, and representatives of civil society organisations, religious organisations and the private sector.

Sources:

- (1) McKechnie, Alastair (2013) *Managing Natural Resource Revenues: The Timor-Leste Petroleum Fund*. London: Overseas Development Institute.
- (2) *The Petroleum Fund Law of 2005*, available at http://timor-leste.gov.tl/wp-content/uploads/2010/03/Law_2005_9_petroleum_fund_law_.pdf.
- (3) Stanford Law School and USAID (2014) *Introduction to the Laws of Timor-Leste. Petroleum Fund Law*. Dili and Stanford, available at <http://web.stanford.edu/group/tilep/cgi-bin/wordpress/wp-content/uploads/2013/10/Timor-Leste-Petroleum-Fund-Law.pdf>

The parliament's Rules of Procedures provide opportunities to find possible entry points for developing or amending new laws with regard to a framework for the development of natural resource funds and linking them to renewable energy investments.

→ **New legislation:** The discovery of mining and oil reserves usually triggers a series of parliamentary actions to set up the regulatory framework and revenue management of the extractive sector. This usually takes place when mineral reserves have become commercially viable for export, and is usually between the period of mineral exploration/exploitation and production. Depending on the stage of resource extraction, parliamentarians should work within the parliament, in partnership with civil society, and if possible in consultation with key ministries, such as Mines, Energy, Natural Resources, and Finance, to explore the possibilities of developing the regulatory framework. The discussion will most likely involve setting types and rates of taxation, royalties, and fees to be levelled towards mining and oil companies. In some cases, there are opportunities to build the content of a natural resource fund should a rise in mineral and oil revenues become possible in the immediate future.

Within the parliament, the Finance, Mining and/or Energy committees may be interested in setting up parliamentary enquiries to gather differing policy positions regarding the benefits and challenges of setting up a resource fund.

→ **Amending draft legislation:** If there are existing initiatives to consider the creation of a natural resource fund or any other type of fund, it may be useful to engage with these other parties and make amendments and suggestions to a draft law. For example, if a stabilisation fund is being introduced by the government, it may be worth discussing the merits of creating a development fund that will earmark financial resources from the fund towards renewable energy. Given the complex and technical nature of sovereign wealth funds, consultations with experts, civil society organisations, and other relevant actors may be useful in order for the amendments being promoted to be included in the content of the draft law. The parliamentarians can ask questions and add amendments regarding the objective of the fund, the provisions surrounding the creation of advisory boards and oversight committees, as well as rules on release of information to the public and reporting procedures to parliament.

Earmarking for Development: The Case of Ghana

The Petroleum Revenue Management Act in Ghana identifies long-term development priorities, which the petroleum revenues can be earmarked for spending (Section 21, Article 3). The Annual Budget Funding Amount can be spent in the following areas so long as it is within 70 percent of the Benchmark Revenue (The Benchmark Revenue is a seven-year average of petroleum revenue calculated by the Ministry of Finance.):

- agriculture and industry;
- physical infrastructure and service delivery in education, science and technology;
- potable water delivery and sanitation;
- infrastructure development in telecommunication, road, rail and port;
- physical infrastructure and service delivery in health;
- housing delivery;
- environmental protection, sustainable utilisation and the protection of natural resources;
- rural development;
- developing alternative energy sources;
- the strengthening of institutions of government concerned with governance and the maintenance of law and order;
- public safety and security; and
- provision of social welfare and the protection of physically handicapped and disadvantaged citizens.

The programme of activities is subject to review every three years after the initial prioritisation, wherein the Minister of Finance can seek the approval of Parliament to release the revenues.

→ **Amending existing legislations:** One key aspect of natural resource revenue management is the taxes being leveraged vis-à-vis the mining and oil companies. It is usually the case that either revenues and taxes are already codified in the mining code or have been decided by the government through a mining agreement. Instead of having to develop a new legal framework (especially if there are no immediate demand for a resource fund), parliamentarians can opt to find ways to introduce new taxes within existing legislations that would improve the current framework for ring-fencing mineral rents for infrastructure development or financing of renewable energy.

It is an important strategy for the legislators to consult with the mining and oil industry, experts, and civil society organisations to be able to identify specific issues within existing regulatory frameworks.

→ **Pressuring to implement best practices in revenue management:** Given the highly controversial nature of extractive industries, there is more pressure for national governments to accede to transparency and accountability principles. If the government has signed up to become a Compliant Candidate to the Extractive Industries Transparency Initiative (EITI), there may be scope here for parliamentarians to use parliamentary enquiries or committee review processes to actively participate in observing whether there are discrepancies in the revenue flows declared by receiving governments and paying extractive companies.¹

Where there are existing sovereign wealth funds, parliamentarians through the review committees may seek to check whether the government has considered to implement the ‘Santiago Principles’, which provide incentives to publish key information regarding the

¹ The EITI is a global standard to promote open and accountable management of natural resources. It seeks to strengthen government and company systems, inform public debate, and enhance trust. In each implementing country, it is supported by a coalition of governments, companies and civil society working together. For further details, see <https://eiti.org/>.

Generally Accepted Principles and Practices (GAPP) - Santiago Principles

The International Working Group (IWG) on Sovereign Wealth Funds members have either implemented or about to implement the following principles and practices, on a voluntary basis, *each of which is subject to home country laws, regulations, requirements and obligations*. This paragraph is an integral part of the GAPP:

- (1) The legal framework for the SWF should be sound and support its effective operation and the achievement of its stated objective(s).
- (2) The policy purpose of the SWF should be clearly defined and publicly disclosed.
- (3) Where the SWF's activities have significant direct domestic macroeconomic implications, those activities should be closely coordinated with the domestic fiscal and monetary authorities, so as to ensure consistency with the overall macroeconomic policies.
- (4) There should be clear and publicly disclosed policies, rules, procedures, or arrangements in relation to the SWF's general approach to funding, withdrawal, and spending operations.
- (5) The relevant statistical data pertaining to the SWF should be reported on a timely basis to the owner, or as otherwise required, for inclusion where appropriate in macroeconomic data sets.
- (6) The governance framework for the SWF should be sound and establish a clear and effective division of roles and responsibilities in order to facilitate accountability and operational independence in the management of the SWF to pursue its objectives.
- (7) The owner should set the objectives of the SWF, appoint the members of its governing body(ies) in accordance with clearly defined procedures, and exercise oversight over the SWF's operations.
- (8) The governing body(ies) should act in the best interests of the SWF, and have a clear mandate and adequate authority and competency to carry out its functions.
- (9) The operational management of the SWF should implement the SWF's strategies in an independent manner and in accordance with clearly defined responsibilities.
- (10) The accountability framework for the SWF's operations should be clearly defined in the relevant legislation, charter, other constitutive documents, or management agreement.
- (11) An annual report and accompanying financial statements on the SWF's operations and performance should be prepared in a timely fashion and in accordance with recognised international or national accounting standards in a consistent manner.
- (12) The SWF's operations and financial statements should be audited annually in accordance with recognised international or national auditing standards in a consistent manner.
- (13) Professional and ethical standards should be clearly defined and made known to the members of the SWF's governing body(ies), management, and staff.
- (14) Dealing with third parties for the purpose of the SWF's operational management should be based on economic and financial grounds, and follow clear rules and procedures.
- (15) SWF operations and activities in host countries should be conducted in compliance with all applicable regulatory and disclosure requirements of the countries in which they operate.
- (16) The governance framework and objectives, as well as the manner in which the SWF's management is operationally independent from the owner, should be publicly disclosed.
- (17) Relevant financial information regarding the SWF should be publicly disclosed to demonstrate its economic and financial orientation, so as to contribute to stability in international financial markets and enhance trust in recipient countries.
- (18) The SWF's investment policy should be clear and consistent with its defined objectives, risk tolerance, and investment strategy, as set by the owner or the governing body(ies), and be based on sound portfolio management principles.
- (19) The SWF's investment decisions should aim to maximize risk-adjusted financial returns in a manner consistent with its investment policy, and based on economic and financial grounds.
- (20) The SWF should not seek or take advantage of privileged information or inappropriate influence by the broader government in competing with private entities.
- (21) SWFs view shareholder ownership rights as a fundamental element of their equity investments' value. If an SWF chooses to exercise its ownership rights, it should do so in a manner that is consistent with its investment policy and protects the financial value of its investments. The SWF should publicly disclose its general approach to voting securities of listed entities, including the key factors guiding its exercise of ownership rights.
- (22) The SWF should have a framework that identifies, assesses, and manages the risks of its operations.
- (23) The assets and investment performance (absolute and relative to benchmarks, if any) of the SWF should be measured and reported to the owner according to clearly defined principles or standards.
- (24) A process of regular review of the implementation of the GAPP should be engaged in by or on behalf of the SWF.

sovereign wealth fund, to identify the division of responsibilities among different actors, and to encourage governments to make decisions openly.²

² As of April 2013, the members of the International Forum on Sovereign Wealth Funds (IFSWF) are Australia, Azerbaijan, Bahrain, Botswana, Canada, Chile, China, Equatorial Guinea, Iran, Ireland, Korea, Kuwait, Libya, Malaysia, Mexico, New Zealand, Norway, Qatar, Russia, Singapore, Timor-Leste, Trinidad and Tobago, the United Arab Emirates, and the United States of America.

B. Exercising parliamentary oversight functions in fund management

Whenever governments adopt a policy or legal framework to encourage the earmarking of funds for renewable energy development and investment in infrastructure, parliament is tasked to monitor and scrutinise the management of these funds. There are several tools through which parliamentarians can gather pertinent information and data to assess how well the government is implementing the legislation, and in cases where some funds are earmarked for renewable energy development, to monitor whether the funds have been allocated for expenditure.

→ **Parliamentary Committee Hearings:** One of the key tasks of parliament is to monitor actions and hold the government responsible for the implementation of the law. Through specific committees, for example Finance, Ways and Means, Natural Resources, or the Mines and/or Energy Committees, parliamentarians can ask for documentation as regards pertinent information about the performance of NRFs, as well as require the Minister, Central Bank, members of the Advisory Board, or special consultative bodies to answer questions or provide expert opinion regarding the management of the fund. A parliamentarian who is a member of a committee with jurisdiction over a subject related to natural resource management or renewable energy (e.g. natural resources, mines and energy, finance, economic affairs, environment/ecology, or appropriations) should encourage the committee to call for hearings and conduct investigations into the monitoring and implementation of the legislation.

The Norwegian Parliament decides to divest the biggest NRF away from Coal Companies

In May 2015, The Finance Committee of the Storting (Norwegian Parliament) made a unanimous decision to pull out the Government Pensions Fund Global from investments in the coal industry. The Norwegian Parliament formally endorsed a move to divest the country's massive natural resource fund investments from coal - a process called "divestment". The divestment program affects 122 companies worldwide and involves the sell off of over US\$8 billion of fossil-fuel related investments. The parliament's decision was based on concerns about climate change as well as the financial risk of fossil-fuel investments.

Sources:

- (1) Carrington, Damian (2015) "Norway confirms US\$900 billion sovereign wealth fund's major coal divestment", *The Guardian*, June 5, available online at <http://www.theguardian.com/environment/2015/jun/05/norways-pension-fund-to-divest-8bn-from-coal-a-new-analysis-shows>.
- (2) The Guardian (2015) "Norway's US\$900 billion sovereign wealth fund told to reduce coal assets", May 28, available online at <http://www.theguardian.com/world/2015/may/27/norway-sovereign-fund-reduce-coal-assets>.
- (3) Schwartz, John (June 5, 2015). Norway will divest from coal in push against climate change. The New York Times. <http://www.nytimes.com/2015/06/06/science/norway-in-push-against-climate-change-will-divest-from-coal.html>
- (4) Storting (2014) "The Storting has made the unanimous decision to pull the Government Pension Fund

→ **Interpellation:** In some parliaments, legislators can request an interpellation. This involves conducting a debate on a specific topic that would require the minister in charge to provide detailed responses to the parliamentarians. If there are substantive issues raised in the process, it may result in a vote of confidence for the minister. In this context, this may only be useful if there are serious allegations of corruption, mismanagement, or anomalies in the investment strategies of the fund.

→ **Parliamentary Inquiries:** When natural resource funds, e.g. development or infrastructure funds, have been legislated and earmarked for large infrastructure projects, parliamentarians can scrutinise the costing, quality and the delivery of the projects. The Appropriations, Budget, or Finance Committee are useful starting points to investigate the implementation, the contractors, and any irregularities in the bidding processes. Since the fund has already moved into the national budget, legislators can use similar parliamentary tools to query about the developments of these large-scale infrastructure projects.

CASE STUDY
Establishing a Petroleum Consultative Council in Timor-Leste

The Timor Leste Petroleum Fund Law (Chapter 5, Article 25.2) establishes a Petroleum Consultative Council, which is responsible for:

- (1) Advising the Parliament on matters relating to the performance and operation of the Petroleum Fund;
- (2) Advising the Parliament on appropriations from the Petroleum Fund to the national budget;
- (3) in the context of budgetary processes, give advise to the Parliament on whether the appropriations of the Petroleum Fund are being used effectively to the benefit of the current and future generations.

The Parliament also has the power to approve the appointment of an international advisor for economic and financial affairs for a period of two years, whose background demonstrates academic or professional competence regarding the management of the fund.

Source: Timor Leste Petroleum Fund Law (No. 9, 2005).

C. Monitoring Transfers from the Fund to the State Budget

The parliament can exercise its powers and authority when the fund has been transferred into the national budget, when expenditure for infrastructure projects have been approved, and if there are other financing schemes for renewable energy projects by the state. The state budget is considered and approved by the parliament annually. Once the budget is approved, the parliament should also monitor its implementation.

In countries where the fund is transferred into the budget, notably East Timor, there is a lot of room for parliamentarians to directly and indirectly influence the content of the state budget to encourage more resources for the development of renewable energy. In particular, parliamentarians should think about infrastructure projects that can achieve economic development and renewable energy targets. Such projects, inevitably, require an **economic** argument to convince other parliamentarians and build a political coalition in support of their implementation. Some of these projects include rural electrification, solar energy, and other infrastructure projects. The key is for parliamentarians to make a case for creating new economic opportunities, potential exports, employment benefits, and energy security. In parliaments where individual legislators are allowed to make amendments in the state budget, it offers an opportunity to discuss the need for further investments in renewable energy to meet the country's renewable energy targets.

In other contexts where parliamentarians are unable to change the content of the budget, legislators should aim to work indirectly at the parliamentary committee meetings and consult with civil society organisations to find ways to influence the allocation of funding and debate the different taxes, compulsory fees, and royalties codified in existing mining and oil legislations. Parliamentarians should think about ways to link renewable energy with direct expenditures on research and development (R&D) or even a levy at companies to be invested towards the development of renewable energy.

More generally, the parliament can monitor and investigate the implementation of the budget once this has been passed. It is important that parliamentary committees take a leading role in scrutinising public expenditures, such as the Appropriations, Public Accounts, Budget, Ways and Means, Finance Committees, to avoid corruption, mismanagement, and misallocation of funds. There are also opportunities for public hearings to take place, with the aim of ensuring that the executive is delivering on its commitments as determined in the budget. In this context, parliamentarians are encouraged to work very closely with the Internal Auditors to ensure that costs and expenditures are audited properly. Within the macro-institutional framework of the fund, parliamentarians can request the external and internal auditors to provide documentation, and if necessary, conduct detailed investigation regarding the deposit and withdrawal of the funds, the allocation of investments, and other financial matters that require more technical expertise.

D. Representation

Parliamentarians are, ultimately, citizen representatives: they serve as a bridge between the government and their constituency. Not only do they enact legislation, they ensure that relevant information is passed to the public and that consultation opportunities are available to citizens and social interest groups on how NRF resources are allocated, spent, and invested. Their role is even more important because NRFs can be easily perceived by the public as being misused or unfairly saved at the expense of the development needs of the current generation. Parliamentarians can play a strategic role in building grassroots support to ring-fence some of NRFs towards renewable energy development.

Within the parliament, it is important to generate cross-party consensus regarding the need to set up a natural resource fund. A multi-party group committed to the creation of a NRF will ensure that the fund survives beyond the electoral cycle. In this group, parliamentarians committed to the development of renewable energy can discuss and influence the value of introducing a tax or some revenues earmarked for the development of alternative energy

Thinking about the Role of Parliaments in Governing NRFs

1. Insist that annual budget decisions be linked to a medium- and long-term national development plan and, if such plan is in place, oversee compliance with set objectives.
2. Monitor annual budgets closely to ensure that implementation is in line with a long- term revenue management strategy or with revenue management legislation.
3. Introduce legislation creating or modifying a natural resource fund and revenue-sharing regime, as long as sound fiscal management and forecasting, and institutional capacity are already in place.
4. Exercise powers to monitor the cost, quality and speed of delivery of large infrastructure projects. When projects are poorly constructed or managed, contractors should be sanctioned or replaced.
5. Produce a committee report that assesses the strengths and weaknesses of the revenue management system, large infrastructure project cycles and/or economic diversification strategies.
6. Sanction officials who act unethically or disregard the public interest.
7. Ask parliamentary staff or civic groups to prepare briefings that identify options, challenges and available tools for managing and spending revenues well.
8. Encourage critical debate on government policies by holding media briefings and informational hearings.
9. Build political consensus around the need for review and reforms of revenue and expenditure policies.
10. Reach out to parliamentarians from other countries that share similar challenges to learn how they addressed such issues.

sources.

VII. The Role of Parliament in Earmarking NRFs for Renewable Energy

There are currently no existing natural resource funds explicitly earmarked for the development of renewable energy. However, parliamentarians can play a significant role in promoting renewable energy in several ways.

- **Earmarking a percentage of the revenues or profits of a NRF directly towards the development of renewable energy:** Parliamentarians setting up a NRF can include specific provisions within the draft law to apportion a percentage of the NRF towards infrastructure projects in favour of building alternative energy sources. This is most appropriate at the level of parliamentary committee hearings, whereby legislators are undertaking clause-by-clause discussion of the draft law.

- **Amending taxes and royalties within existing mining and oil legislations:** Where there are opportunities for an amendment of the legislation, parliamentarians are encouraged to include a specific tax on fossil fuel companies or consumers to directly finance research and development (R&D) in renewable energy or infrastructure projects. Several examples, notably in Brazil's 1997 Petroleum Law, show that leveraging taxes from the oil and gas industry and earmarking them for long-term development can help convince other parliamentarians of the value of investing some of the fossil fuels revenues towards future energy development. In federal government systems, provincial or state governments which may have more fiscal control over taxes being collected can potentially become another source for financing renewable energy development. In this context, parliamentarians should hold consultations with local agencies to discuss capacity building and technical expertise to promote renewable energy development.

CASE STUDY ON EXTRA-BUDGETARY FUNDS FOR RENEWABLE ENERGY The National Clean Energy Fund in India

India's National Clean Energy Fund (NCEF) was set up in the 2010-2011 budget to serve as a separate non-lapsable corpus. It is formed through a levy of a Clean Energy Cess of Rs. 50 per tonne on coal produced domestically and imported to India. The tax is collected by the Central Board of Excise & Customs (CBEC), while the Plan Finance II Division of the Department of Expenditure, Ministry of Finance (MoF) is the nodal agency administering and disbursing the Fund; it has also drafted the Cabinet note outlining the framework of the NCEF.

The main objective of the fund is to provide financial support for research and innovative projects in clean energy technologies. The NCEF aims to fund projects or schemes relating to innovative methods to adapt to clean technology as well as research and development. The Fund is keen to support proposals from individuals, consortiums of organisations in the government, public sector, academic community, and the private sector. However, all projects must be sponsored by a Ministry or Department of the government. The project specifically aims to finance the following:

- (1) Advanced technologies in clean fossil energy;
- (2) Advanced technologies in renewable energy including critical energy evacuation infrastructure, and integrated community energy solutions;
- (3) Basic energy sciences;
- (4) Projects related to environment management particularly in geographical areas surrounding the energy sector projects;
- (5) Pilot and demonstration projects for commercialisation; and
- (6) Projects identified in NAPCC and those relating to R&D to replace existing technologies under national mission on Strategic Knowledge for Climate Change (NMSKCC).

Projects are eligible to receive support in the form of loan or viability gap funding. However, NCEF assistance shall in no case exceed 40% of the total project cost. Participating organisations must put a minimum financial commitment of at least 40% of the project cost. Projects funded by any other arm of the Government of India or those that have received grants from any other national/international body are ineligible for funding under the NCEF.

Sources:

- (1) Centre for Budget and Governance Accountability (2012) "Framework and Performance of the National Clean Energy Fund", Policy Brief No. 4, New Delhi

→ **Setting up extra-budgetary funds:** In cases where renewable energy development becomes a national or regional priority, for example under initiatives of the Ministry of Science and Technology or Economic Affairs, parliamentarians can examine whether these funds can be linked to existing legislation or if there are ways the Parliament can further promote the expansion of available funds for investment on renewable energy. The Parliament can either draft legislation in setting up royalties, taxes and fees in the petroleum and mining laws, or monitor whether the ministries in charge of the disbursement of funds are effectively implementing these policies.

CASE STUDY ON EXTRA-BUDGETARY FUNDS Sectoral Funds in Brazil

Sectoral Funds (*Fundos Setoriais*) are part of an extra-budgetary financial framework created by the Brazilian government to fund investments in science and technology. Basically, they are instruments for the financing of research & development and innovation. They were established by the Brazilian government in the wake of the privatisation process of key sectors of the economy, such as oil exploration, telecommunications, and electricity generation and distribution, in the late 1990s and in response to a need to increase funds for the financing of R&D and innovation.

The objectives of the Funds are as follows:

- to provide a steady flow of resources for the financing of research and technology projects;
- to support the development and consolidation of partnerships between public and private universities, research and development centres and the business sector to encourage technology development in strategic sectors;
- to provide incentives for the development of innovation and solutions to national problems;
- to reduce regional inequalities.

Sources:

Ministry of Science, Technology and Innovation and FINEP.

Müller Pereira, Newton (2005) "Fundos Setoriais: Avaliação das Estratégias de Implementação e Gestão", *Texto Para Discussão No. 1136*, Brasília, IPEA.

VIII. Moving Forward: Challenges and Opportunities

In this section, the paper will identify three key challenges in setting up and managing NRFs. We also specify how parliamentarians might play a role not only in managing the NRFs but also to think about how they can be used for renewable energy development.

→ **Institutionalising the Role of Parliament:** In countries where there are no existing NRFs, parliamentarians should explore different policy options and macro-institutional frameworks, in which their roles are enhanced to oversee and monitor the fund. In the most successful NRF, i.e. Norway, parliament exercises its political authority in decisively shifting the investments of the fund away from coal companies. In developing countries, parliamentarians can explore how they can be consulted in various aspects of the fund management - setting up deposit and withdrawal rules, establishing reporting channels for the Advisory Board, and consulting with external and internal auditors of the fund.

→ **Financing Renewable Energy:** If parliamentarians can generate political support in favour of renewable energy development, there may be some scope to revise existing legislations to levy specific taxes or fees towards infrastructure and project development of alternative energy sources. In establishing NRFs, parliamentarians can think of ways to promote the fund's main policy objective (macro-economic stabilisation) alongside development priorities, including the renewable energy.

How can NRFs finance renewable energy development? The mechanism for financing will depend on the type of NRF a country creates. If a government establishes a development or infrastructure fund, it can directly apportion a percentage of the profit of the fund towards large-scale infrastructure projects in renewable energy. If the government has set up a single NRF, for example as in East Timor, the Parliament and the government can make a (joint) decision about allocating a portion of the assets once the money has been transferred from the NRF to the state budget. In that case, renewable energy projects would be part of the national budget.

It is also important to note that there are other ways of financing renewable energy, which are not necessarily linked to NRFs, for example Brazil's sectoral funds and India's national clean energy fund. Countries can set up a fund to invest in renewable energy that is financed by taxes, transfers from the treasury, allocations from the budget, etc. However, in case a country decides to finance renewable energy programs from revenues from a NRF, it is recommended to only use a portion of the profits of the investments/assets of the NRF.

→ **Strengthening Technical Expertise within the Parliament:** A major barrier in crafting legislation to establish a natural resource fund is the lack of technical expertise and information as to how revenues are managed by governments. There is often also a limited understanding regarding the benefits and challenges of a NRF. Parliamentarians are encouraged to familiarise themselves with the necessary knowledge required to understand the complexity of the extractive industry, for example, detailed information about the existing mining codes, petroleum legislations, the constitutional clauses pertinent to natural resource ownership, foreign investment laws, and in some cases, the legislation guiding the operations of national oil and mining companies. To make natural

resource funds work for long-term development and renewable energy, parliamentarians must undertake the necessary training and knowledge accumulation as regards the complex governance structure of NRFs as well as how they are linked to other mining and oil policies.

Natural Resource Funds (Updated 2014)

| Government | Fund name | Year established | Assets (US\$ Billion) | Financing resource | Linaburg-Maduell Transparency Index |
|-------------------|--|------------------|-----------------------|-----------------------|-------------------------------------|
| Abu Dhabi (UAE) | Mubadala Development Company | 2002 | 66.3 | Oil | 10 |
| Abu Dhabi (UAE) | International Petroleum Investment Authority | 1984 | 68.4 | Oil | 9 |
| Abu Dhabi (UAE) | Abu Dhabi Investment Council | 2007 | 90 | Oil | n/a |
| Abu Dhabi (UAE) | Abu Dhabi Investment Authority | 1976 | 773 | Oil | 6 |
| Alabama (USA) | Alabama Trust Fund | 1985 | 2.5 | Oil and Gas | 9 |
| Alaska (USA) | Alaska Permanent Fund | 1976 | 53.9 | Oil | 10 |
| Alberta (Canada) | Alberta Heritage Savings Trust Fund | 1976 | 17.5 | Oil | 9 |
| Algeria | Revenue Regulation Fund | 2000 | 50 | Oil and Gas | 1 |
| Angola | Fundo Soberano de Angola | 2012 | 5 | Oil | 8 |
| Azerbaijan | State Oil Fund | 1999 | 37.3 | Oil | 10 |
| Bahrain | Mumtalakat Holding Company | 2006 | 10.5 | Non-commodity | 10 |
| Botswana | Pula Fund | 1994 | 5.7 | Diamonds and Minerals | 6 |
| Brunei | Brunei Investment Agency | 1983 | 40 | Oil | 1 |
| Chile | Pension Reserve Fund | 2006 | 7.9 | Copper | 10 |
| Chile | Social and Economic Stabilization Fund | 2007 | 15.2 | Copper | 10 |
| Colombia | Savings and Stabilization Fund | 2011 | Not yet operational | Petroleum | |
| Dubai (UAE) | Investment Corporation of Dubai | 2006 | 175.2 | Non-commodity | 5 |
| Equatorial Guinea | Fund for Future Generations | 2002 | 0.08 | Oil | n/a |
| Gabon | Gabon Sovereign Wealth Fund | 1998 | 0.4 | Oil | n/a |
| Ghana | Ghana Heritage Fund | 2011 | 0.13 | Oil | n/a |
| Ghana | Ghana Stabilization Fund | 2011 | 0.32 | Oil | n/a |

Natural Resource Funds (Updated 2014)

| Government | Fund name | Year established | Assets (US\$ Billion) | Financing resource | Linaburg-Maduell Transparency Index |
|------------------|--|------------------|--------------------------|--------------------------------------|-------------------------------------|
| Iran | National Development Fund of Iran | 2011 | 62 | Oil and Gas | 5 |
| Iran | Oil Stabilization Fund | 2000 | No information available | Oil | |
| Iraq | Development Fund for Iraq | 2003 | 18 | Oil | n/a |
| Kazakhstan | Samruk-Kazyna JSC | 2008 | 77.5 | Non-commodity | n/a |
| Kazakhstan | National Investment Corporation | 2012 | 2 | Oil | n/a |
| Kazakhstan | Kazakhstan National Fund | 2000 | 77 | Oil | 2 |
| Kiribati | Revenue Equalization Reserve Fund | 1956 | 0.6 | Phosphates | 1 |
| Kuwait | Kuwait Investment Authority | 1953 | 548 | Oil | 6 |
| Libya | Libyan Investment Authority | 2006 | 66 | Oil | 1 |
| Louisiana (USA) | Louisiana Education Quality Trust Fund | 1986 | 1.3 | Oil and Gas | n/a |
| Malaysia | National Trust Fund | 1988 | 1.7 | Oil | |
| Mauritania | National Fund for Hydrocarbon Reserves | 2006 | 0.3 | Oil and Gas | 1 |
| Mexico | Oil Revenues Stabilization Fund of Mexico | 2000 | 6 | Oil | 4 |
| Mexico | Mexican Fund for Stabilization and Development | 2014 | Not yet operational | Oil | n/a |
| Mongolia | Fiscal Stability Fund | 2011 | 0.3 | Minerals | n/a |
| Montana (USA) | Montana Permanent Coal Trust Fund | 1978 | 0.56 | Minerals | |
| Nauru | Phosphate Royalties Stabilization Fund | 1968 | No information available | Minerals | |
| New Mexico (USA) | Land Grant Permanent Fund | 1912 | 15.46 | Oil and Gas | |
| New Mexico (USA) | Severance Tax Permanent Fund | 1973 | 15.54 | Oil, gas and other natural resources | |

Natural Resource Funds (Updated 2014)

| Government | Fund name | Year established | Assets (US\$ Billion) | Financing resource | Linaburg-Maduell Transparency Index |
|-------------------------------------|---|------------------|--------------------------|--------------------|-------------------------------------|
| Nigeria | Nigerian Sovereign Investment Authority | 2011 | 1.4 | Oil | 9 |
| North Dakota (USA) | North Dakota Legacy Fund | 2011 | 2.4 | Oil and Gas | n/a |
| Northwest Territories (Canada) | Northwest Territories Heritage Fund | 2012 | 0.506 | Minerals | |
| Norway | Government Pension Fund Global | 1990 | 882 | Oil | 10 |
| Oman | Oman Investment Fund | 2006 | 6 | Oil | 4 |
| Oman | State General Reserve Fund | 1980 | 13 | Oil and Gas | 4 |
| Papua New Guinea | Papua New Guinea Sovereign Wealth Fund | 2011 | Not yet operational | Gas | n/a |
| Qatar | Qatar Investment Authority | 2005 | 256 | Oil and Gas | 5 |
| Russia | National Welfare Fund | 2008 | 79.9 | Oil | 5 |
| Russia | Reserve Fund | 2008 | 88.9 | Oil | 5 |
| Sao Tome and Principe | National Oil Account | 2004 | No information available | Petroleum | |
| Saudi Arabia | Public Investment Fund | 1971 | 5.3 | Oil | 4 |
| Saudi Arabia | SAMA Foreign Holdings | 1952 | 757.2 | Oil | 4 |
| Texas (USA) | Texas Permanent University Fund | 1876 | 17.2 | Oil and Gas | n/a |
| Texas (USA) | Texas Permanent School Fund | 1854 | 37.7 | Oil and other | 9 |
| Timor-Leste | Timor-Leste Petroleum Fund | 2005 | 16.6 | Oil and Gas | 8 |
| Trinidad and Tobago | Heritage and Stabilization Fund | 2000 | 5.5 | Oil | 8 |
| Turkmenistan | Turkmenistan Stabilization Fund | 2008 | 0.50 | Oil and Gas | n/a |
| United Arab Emirates (Federal) | Emirates Investment Authority | 2007 | 15 | Oil | 3 |
| United Arab Emirates Ras Al Khaimah | RAK Investment Authority | 2005 | 1.2 | Oil | 3 |

Natural Resource Funds (Updated 2014)

| Government | Fund name | Year established | Assets (US\$ Billion) | Financing resource | Linaburg-Maduell Transparency Index |
|--|--------------------------------------|------------------|--------------------------|--------------------|-------------------------------------|
| Venezuela | Macroeconomic Stabilization Fund | 1998 | 0.8 | Oil | 1 |
| Venezuela* | National Development Fund | 2005 | 18 | Oil | |
| West Virginia (USA) | West Virginia Future Fund | 2014 | No information available | Oil and Gas | n/a |
| Western Australia (Australia) | Western Australian Future Fund | 2012 | 0.3 | Minerals | n/a |
| Wyoming (USA) | Permanent Wyoming Mineral Trust Fund | 1974 | 5.6 | Minerals | 9 |
| | | | | | |
| Total Oil and Gas related | | | 4,222.73 | | |
| <p><i>Source: Natural Resource Governance Institute (2014: 9-10); Sovereign Wealth Fund Institute (SWFI), updated and adopted.</i> * The sources for this fund are very difficult to trace.</p> | | | | | |

Appendix 1: List of Natural Resource Funds

References Cited:

- Ahmadov, Anar Kamil (2011) *A Conditional Theory of the 'Political Resource Curse' : Oil, Autocrats and Strategic Contexts*. PhD Dissertation, London School of Economics and Political Science, UK.
- Brollo, Fernanda, Tommaso Nannicini, Roberto Perotti, and Guido Tabellini (2013) "The Political Resource Curse", *American Economic Review*, 103 (5): 1759-1796.
- Centre for Budget and Government Accountability (2012) "Framework and Performance of National Clean Energy Fund (NCEF)", *Policy Briefing 1*, New Delhi.
- Herb, Michael (2014) *The Wages of Oil: Parliaments and Economic Development in Kuwait and the UAE*. Ithaca: Cornell University Press.
- Hertog, Steffan (2010) *Princes, Brokers and Bureaucrats: Oil and the State in Saudi Arabia*. Ithaca: Cornell University Press.
- Karl, Terry Lynn (1997) *The Paradox of Plenty: Oil Booms and Petro-States*. California, University of California Press.
- Krugman, Paul (1987) "The Narrow Moving Band, the Dutch Disease, and the Competitive Consequences of Mrs Thatcher: Notes on Trade in the Presence of Dynamic Scale Economies", *Journal of Development Economics*, 27 (1-2): 41-55.
- Mazucca, Sebastián (2014) "Rentier Populism and the Rise of Super-presidents in South America", in Daniel Brinks, Marcelo Leiras, and Scott Mainwaring, editors, *Reflections on Uneven Democracies: The Legacy of Guillermo O'Donnell*. Baltimore: Johns Hopkins University Press, 89-105.
- McKechnie, Alastair. 2010. *Managing Extractive Resources for Prosperity*. World Economic Forum, Global Agenda Council for Fragile States, November 29.
- McKechnie, Alastair. 2013. *Managing Natural Resource Revenues: The Timor-Leste Petroleum Fund*. London: Overseas Development Institute (ODI), April.
- Nem Singh, Jewellord and France Bourguin, editors (2013) *Resource Governance and Developmental States in the Global South: Critical International Political Economy Perspectives*. Basingstoke: Palgrave Macmillan.
- Richardson, Neal (2009) "Export-oriented Populism: Commodities and Coalitions in Argentina", *Studies in Comparative International Development*, 44 (3): 228-255.
- Ross, Michael (1999) "The Political Economy of the Resource Curse", *World Politics*, 51: 297-322.
- Sachs, Jeffrey and Andrew Warner (1995) "Natural Resource Abundance and Economic Growth", *Papers 517a*. Harvard: Institute for International Development.
- Sachs, Jeffrey and Andrew Warner (1999) "The Big Push, Natural Resource Booms and

Growth”, *Journal of Development Economics*, 59: 43–76.

Sonin, Konstantin (2003) “Why the Rich May Favour Poor Protection of Property Rights”, *Journal of Comparative Economics*, 31 (4): 715-731.

Tornell, Aaron and Philip Lane (1999) “The Voracity Effect”, *American Economic Review*, 89 (1): 22-46.