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PREVENTING A RENEWABLE RESOURCE CURSE

Scott W. Lyons*

INTRODUCTION

In 2007, the largest African oil and gas discovery in a decade was made off the coast of Ghana.¹ Aptly named “Jubilee,” the field produced great excitement for the Ghanaian government.² Since production began in 2010, the economic benefits have become entrenched in Ghana’s budget.³ Moreover, this production is expected to accelerate through late 2016, with fiscal estimates already included in national plans.⁴ However, the changes due to the sudden influx of petrodollars from the large oil discovery are cause for concern. Recent history demonstrates that the rapid flow of large revenue streams into a state with weak institutions can produce more harm than good.⁵ Ghana is hastily creating and managing the necessary systems to handle its newfound resource wealth to ensure that it does not suffer the downfalls of other resource-rich states.⁶

The threats to Ghana are real. The sharp increase of non-tax revenue collection breeds secrecy⁷ and counters public accountability found only with transparency,⁸ thus producing an establishment ripe for corruption.⁹ Meanwhile, the financial windfall only accrues to a select few, while the national per capita income does not improve but in many cases declines.¹⁰ This “resource curse”¹¹ does not have to manifest, as some states avoided negative impacts through strong institutional protections, but those states are exceptions.¹² Moreover, some of the same enabling factors apply to the new massive investment in sustainable energy solutions.¹³

Recently, spurred by international efforts to increase energy independence and to combat global climate change, there are new and substantial governmental subsidies for renewable and clean energy worldwide. They have resulted in large flows of investment, both private and public, into this new area of alternative energy resource development.¹⁴ Initiatives, such as Power Africa,¹⁵ and the South East Europe Energy Community Treaty Plan,¹⁶ have brought billions of dollars to areas that are in desperate need for energy. However, these areas do not necessarily have the institutions nor the infrastructure to absorb this financial investment. While these initiatives will add tens of thousands of megawatts of cleaner and more efficient power, they may also be accompanied by negative effects if they are not accompanied

by necessary protections.¹⁷ Thus, these states face a potentially similar risk of a resource curse as other resource-rich countries.¹⁸

This Article explores the risks of new massive inflows of wealth stemming from investment in clean and renewable energy. First, this Article will discuss the principle of the natural resource curse and the combined dynamics that result in negative returns on resource wealth. Next, a discussion of the new investment in renewable energy, the enabling factors for a potential clean energy curse, and specific examples that demonstrate an emerging concern. Finally, the Article provides potential mitigating solutions taken from best practices in traditional resource development and government institution strengthening.

GENERAL PRINCIPLES OF THE RESOURCE CURSE

After years of extensive research and examination by economists and political scientists, there is general agreement that states with abundant resource wealth generally perform worse than states that have less resources.¹⁹ This greatly paradoxical principle, which has traditionally focused on extractive industries such as oil, gas, and mining, reveals that there are trade-offs between resources on one hand and economic development and poverty reduction on the other.²⁰ Known as the resource curse, it goes against conventional wisdom

“Known as the resource curse, it goes against conventional wisdom that something providing great wealth and revenue is bad for a state and its population.”

that something providing great wealth and revenue is bad for a state and its population.²¹ While this curse is not an absolute law of economics and development, there is a strong tendency of negative results.²² Original observations of the resource curse reflected more broadly on the macroeconomic impact, such as during the 1970s in the Netherlands, leading to the resource curse to be termed early on as the “Dutch Disease.”²³ After the discovery of the Groningen oil fields, the Netherlands experienced a

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significant inflation of its exchange rate and a subsequent related decline in manufacturing, thus increasing dependency on fossil fuel wealth.²⁴ The applied macroeconomic dynamics of the Dutch Disease were a failure to invest in diverse traditional tradable commodities like manufactured goods or agricultural products and the related infrastructure and education needed to produce these type of goods.²⁵ The movement from a manufacturing and agricultural-based economy to one where the labor is diverted to resource development raised production costs and over time handicapped the economy.²⁶ While the Dutch Disease narrowly describes the decline in manufacturing and agricultural sectors as a result of a suddenly prosperous natural resource sector, the resource curse refers to all hardships that result from natural resource exports.²⁷

The evolution of the hardships encountered through the resource curse began when the nationalization of resource wealth allowed energy-producing nations to hide their revenues.²⁸ In the 1960s and 1970s, states moved away from dominance by the “Seven Sisters,” the seven international oil companies that controlled ownership, investment, and distribution of mineral resources, and began to take control.²⁹ While the Seven Sisters colluded to maintain price stability, they also paid taxes and royalties that were accountable and transparent as sources of government revenue.³⁰ With a change to a new larger scale of revenue through state-owned models, and increased secrecy of that revenue, governments were no longer held to the same levels of accountability.³¹ The states were then able to subsidize energy internally and provide benefits to the population without need for taxation, which has the combined effect of pacifying the population.³² Thus, with the accompanying lack of transparency regarding the nature of the investments and resulting wealth, the government was uniquely exposed, from a transparency perspective, to questionable contracts on one side and ill-coordinated decisions regarding capital spending on the other side.³³

The recent investigations of the resource curse focus not only on macroeconomic impacts related to exchange rates and labor markets, but more importantly on government behavior stemming from the unanticipated large windfall of revenue associated with discovery and exploitation of natural resources.³⁴ A major component of the resource curse is rentier politics. Rentier politics, which occur when a state receives sufficient revenues from external sources, allows a government to maintain an illusion of effectiveness through lower taxes and higher public spending.³⁵ In autocratic or partially democratic

nations,³⁶ the resource wealth is accompanied by increased secrecy,³⁷ while reducing transparency,³⁸ freedom of the press,³⁹ and public accountability.⁴⁰ Since the revenue stream does not come from taxes, it is easier to hide income, which eliminates governmental accountability⁴¹ while quelling dissent through patronage systems used to dampen possible rebellion.⁴² In doing so, these nations prevent the common transition to democracy.⁴³ These factors allow for endemic corruption and governmental ineffectiveness.⁴⁴ Moreover, in less wealthy democracies with weaker institutions, weaker legislatures, and weaker legal systems, very similar outcomes occur.⁴⁵ In this way, the resource curse results from institutional failure,⁴⁶ making democracies less democratic.⁴⁷

Despite varied efforts to eliminate discord through reduced tax-collection, reduced freedoms, increased secrecy, and increased public spending, a major part of the resource curse is

conflict, including a fifty-percent increase in civil war and violent insurgencies.⁴⁸ Less wealthy nations have a two-fold increase in the risk of civil war,⁴⁹ which is even more destructive than these statistics show because armed conflicts have a high risk of restarting.⁵⁰ Again, there are a multitude of triggers, including public distrust of revenue-hiding,⁵¹ financial motivation to commit resource-related crimes,⁵² and newfound separatists in the oil-producing region with a

perceived greater claim to the spoils.⁵³ Since the 1970s, government resource revenues have spiked, leading to a greater risk of civil conflict as insurgents have more to gain,⁵⁴ while the rising energy prices encouraged private investors to enter increasingly dangerous places, leading to a greater risk of rebellions.⁵⁵ Thus, the resource curse has a corrosive element that makes bad governance worse, significantly limits a state’s institutional capacity development, and exposes the state to financial and political instability.⁵⁶ From a government behavior perspective, the curse contrasts the Dutch Disease, which has an entirely macroeconomic impact that could be overcome by better broad fiscal policy and a diversified economy.

Discovery of resource wealth has not been a curse for all countries. Developed states, such as Canada, mostly avoided the curse through income diversification, strong institutions, democracy, and private economic power.⁵⁷ While the resource wealth has exposed opportunities for corruption, even in developed nations, the development of resources has been an overall benefit in those states. Indeed, democracy, in itself, does not ensure avoidance of the curse, just as it does not ensure comparative increases in government expenditures to raise the quality of life

“Thus, the resource curse has a corrosive element that makes bad governance worse, significantly limits a state’s institutional capacity development, and exposes the state to financial and political instability.”

of its population.⁵⁸ Corruption concerns are widespread in many countries, both those with successful economies, democratic and non-democratic states, and those with and without natural resources.⁵⁹ Similarly, resource wealth in weaker and non-democratic states does not foresee all aspects of the resource curse. Some less developed states have avoided major aspects of the curse, including Mexico's transition to democracy in 2000.⁶⁰ The concern exists, however, that vast newfound wealth opportunities from international sources accompanied by lack of financial absorptive capacity, lack of transparency due to secrecy, and lack of strong institutions to serve as a bulwark pose a risk to positive development, democracy, and stability of a state.⁶¹

CLEAN ENERGY INVESTMENT AND RISKS

Many countries are seeing a massive spike in clean natural resource development, including the United States, Japan, and China, to foster energy independence, reliable energy sources, and to combat pollution.⁶² Currently, the greatest investment in clean energy is focused on the states with the biggest gross domestic products ("GDPs") and largest energy needs.⁶³ However, the massive increases in international clean energy investment in the developing world with weaker institutions, including in Africa and Southeast Europe, are subject to the biggest threats to a clean energy curse. South Africa, Kenya, and Ethiopia are estimated to have received almost six billion dollars in clean energy investment in 2014, and will reach almost eight billion dollars in 2016.⁶⁴ These figures are after these states received a total of one billion dollars in clean energy investment from 2006 to 2011.⁶⁵ Moreover, the United States is providing six billion dollars in export credits and government financing for clean energy development in the Asia-Pacific region and unlocked over one and a half billion dollars in clean energy financing through the U.S.-Africa Clean Energy Finance Initiative.⁶⁶

In 2006, the European Bank for Reconstruction and Development launched a Sustainable Energy Initiative to finance energy, including clean energy, in Southeast Europe.⁶⁷ Targeted investment of billions of dollars has been directed towards the Balkans through various mechanisms, including through the Western Balkans Investment Framework.⁶⁸ This massive energy investment is expected to continue upwards, with billions more flowing over the next decade. There are currently five billion Euros annually available in loans and grants for clean energy, but the generous subsidies will continue to rise as all European Union states must have one-fifth of their energy come from renewable sources by 2020.⁶⁹ In 2013, China's investment in renewable energy exceeded its investment in traditional resource development.⁷⁰ Overall, there was \$268 billion in clean energy investment in 2013 and \$310 billion in 2014.⁷¹ Compared to the \$2.3 trillion in petrodollars produced from pumping in 2009, clean energy represents a small financial component of the natural resource market.⁷² However, even while large energy investment has been persistent to meet population needs, the new and exponentially growing surge of investment in clean energy represents a new paradigm and is accompanied by new risks.

The massive new investment in renewable energy arose for many reasons. Until the drastic downturn in oil prices began in the second half of 2014, the high prices for petroleum made the need for alternative sources essential for states functioning in the global market.⁷³ It is possible that 2015 will not experience a significant increase in renewable energy investment due to plunging oil prices, but in the long-run, the massive investment will continue.⁷⁴ The International Energy Association predicts that over the next twenty-five years, demand for energy will rise by thirty-seven percent and this demand must be met.⁷⁵ Investment will continue for a variety of policy considerations, including stated desire to curb air pollution caused by fossil fuels and national security energy independence through domestic or regional energy production that reduces the need to import oil from potentially hostile regimes. Further, in less developed states, the need for electrification creates the demand for power development from all resources, especially renewable sources. More than two-thirds of the population in sub-Saharan Africa does not have electricity, including over eight-five percent of the rural population.⁷⁶ More than \$300 billion in sub-Saharan Africa alone is needed to create universal access to electricity by 2030, which is essential for the region's economic growth.⁷⁷ While discoveries of oil and gas will enable some of the electrification, clean energy will play a considerable role. Additionally, certain clean energy sources will allow some areas to skip ahead to electrification without waiting for the expensive and lengthy development of electric wire infrastructure. Whole rural villages or cities maybe able to be self-contained in solar or wind energy production benefitting from off-grid arrangements.⁷⁸ Just as cellular phones allowed for developing states to leap forward and have comprehensive phone service without the need for investment in traditional phone line infrastructure, localized renewable energy development can similarly allow for lesser developed regions to achieve independent electrification.⁷⁹ Energy evolution is not something new, as the dominant sources of energy have consistently changed throughout the centuries.⁸⁰ There have been changes of dominance, with oil and natural gas replacing coal and other traditional fuels, to the sudden recent spike in nuclear power during the mid-to-late twentieth century and its recent downturn from subsequent concerns following disastrous events.⁸¹ New forms of energy can grow quickly when they become cost competitive, which has been the recent trend for solar and wind energy.⁸²

While new forms of energy, especially clean energy, are a net benefit to society, the ability of a state to harness resource wealth can produce negative impacts when accompanied by massive scale and lack of transparency without necessary institutional controls. There are already nascent concerns in renewable energy regarding corruption and direct economic benefits reaching the population. For example, the massive direct subsidies for clean energy and cash flows in China is undermining the integrity of the process and has led to allegations of corruption. In May 2014, Wang Jun, head of China's National Energy Association's renewable energy department was fired over a criminal investigation into bribe-taking.⁸³ Similarly, there are concerns regarding

the forced investment of large amounts of money into states that cannot necessarily absorb the investment and do not have the institutions to prevent corruption and ensure that the population secures most of the benefits. For example, in Italy, the Mafia has infiltrated windfarm development due to lucrative subsidies and ability to leverage the market.⁸⁴ Criminal opportunities will follow exposed wealth creation and the Mafia has been stealing millions of dollars from the European Union and Italian government.⁸⁵ There have been examples all over Europe where the renewable energy market has been infiltrated by criminal elements due to the subsidies.⁸⁶ In the Canary Islands, eight government officials were indicted for bribery and abuse of office connected to securing the lucrative European Union subsidies.⁸⁷ Other examples can be found throughout Southern Europe.⁸⁸ Renewable energy is even being used to launder criminal money from other illicit sectors.⁸⁹ The extensive fraud and criminality demonstrates the need for strengthened laws and regulations, since renewable energy is comparatively poorly regulated.

Weak policies related to subsidies also provide opportunities for improper gains. In India, a return of investment criteria guaranteeing profit in tariff setting provided perverse incentives that benefitted the investors at the expense of the public.⁹⁰ Renewable energy is also starting to see some of the corruption-related concerns of

traditional resources, in which the political elites have access to illicit wealth due to centralized control of information, the lack of transparency in investment and bribery to secure government access. For example, in Albania, key land was purchased by the daughter of the Prime Minister right before it was chosen for a clean energy project, and separately, the Deputy Prime Minister was recorded trying to corrupt a hydroelectric project.⁹¹ In that case, there was video taken of the minister counting money from a briefcase after being asked to favor a certain company in the development of a hydroelectric plant.⁹²

Many of the concerns related to large-scale clean energy production mirror the concerns of extractive resource production: that centralized control, poor institutions, and lack of deliberate, transparent, and inclusive decision making processes may produce poor project outcomes and possible serious negative impacts. While the clean energy development will be a net positive for electrification, the climate, and environmental improvement, and the production benefits are not shipped to far away

destinations, the concerns related to scale, transparency and source exist. If there are weak institutions that cannot safeguard all aspects of the resource exploitation and revenue, the way decisions are made and how the sector is governed still matter. Even in renewable energy, corruption and improper government actions and benefits are rampant.⁹³ This demonstrates that changing from a conventional extractive fuel economy to clean energy does not change the governance issues, and therefore the inherent threats to the state.

A parallel concern relates to the complexity of the tendering and contracting process and labor production. Energy procurement agreements are of high value (worth potentially tens or hundreds of millions), but are subject to asymmetrical highly technical information and limited citizen input or oversight.⁹⁴ The renewable energy contracting process is at risk due to opaque and complicated financing and subsidies coupled

with extensive permitting and licensing. Any time there is secrecy in large-scale contracting, the citizens of the state cannot ensure that no bribes were paid, that the project was the right investment, and that the generated wealth will benefit the whole population.⁹⁵ Further, a system lacking transparency could drive away reputable investors, raise costs, waste resources, distort markets, and divert public interests to private gain.⁹⁶ Any large energy project could lead to the enrichment

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of a narrow few without the wealth accruing to all. The concerns are even greater when one state is selling large amounts of its clean energy production to neighboring states. Energy development limitations are also applied to the labor market. Natural resource development is notorious for having few labor needs once the production is established and utilizing foreign labor sources during the initial project development phase.⁹⁷ Thus, the domestic population of the state has little interaction with the actual energy production and only see the tangible benefits from the untaxed or heavily subsidized domestic transmission.

Finally, as noted, any time enormous unchecked financial flows come into a state with insufficient absorptive capacity, opportunities for illicit gains, political competition for access to the spoils, and diversion of wealth proliferate. Renewable energy has opportunities for leakage at various steps in the development process, which provide incentives for those in government and with access to the wealth to stay in power by any means and limit transparency, reinforced through patronage and suppression.⁹⁸

When resource wealth can be appropriated, groups may vie for access and control, and rent-seeking behavior may occur.⁹⁹ Clean energy is experiencing billions of dollars in infrastructure project investment flowing into developing states with weak institutions.¹⁰⁰ As shown by the proliferation of clean energy-related corruption incidents, the current system does not sufficiently protect the financial flows.

SOLUTIONS

Some donor states are already taking steps to mitigate the potential risks associated with massive energy development in states with poorer institutional structures.¹⁰¹ This is an essential step and should receive appropriate attention. However, more can and should be done on all fronts to mitigate the core contributing elements of secrecy and related transparency, state control of the source of wealth, and scale.

EXPANSION OF TRANSPARENCY TO PREVENT SECRECY

Secrecy and lack of transparency are both possible contributing causes to the resource curse and potential negative results from the curse. To combat the curse, transparency is essential at all steps of the renewable energy development. Transparency initiatives, such as the Extractive Industries Transparency Initiative (“EITI”)¹⁰² and the Publish-What-You-Pay¹⁰³ campaign, which are currently geared solely towards extractive industries, can be expanded or have their principles applied to renewable energy. These are voluntary multi-stakeholder campaigns supported by governments, international corporations, and international non-governmental organizations.¹⁰⁴ EITI was designed not only to help transparency generally, but also to mitigate the resource curse through reduction of secrecy and corruption.¹⁰⁵ The EITI framework follows essential principles of transparency and government accountability, but the fundamental element is that a state joining EITI must disclose revenue and payments received from extractive industry corporations operating within its borders.¹⁰⁶ While being voluntary, this initiative helps the state’s citizens know what revenue is being received and prevent revenue from being hidden. Although EITI compliance is limited by its voluntary participation, any opportunity to reduce secrecy in renewable energy is similarly vital.¹⁰⁷ Further, the Publish-What-You-Pay campaign, a civil society-driven initiative to encourage corporate reporting of payments to the state to enable reconciling of funds, would further enable clean energy transparency.¹⁰⁸

The key elements besides EITI-like reporting requirements are also having transparency in all aspects of the procurement, concessions and permitting. This helps ensure that the most capable corporation is charged with the renewable energy development and increases the likelihood of higher quality service delivery and distribution of the benefits.¹⁰⁹ The greatest impact though is the reduction of corrupt incidents, such as those experienced in many South European states.

When Congress passed the Dodd-Frank Wall Street Reform and Consumer Protection Act¹¹⁰ into law in 2010, it included in its “Miscellaneous Provisions” a requirement under Section 1504¹¹¹ requiring corporations listed with the Security and Exchange Commission to disclose payments made to foreign

governments for resource extraction rights.¹¹² This section, also known as the Cardin Lugar Amendment, was in direct response to Congressional concerns related to the resource curse.¹¹³ Section 1504’s mandated extractive industry reporting requirements are purposefully intended to go beyond the requirements of the EITI. Not only does Section 1504 have mandatory reporting for the extraction corporations, and not just the states, it also requires disclosure about payments at the project level, and not just aggregation at the general state level.¹¹⁴ Thus, the new law provides a valuable tool for transparency and reduction of secrecy in the extractive industries. The renewable energy sector would benefit from the law being amended to extend to all natural resource development, including clean energy. Since there is already concern regarding transparency in payments and corruption in clean energy, an expansion of the law’s mandate could help reduce secrecy and prevent negative effects from this burgeoning sector.

PRIVATE INVESTMENT FOCUS FOR SOURCE PROTECTIONS

Since its first utilization in Indonesia in the 1960s, production sharing agreements have dominated extractive industry contracts and demonstrated a significant shift away from private industry ownership and control.¹¹⁵ These agreements are characterized by having the state as the owner of the resource rights and a foreign company provides the technical and financial components that the state is lacking.¹¹⁶ The government retains ownership, giving it control over aspects of both development and production.¹¹⁷ While much of the development risk is shifted away from the state, the nature of these agreements is that the state acts as an administrator and main beneficiary of the arrangement.¹¹⁸ Before the creation of these agreements, foreign companies received ownership of the natural resource and paid different taxes on market value and income. As discussed previously, the international shift to production sharing agreements and state ownership of resources is argued as being directly related to the emergence of the resource curse.¹¹⁹ For this reason, there should be a focus on having privately owned clean energy production, services, and delivery, with the state collecting revenue via taxation.

For large-scale projects, the companies that purchase the rights and ownership of the production should be reputable and experienced international entities. Companies that are publically traded entities have requirements regarding operations and profits that help protect the public’s interests.¹²⁰ While these information requirements are not by themselves sufficient to prevent against corruption and financial mismanagement, the requirements of publicly traded companies are significant compared to closely held corporations and state-owned entities that have no requirements. Further, taxation may not only help ensure a more steady revenue stream, but it also facilitates a stronger democracy and a more accountable government. If the energy revenues go directly to the state coffers through state ownership, revenue is more difficult to track and the public is more likely to have uncertainty regarding government budgets and expenditures. Private companies are also more likely to successfully charge

and tax the population, thus enabling more citizen oversight of delivery of service and citizen demand for a democratic voice. As discussed, the failure to tax may have been a cause of the resource curse, which helped keep many resource-rich states autocratic.

SMALLER SCALE

One of the more extreme proposed solutions to the resource curse stemming from extractive industries is the “leave it in the ground” approach to address concerns related to scale.¹²¹ While abstention from large scale resource development is not going to happen, there are coherent arguments for managing the pace of investment and development. Though project development usually argues for a principle of “more-better-faster”,¹²² absorptive capacity questions must continue to be raised in states with weaker institutions and relatively smaller economies. With natural resource industries, both nonrenewable and renewable, it is usually argued that the state should not race to exploit as much of it as quickly as it can, but instead plan for long-term usage that provides a steady economic stream.¹²³ It is difficult to persuade investors to slow development, especially as there is enormous pressure to meet certain clean energy production goals by the end of the decade and in each subsequent decade.¹²⁴ However, the pressure to spend and build rapidly can have negative consequences. The challenge is to balance, on one hand, the considerable need for more energy production and reduction in pollution from fossil fuel energy sources, while on also ensuring that a state has sufficient time to absorb the revenue and build the necessary systems. The idea of billions of dollars of new investment is positive in principle, but needs significant protections and appropriate scaling. Clean energy may benefit from smaller projects with more safeguards or singular projects that can be developed with less government intrusion. Smaller projects could follow the trend of micro-hydropower or village specific projects as opposed to massive hydro-power dams.¹²⁵ An example of a large singular project outside government intrusion would be the Lake Turkana Wind Power project which, despite its size, benefitted from being built in a remote location with little understanding from those who would corrupt the process about the magnitude of the project.¹²⁶

STRENGTHENED INSTITUTIONS, POLICIES AND REGULATORY FRAMEWORK

Institutional quality and good governance are some of the biggest suspected factors as to whether a state falls victim to the resource curse. Though they are not determinative by

themselves, effectiveness of institutions, policies and regulatory frameworks serve as the bulwark when the other factors place the state at risk.¹²⁷ It has been argued that there can only be a resource curse when natural resource wealth occurs in a state with low-quality institutions.¹²⁸ This results from poor planning and quality control by the state government especially when investments are made to preserve and extend the authority of the governing elite.¹²⁹ For these reasons, Ghana quickly attempted to strengthen its laws and regulations upon its large discovery of natural resources; however, changing the laws is not enough.¹³⁰ Many countries have laws and regulatory structures governing energy development and the exploitation of natural resources. These laws are usually insufficient, especially with regards to international standards of financial management. The lesson of poor institutions is that its impact on resource development can be stronger than the desire of the state to avoid the resource

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curse. When São Tomé and Príncipe, a tiny island state of the coast of Africa, discovered oil, significant effort was made to learn from other states’ failures and avoid the resource curse.¹³¹ São Tomé and Príncipe had a history of free multiparty democracy, so it brought in international experts to help strengthen its oil revenue management law to comply with international best

practices, including a reserve fund and annual audits.¹³² Further, the state sought to also adopt transparency best practices.¹³³ However, there is sustained and legitimate concerns regarding the state’s ability to apply the laws and policies, as its lack of a functioning judiciary and inexperience dealing with oil companies left the state vulnerable and limited in its ability to address rent-seeking practices.¹³⁴

Many of the funders and donors in clean energy development are currently providing technical assistance to help develop implementation of policies, regulations, and other reforms needed to appropriately manage renewable energy investment.¹³⁵ Further, this technical assistance is being accompanied by capacity building of the personnel needed to provide government oversight of the resource development.¹³⁶ Diverse institutions must be strengthened, and not just those providing direct regulatory oversight of the energy source.¹³⁷ For example, the customs offices, anticorruption agencies, antimonopoly commissions, and courts must all be strengthened and have their independence protected.¹³⁸ It is insufficient to merely address the laws and regulatory framework of the state even though those cannot also not be neglected. The policies and institutions of a state are interlinked in complex ways, and when the institutions are weak, even simple policy needs challenge the state.¹³⁹ Thus, international support for renewable energy development must

take a comprehensive approach towards improving the laws and institutions of the state.

CONCLUSION

Renewable energy investment is expected to spike considerably over the next decade with a sudden massive influx of money flowing into states with questionable absorptive capabilities. A significant amount of investment will be targeted towards these developing states in Africa, South Eastern Europe and Asia.

While some of these states are entrenched democracies with preferences toward private ownership and transparency, some of states have both the key elements that put natural resource rich states at risk in the past and do not have the institutional structures to mitigate these negative factors. Just as states wish to avoid the resource curse, legal and capacity building efforts need to take place to ensure that none face a potential renewable resource curse.



ENDNOTES: PREVENTING A RENEWABLE RESOURCE CURSE

¹ See Karin Strohecker, *Ghana to Increase Jubilee and TEN Oil Production by 2016*, THE AFRICA REPORT (Oct. 24 2014, 7:05 AM), <http://www.theafricareport.com/West-Africa/ghana-to-increase-jubilee-and-ten-oil-production-by-2016.html>.

² See *id.*

³ See *id.*

⁴ See *id.*

⁵ See *infra* at GENERAL PRINCIPLES OF THE RESOURCE CURSE (discussing the historical reasons and core elements for the resource curse).

⁶ See MICHAEL L. ROSS, THE OIL CURSE: HOW PETROLEUM WEALTH SHAPES THE DEVELOPMENT OF NATIONS 1 (2012) (“Since 1980, the developing world has become wealthier, more democratic, and more peaceful. Yet this is only true for countries without oil. The oil states—scattered across the Middle East, Africa, Latin America, and Asia—are no wealthier, or more democratic or peaceful, than they were three decades ago.”).

⁷ See *id.* at 30 (“But as a country’s oil wealth grows, its government becomes increasingly reliant on taxes and increasingly reliant on ‘nontax revenues.’”); see also *id.* at 59 (“Still, many country-level studies show that the finances of resource-rich countries are unusually opaque. A recent analysis of Cameroon, for example, found that just 46 percent of its oil revenues between 1977 and 2006 were transferred to the budget; the remaining 54 percent cannot be accounted for.”).

⁸ See *id.* at 59 (“A 2010 survey of budget policies in ninety-four countries around the world found that the national budgets of hydrocarbon-dependent countries were dramatically less transparent than those of other countries.”). But see *id.* at 80-81 (noting that the fiscal transparency of democratic oil-producing countries do not suffer from the same secrecy patterns as the autocratic ones); see also *id.* at 86-90 (discussing the antidemocratic effects of the resource curse on weaker democracies).

⁹ See *id.* at 77-78 (noting that the secrecy of oil revenues make it difficult to determine how much money is lost to corruption); see also *id.* at 86-90 (showing multiple examples of corruption with democratic incumbent leaders that use oil revenues to stay in power, thus eroding democracy).

¹⁰ See *infra* note 18 (discussing the resource curse); see also Ross, *supra* note 6, at 1 (“From 1980 to 2006, per capita incomes fell 6 percent in Venezuela, 45 percent in Gabon, and 85 percent in Iraq.”).

¹¹ See Ross, *supra* note 6, at 1 (“It is more accurately a mineral curse, since these maladies are not caused by other kinds of natural resources like forest, fresh water, or fertile cropland.”).

¹² See *id.* at 2 (“Not all states with oil are susceptible to the curse. Countries like Norway, Canada, and Great Britain, which have high incomes, diversified economies, and strong democratic institutions, have extracted lots of oil and had few ill effects.”).

¹³ Many of the characteristics of the petroleum market, such as nontax revenue booms, government ownership, unstable energy prices, and capital intensive production mirror the renewable energy market. See *infra* at GENERAL PRINCIPLES OF THE RESOURCE CURSE (discussing the renewable resource market).

¹⁴ In 2014, \$310 billion was invested in the renewable energy market. While this converts to only a fraction of the petroleum market in comparison, it is growing again, after peaking in 2011 at \$317 billion. See *infra* at GENERAL PRINCIPLES OF THE RESOURCE CURSE (discussing the renewable resource market).

¹⁵ See Press Release, The White House Office of the Press Secretary, Fact Sheet: Power Africa (June 30, 2013), available at <http://www.whitehouse.gov/the-press-office/2013/06/30/fact-sheet-power-africa>.

¹⁶ The Energy Community Treaty, 2006 O.J. (L 198) 18-19, 23.

¹⁷ See *infra* at CLEAN ENERGY INVESTMENT AND RISKS (discussing threats to clean energy production).

¹⁸ It has been argued that the resource curse is an oil curse. See Ross, *supra* note 6 at 1 (“Among minerals, petroleum—accounts for more than 90 percent of the world’s mineral trade—produces the largest problems for the greatest number of countries. The resource curse is overwhelmingly an oil curse.”); see generally TERRY LYNN KARL, THE PARADOX OF PLENTY, OIL BOOMS AND PETRO-STATES (1997). However, as the renewable energy market shares many characteristics with the petroleum energy market, I argue that the resource curse is an energy curse that can potentially harm non-democratic and weak democratic countries with sudden large spikes in renewable energy investments, if strong protective measures are not taken. Due to the lack of data from this relatively new market, and complete absence of academic discussions on this topic, I extrapolate from generally accepted principles of the resource curse, similarities in the two industries, and specific examples to explain the concerns of a renewable resource curse. See *supra* note 12, at 2

¹⁹ See Michael L. Ross, *The Political Economy of the Resource Curse*, 51 WORLD POLITICS 297, 297-98 (1999).

²⁰ See Eveline van Mil, *The Resource Curse on the Trade-Off Between Resource Abundance and Development*, INTERNATIONAL BUSINESS-SOCIETY MANAGEMENT 1 (2008).

²¹ See Paul Stevens, *Resource Impact: Curse or Blessing? A Literature Survey*, 9 J. OF ENERGY LITERATURE 3, 5 (2003); see, generally RESOURCE ABUNDANCE AND ECONOMIC DEVELOPMENT (Richard M. Auty ed. 2001) (discussing resource abundance); see also Ross, *supra* note 6, at 2 (“In the 1950s and 1960s, economists believed that resource wealth would help countries, not hurt them.”).

²² See Stevens, *supra* note 21, at 4.

²³ See *id.* at 5; see also Ross, *supra* note 6, at 48.

²⁴ See Stevens, *supra* note 21, at 5, 14-15; see also Ross, *supra* note 6, at 48 (“[A]s money from the booming resource sector enters the economy, it raises the real exchange rate. A higher real exchange rate makes it cheaper to import agricultural and manufactured goods than to produce them domestically.”).

²⁵ See Stevens, *supra* note 21, at 14-15; see also van Mil, *supra* note 20, at 7-8.

²⁶ See Ross, *supra* note 19, at 305-306; see also Ross, *supra* note 6, at 48 (“[A]s the resource sector booms, it draws labor and capital away from the agricultural and manufacturing sectors and raises their production costs.”).

²⁷ See Ross, *supra* note 6, at 48 (“For economists, the term Dutch Disease has a narrower definition: it is the process that causes a boom in a country’s natural resource sector to produce a decline in its manufacturing and agricultural sectors.”).

²⁸ See Ross, *supra* note 6, at 7 (“This reversal was largely caused by a wave of oil industry nationalization, in the 1960s and 1970s, which transformed the scale, source, and volatility of petroleum revenues.”).

²⁹ See Francis N. Botchway, *Mergers and Acquisitions in Resource Industry: Implications for Africa*, 26 CONN. J. INT’L L. 51, 56 (2010); see also Thomas W. Waelde, *International Energy Investment*, 17 ENERGY L. J. 191, 192 (1996); Susan L. Sakmar, *Bringing Energy Trade Into the WTO: The Historical Context, Current Status, and Potential Implications for the Middle East Region*, 18 IND. INT’L & COMP. L. REV. 89, 91 (2008).

³⁰ See John E. Rhea, *Privatization in the International Petroleum Industry: The Interplay Between Politics, Economics, and Reliance*, 33 DENV. J. INT’L L. & POL’Y 609, 614 (2005); see also Ross, *supra* note 6, at 58.

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