

Managing Resources Post- Discovery

A Guyana National Seminar of the New Petroleum Producers Discussion
Group

21–22 June 2017



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Background

Significant oilfields have recently been discovered in Guyana. Their development would likely result in government revenues that are large compared with public spending, other domestic revenues and the economy. Large petroleum revenues, if wisely managed, can contribute to sustainable economic development. However, if poorly managed, they can retard economic development and create a ‘resource curse’. More specifically, they can lead to a loss of economic competitiveness, volatile and inefficient public spending, and unsustainable consumption. This is a the summary of a workshop, held in Georgetown on 21–22 June 2017, that examined how petroleum development might influence Guyana’s development trajectory as well as the various mechanisms for saving petroleum revenues and rules for spending them.

There is also the question of the management of the resource and the role petroleum will play in Guyana’s economy. Oil-producing countries want to optimize the use of their finite resources and to maximize the long-term economic benefits to the economy. This may lead them to find productive uses for their crude oil and gas at home, but they must also consider the value of clean air and preserving a pristine national environment, as well as the sustainable use of resources.

To discuss these new challenges facing Guyana, the workshop brought together officials from the Ministries of Natural Resources, Finance, Foreign Affairs, Agriculture, Communities and Education, the University of Guyana, the parliament, the Guyana Commission of Geology and Mines, the Guyana Energy Agency, the Bank of Guyana, the Guyana Revenue Authority, the Department of the Environment, the Environmental Protection Agency, the NGO Conservation International, and Go Invest. It also included officials from Trinidad and Tobago, Chile and Liberia, as well as staff from Chatham House, the Commonwealth Secretariat, the Natural Resource Governance Institute (NRGI), Petrad and independent experts. Discussions were held under the Chatham House Rule,¹ except for the first session (described below).

The workshop was co-organized by the Ministry of Finance and the Ministry of Natural Resources and the New Petroleum Producers Discussion Group. The New Petroleum Producers Discussion Group provides a platform for new and emerging producers to discuss challenges, strategies and governance frameworks for sustainable exploration and development of their oil and gas resources. This initiative is co-organized by Chatham House, NRGI and the Commonwealth Secretariat. Guyana has been a member of the group since 2012 and has regularly participated in meetings of new oil and gas producers around the world.

Guyana’s vision

In an on-the-record session, which began the proceedings, Guyana’s Minister of Natural Resources, Raphael Trotman, and Minister of Finance, Winston Jordan, provided an overview of the status of the petroleum industry and the government’s development priorities. Both outlined a vision for the development of Guyana that was green and sustainable. The government has committed to 100 per cent renewables use by 2025, including wind, solar and hydroelectricity. It hopes to use associated gas (gas produced with oil) as a transition fuel (though it would only come on stream from 2020) and is in discussions with the operator of the Liza field, ExxonMobil, to bring gas to shore.

The minister of natural resources announced that production licences have been issued for Liza 1, allowing ExxonMobil to make a final investment decision. Oil production from that field is set to reach 100,000 barrels per day (b/d) by mid-2020 and ultimately 120,000 b/d. He emphasized the

¹ When a meeting, or part thereof, is held under the Chatham House Rule, participants are free to use the information received, but neither the identity nor the affiliation of the speaker(s), nor that of any other participant, may be revealed.

government's intention to focus on economic diversification in order to minimize the impact of oil revenues on the economy. Productive sectors of the past – such as bauxite, sugar and forestry – provide little opportunity for growth in the future, he explained. Guyana must identify and support sectors offering a competitive advantage. The diversification strategy would bet on eco-tourism (and tourism more generally), in line with its green-led growth strategy, as well as light manufacturing. Other key objectives are to invest in infrastructure and to connect the hinterland of dense Amazonian forest with the coast and with northern Brazil.

The minister of finance detailed government plans to establish a sovereign wealth fund.² The purpose will be to save for the future, to protect government spending against volatile commodity markets and to spend to meet the country's development priorities. Finding the right formula for what to spend and to save will be challenging. Noting that Guyana faces significant deficits in human resources, infrastructure, health and education, he said that oil revenues should be used to meet these needs through improving education as well as targeted investments towards diversification and the green economy, while retaining a share for savings. The question of how to maximize the benefits of oil was raised throughout the two days and came to be the defining theme of the workshop.

The minister of finance also addressed the issue of public expectations regarding the transformative impact of oil. 'Let me emphasize that the management of oil resources starts with the management of domestic expectations', he said. He added that this is 'critical in view of situations' where citizens are already asking when 'the money will be shared out'.

Climate change and the global context for the oil industry

The Paris Agreement, even considering the announced withdrawal of the US, has created a movement towards energy efficiency and renewables, and away from carbon-based fuels. The five-yearly review process that is built into the Paris Agreement is designed so that countries regularly review their pledges and increase their ambition, in order to deliver its stated goal of limiting temperature increases to 'well below 2°C'.

While international agreements and climate policy are major drivers of the global shift toward renewable energy, they are underpinned by significant shifts in social expectations (i.e., of clean air and water, and flexible and clean energy services), and by rapidly improving and cheaper renewable technologies. Increasing energy efficiency and new technologies – including electric vehicles, battery storage and renewable (solar photovoltaic and wind) energy – are all changing the terms of energy choices. This poses a real challenge to the oil-and-gas sector in the decades to come.

The uptake of electric vehicles is unpredictable, but the experience of other sectors shows slow initial uptake was followed by very fast uptake (driven by innovation and lower costs as a result of scale), and then slower growth as saturation was reached. In every case, company managers and industry commentators have underestimated the speed of the fast-uptake phase.³

The tipping point of the oil sector cannot be accurately forecast, but there is no doubt demand will peak. Current estimates from international organizations and international oil companies range from the early 2020s to the late 2030s, depending on the scenario used. The question is therefore how fast and hard

² For further details, see 'Draft legislation for Sovereign Wealth Fund being fine-tuned', *Guyana Chronicle*, 21 June 2017, <https://guyanachronicle.com/2017/06/21/draft-legislation-for-sovereign-wealth-fund-being-fine-tuned>.

³ Recent experience of solar photovoltaic has shown uptake far exceeds the projection of the International Energy Agency and other mainstream scenarios, resulting in significant disruption to traditional business models in the power sector across Europe and now the Asia Pacific region.

demand will fall. For emerging producers the questions are whether their reserves will be developed and what revenues they will get from them.

The answers depend on the cost of the production, which will determine the decisions of oil companies on *new* projects. Lower-cost producers will be more resilient through the coming transition. The other key distinguishing feature for producers is the size of their resource base. Reserves can be expressed in production years and countries with very long production lifespans face more risks of stranded reserves. In order to prepare for such market risks, emerging producers would be well advised to build their forward plans on a range of revenue assumptions and to focus on economic diversification.

Guyana, as an emerging producer with significant discoveries, will need to be resilient to that uncertainty and survive the decline of oil. It will get projects into production before demand decline really starts to be felt, but it does need to consider these risks in managing future licensing.

Nonetheless, as a presenter noted, Guyana is lucky to begin producing in this environment, because it will not establish its sector on the basis of an expectation of a \$100 barrel. Seeing the end of oil sometime ahead, it is less likely to lock itself into high dependence on it. Unlike many producing countries that are trying to diversify away from or unwind oil-dependent development, Guyana has the opportunity to invest in a diverse economy from the start.

Oil revenues will also enable Guyana to fund many of the programmes that are in its Intended Nationally Determined Contributions for reductions in greenhouse gas emissions (mangrove restoration, anti-deforestation, etc.). But it will have to keep the operators under pressure to minimize flaring and direct emissions.

Alternative development paths

Having a clear view of the national vision for the development of the economy and the role that oil and gas are meant to play in supporting that vision is a key recommendation of the New Petroleum Producers Discussion Group's *Guidelines for Good Governance in Emerging Oil and Gas Producers*.⁴ The discussion focused on distinguishing development paths to highlight trade-offs to consider in pursuing any one path. Such choices include whether/how to use the oil and gas produced as factor inputs in the economy, and the implications such decisions would have on employment, industrialization, the environment and revenue generation for the state.

The discussion drew on hypothetical development strategies to illustrate how the oil and gas produced could be used:

- A. Forward linkages: A model based on supplying cheap energy to the economy, in order to spur industrialization and growth.
- B. An access-to-energy model, in which the domestic economy has greater access to energy – including renewables – to spur growth. Energy use is not subsidized in this path, but the government supports investments in supporting infrastructure.
- C. Backward linkages: A path focused on leveraging oil projects to create supply chains, to develop infrastructure and to establish a national oil company to create in-country value.

⁴ Marcel, V. (2016), *Guidelines for Good Governance in Emerging Oil and Gas Producers 2016*, London: Royal Institute of International Affairs, <https://www.chathamhouse.org/publication/guidelines-good-governance-emerging-oil-and-gas-producers-2016>.

- D. Lateral linkages: A similar path to the preceding one but where investments support economic diversification. Supply chains and infrastructure development will serve oil projects but are more focused on serving other sectors of the economy, to ensure value creation outside the oil sector.
- E. Export model: Crude oil is primarily exported to generate revenues. The government determines which sectors to support with the proceeds. In light of Guyana's country vision, export revenues can stimulate green growth and other productive non-oil sectors.

These strategies may be employed in combination, with the exception of A and E. Guyana's green growth agenda would be challenged if it also chose to supply cheap (subsidized) oil and gas to domestic industry and consumers. The 'cheap energy factor input' model (which Trinidad and Tobago pursued in the 1970s) locks countries into consumption trends. Subsidies create dependence and distorted investment decisions. The experience of established producers shows that it is politically very difficult to remove subsidies once introduced. This model also reduces the volumes available for export, therefore limiting the revenues available for reinvestment in the green agenda.

In determining its development path, Guyana should consider the following issues:

1. The pace of development. Guyana will need to consider how quickly it should develop its oil reserves and how much it can invest in the economy over time.
2. It should also consider whether government or market forces would drive the chosen development path. Some participants noted the challenges that governments had faced in helping 'infant' industries (that benefit from advantages such as subsidized energy) graduate to competitive sectors that are viable without state support. Others said in addition that governments had a poor track record in choosing the sectors/activities with the greatest competitive advantage. A participant also warned of the tendency of governments to establish new state vehicles (state-owned-enterprises, agencies) when they feel that the public sector is not responding or moving forward fast enough with their development agenda. These vehicles tend to create waste, confusion and opportunities for corruption. Diversification efforts would be best served by the private sector, but participants from the region highlighted the lack of entrepreneurial culture of the private sector in the Caribbean. Left to its own devices and with access to funding, it would look for easy returns, such as in building high rises and hotels, according to some participants. A culture change is needed so the private sector becomes willing to take risks.
3. Should broad-based access to energy and inclusive growth guide Guyana's development path? The discussion raised the concerns of indigenous communities in the hinterland, with some participants suggesting that improving the livelihood of people and communities should guide the country's thinking about the optimal path of development. It should be noted that domestic access to energy (especially in rural or remote areas) would be not be supported by a centralized model (or grid).⁵
In any case, the development of the oil sector should serve the national vision. There is a risk that an emerging oil sector will undermine the national vision through economic distortions and by distracting policymakers from non-oil policy goals. Guyana will need a clear idea of what its priorities are.

⁵ The grid model would be uneconomic and risk opening up the forest to other actors, and in turn deforestation. Decentralized renewable energy solutions represent a cost-effective option in this context.

The experience of Trinidad and Tobago highlights the fact that views on the optimal development path evolve over time. After decades through which cheap energy supported industrial growth, the country found itself faced with declining oil and gas production and commodity prices, and changed course to focus on diversification and reducing dependence on the sector. It is now using its energy to finance infrastructure development and non-oil exports

In-country value

The discussion focused on the following avenues for creating in-country value, which have been the object of government debates: establishing a national oil company (NOC) and petroleum-sector supply chains.

In setting up an NOC, Guyana would need to think about what role would create value for itself (i.e., respond to a need) and is not too risky. NOCs can create value by developing technical capacity that enables them to take on operatorship of oil and gas projects. However, the time required to build the necessary capacity to handle such risk is long (one can expect 15 years of sustained efforts). Another, more accessible ambition would be to offer a window to the operations. With a minority stake in licences (with costs carried by the partners until production), the NOC can observe the decision-making of the oil company during development and production. This helps build capacity in the NOC and helps government understand operations. The NOC can also be a centre for development of skills and capacity in the oil sector.

However, NOCs need constraints to avoid growing too ambitious, too slack in spending and too unfocused. It is the government's job to give the NOC a clear mandate and to oversee its performance. It needs to assess whether the NOC's mandate and investments are too risky. The oil and gas sector is a capital-intensive one and the NOC would need to demonstrate its ability to manage risks.⁶ In light of the pressures a carbon-constrained world will impose on national or private oil companies, some thought should be given about how much to invest in developing its capacity and whether its mandate should include the support of renewables.

With regard to the creation of supply chains and opportunities for local content, the discussion emphasized the importance of identifying sectors with a competitive advantage. The small population and market size of Guyana is a disadvantage. Attracting the large diaspora back to the country could be valuable. To reduce dependence on oil, Guyana should focus on supply chains that benefit growth in other sectors of economy (e.g., financial service, insurance, logistics). Some participants said that manufacturing would not be competitive in Guyana, whereas tourism appeared to present much greater potential. Participants focused on identifying which investments could bring lasting prosperity.

Fiscal rules

A key message throughout the workshop was to remind the Guyanese that oil is a commodity with volatile international prices. One presentation modelled revenues from a stylized large oilfield over time and the impact of spending those volatile revenues on a small economy. The negative impacts demonstrated the necessity to de-link these revenues from public spending. There are numerous fiscal rules that can be used to this end:

⁶ The risks and rewards of creating a national oil company are discussed in greater detail in *Good Governance: Preparing for First Oil; The Guyana National Seminar of the New Petroleum Producers Discussion Group*, meeting summary, 24 February 2017, London: Royal Institute of International Affairs, https://www.chathamhouse.org/sites/files/chathamhouse/events/2017-02-24-guyana-national-seminar-summary_3.pdf.

- One is to spend based on structural income rather than on the volatile actual income. Structural income or permanent fiscal revenues can be determined by using the long-term average price for the commodity and save any revenues over that price. Governments can spend their savings when revenue flows fall below the long-term price. There are different ways to estimate the long-term price and none is perfect, but they do give a structure to the savings decision. Governments should also identify windfalls as transitory or permanent price surges, and remain conservative in making this assessment.
- Under the so-called ‘Bird in Hand Rule’, the government saves all petroleum revenues in a fund and withdraws the long-term expected rate of return. This leads to a sustainable increase in public spending and in consumption, disconnects public spending from volatile international oil prices and allows significant long-term savings. The main disadvantage is that public spending only increases slowly, which may disappoint the public and be unsuitable for countries with pressing development needs.
- Under the ‘Permanent Income Hypothesis’, the aim is to achieve an equitable increase in consumption from petroleum wealth across generations. This is achieved by spending the long-term real rate of return from total petroleum wealth, when total petroleum wealth equals savings plus future petroleum revenues. The main disadvantage is the complexity involved in accurately forecasting future petroleum revenues.

There was considerable discussion of the correct balance between consuming and saving petroleum revenues. Some participants argued that most of it should be saved for future generations. Others argued that significant amounts should also be used to increase public spending on priority areas like infrastructure and education.

This debate illustrates the need to be clear about fiscal rules and savings frameworks, as well as to explain the reasons for these rules regularly to the public. In Timor-Leste and Nigeria the ministries of finance explained every month to stakeholders the importance of the fiscal rule and why they were not spending more.

Resource curse

The ‘resource curse’ is not inevitable, but frequently occurs. Petroleum revenues can lead to it through volatile and inefficient public spending, Dutch Disease, an unsustainable increase in consumption and weakening institutions. Fiscal rules form part of the solution to these problems, as do strong institutions.

Emerging producers such as Guyana should consider carefully the capacity of their economy to absorb public spending. Many countries expect to use petroleum revenues to increase infrastructure spending and the productive potential of the economy. Although infrastructure spending can contribute to economic growth, emerging producers have faced the following problems when they have tried to scale it up too:

- Demand increases before supply.
- Limited capacity to operate and maintain new infrastructure.
- Broadening of the definition of infrastructure to include much public spending.
- Limited capacity of the domestic construction sector.
- Conflation of short-term demand growth with long-term supply growth.

An effective approach would therefore be to increase such spending slowly, reviewing and evaluating projects as well as building public investment management capacity over time.

Emerging producers – especially those in the pre-production phase – can draw important lessons on managing their economy post-discovery from their peers. Research at NRGi found that countries with giant discoveries tended to disappoint on economic growth forecasts.⁷ Many projects were delayed or faced cost overruns. No less than 73 per cent were late and 64 per cent had cost over-runs averaging 59 per cent over budget. Others with early production faced a 60 per cent drop in revenues as oil prices fell in 2014. Common to the cases studied was the expectation of transformative economic impact from oil and gas as well as excessive borrowing, which led several countries in the study to be bailed out by the IMF. The biggest discoveries and countries with poor institutional governance had the most significant economic disappointment. Guyana will need to manage expectations about spending levels, be cautious on accruing debt and work to build strong institutions.

The discussion showed that getting public consensus on fiscal rules (and the proportion of revenues to spend and to save) would be difficult if some immediate economic needs were not met. Some participants argued that it might be difficult to achieve a consensus on saving significant petroleum revenues if poverty was not reduced in the short term and infrastructure was not improved. A key preoccupation of participants was whether Guyana should wait to establish its sovereign wealth fund until it is able to reduce poverty. Several expert participants felt that it should have enough for spending and saving as oil reserves are large in relation to the size of the economy. However, Guyana will need fiscal surpluses to justify a savings fund and place these surpluses in the fund. As one expert cautioned, ‘Governments sometimes cheat themselves when they save in a fund without running fiscal surpluses. The only possibility for that is to issue debt. That is not a sovereign wealth fund. That is a sovereign debt fund!’ Too many countries have indeed borrowed at high rates (which may be in the area of eight per cent because of country risk factors) and get a rate of return of one or two per cent on the investments in the fund.

In order to protect savings, there is great value in explaining to citizens that their descendants have a stake in the fund and that it is not a ‘piggy bank’ for today’s government spending. Australia aptly named its fund the Future Fund and the website for the Norwegian fund notes it ‘is saving for future generations in Norway. One day the oil will run out, but the return on the fund will continue to benefit the Norwegian population.’⁸ To help with saving, governments can emphasize the long-term benefits of the fund with the message that ‘It is for your children and their children’.

The discussion reviewed how Chile has managed copper revenues. The country has a Pension Reserve Fund, which anticipates future pension needs, and an Economic and Social Stabilization Fund, which funds potential deficits. All the funds’ investments have been abroad. This protects the economy from distortion effects and diversifies risk. Chile succeeded in reducing GDP volatility between 1980 and 2017, and the real exchange rate has remained reasonably close to the long-term rate (1986–2017) despite extreme volatility in the copper price. The funds made conservative investments with a limited share of equities (which ‘saved the fund’ when the global economy was hit by 2008 financial crisis). But they are now more capable and confident to add a bit more risk (equities, though passive) to gain higher returns.

The Economic and Social Stabilization Fund supported Chile’s countercyclical fiscal policy. It saved in the good times. The government faced public criticism as it held on to extra profits for four years in a row when commodity prices were high. It faced significant pressure to spend the extra revenues on development priorities. But when prices later fell hard, the government established its credibility because it had sufficient savings to draw \$9 billion from the fund to maintain spending. Following the 2008 crisis,

⁷ Cust, J. and Mihalyi, D. (10 June 2017), *Evidence for a resource curse? oil discoveries, elevated expectations, and growth disappointments*, World Bank, Policy Research Working Paper, WPS8140.

⁸ Norges Bank (undated), ‘Government Pension Fund Global: The Fund’, <https://www.nbim.no/en/the-fund/> (accessed 30 Jun. 2017).

Chile used its savings for a growth stimulus package and reduced borrowing rate to stimulate the economy.

Good governance

Strong institutions are needed to prevent the resource curse and to ensure effective management of oil and gas resources and revenues. In order to establish a natural resource fund, governments need policies and procedures (objectives, accumulation and withdrawals rules, institutional arrangements, appointments, decision-making, investment policies and strategic asset allocations, reporting, IT policy, etc.) to minimize discretionary element in decision-making.

Some countries use some form of boards or committees to help their investment decisions. For instance, Chile's framework uses a Financial Committee, composed of independent members, which advises on the investment policy. In addition, ex ante transparency should be a goal from the beginning. Transparency of funds involves monthly, quarterly and annual reports, including the recommendations of the Financial Committee and government decisions. Successful sovereign wealth funds have clear and simple rules, and are supported politically by government. Chile's government, for instance, has been very committed to high transparency standards and instigated the Santiago Principles.⁹

In terms of broader resource-management questions, and particularly when thinking about how to use the oil and gas produced and the revenues they bring, communicating and engaging with a broad range of stakeholders allows continuity and endurance of policy. Building consensus enables policies to survive changes of government.

Stakeholder engagement is not an easy process and some participants suggested that a legal requirement for communication and consultation should be built into policies and laws in order to compel government agencies to take the risk of doing it. It is important to be clear with stakeholders about the rules of engagement (clarifying for instance whether it is a one-way communication, a consultation or consensus seeking) and to leave a written trace of the engagements.

⁹ The Santiago Principles consists of 24 generally accepted principles and practices voluntarily endorsed by IFSWF members. The Santiago Principles promote transparency, good governance, accountability and prudent investment practices whilst encouraging a more open dialogue and deeper understanding of SWF activities. (<http://www.ifswf.org/santiago-principles-landing/santiago-principles>)

Conclusion

The positive takeaways from the meeting emphasized the need for Guyana's government to focus on the following:

- Stabilization
- Savings
- Sterilization (protecting the Guyanese economy from the effects of a volatile commodity)
- Socioeconomic development
- Safeguarding (many funds have been raided by governments)
- Increasing public spending in line with capacity
- Transparency
- Consultation

The discussion also led to the warning for the government to guard against the following:

- Borrowing against the fund
- Letting too much money flow into the economy
- Too much rigidity (a safety valve for real crises can stop a government just breaking all the rules)
- Discretion rather than rules