Texas A&M Law Review

Volume 11 | Issue 3

6-19-2024

Getting to Green: International Financing for Green Energy Infrastructure in Developing Countries

Zach Fechter
zdfechter@tamu.edu

Meagan Corser
meagan.corser@tamu.edu

GETTING TO GREEN: INTERNATIONAL FINANCING FOR GREEN ENERGY INFRASTRUCTURE IN DEVELOPING COUNTRIES

*by: Zachary Fechter & Meagan Corser**

ABSTRACT

One of the symposium panels discussed financing clean energy projects. One panelist in particular expressed concern about how to build developing countries' institutional capacity to utilize international financing for green energy. Global institutions like the World Bank and the International Monetary Fund (IMF) provide loans to developing countries conditioned on the countries privatizing and deregulating their energy sectors—otherwise known as austerity. While austerity measures may make sense in developed countries, this Comment argues that developing countries often lack the infrastructure needed to effectively utilize international financing precisely because the loans are conditioned on austerity. The World Bank and the IMF should therefore change the conditions of their loans from privatization to public-sector investment in infrastructure. Amending the conditions for green energy loans would make privatization more feasible in the future and promote the transition to green energy in developing countries.

I. INTRODUCTION

In 2021, "770 million people worldwide still live[d] without access to electricity"[1] with 77% of those people living in Sub-Saharan Africa.[2] These people lack access to resources that much of the developed world takes for granted: lighting, heating, and cooling.[3] Importantly, these people also lack access to "clean cooking"—cooking that does not produce household air pollution.[4] About one-third of people worldwide cook with "solid fuels (such as wood, crop waste, charcoal, coal and dung) and kerosene in open fires and inefficient stoves."[5] These fuels produce air pollutants that contain "small particles that penetrate deep into the lungs and enter the bloodstream."[6] Household air pollution can cause stroke, heart disease, and lung cancer and killed 3.2 million people in 2020, including 237,000 children under five years old.[7] For people living without electricity, access to sustainable energy sources is not a luxury—it is a necessity.

DOI: https://doi.org/10.37419/LR.V11.Arg.5

∗ J.D. Candidates, Texas A&M University School of Law, May 2024.

[1] INT'L ENERGY AGENCY, WORLD ENERGY OUTLOOK 2021, at 45 (Dec. 2021), https://iea.blob.core.windows.net/assets/4ed140c1-c3f3-4fd9-acae-789a4e14a23c/WorldEnergyOutlook2021.pdf [https://perma.cc/C4G3-GPFQ].

[2] Int'l Energy Agency, *Access to Electricity*, https://www.iea.org/reports/sdg7-data-and-projections/access-to-electricity [https://perma.cc/5HEG-2EHV].

[3] *See* INT'L ENERGY AGENCY, *supra* note 1 at 29, 45.

[4] *Household Air Pollution*, WORLD HEALTH ORG. (Nov. 28, 2022), https://www.who.int/news-room/fact-sheets/detail/household-air-pollution-and-health [https://perma.cc/UT5D-47YG].

[5] *Id.*

[6] *Id.*

[7] *Id.*

Panel 3 of the symposium discussed financing and privatization of such sustainable, clean energy sources. During the panel, Professor Chinozo Anozie explained that developing countries struggle to effectively use international funds invested toward their clean energy efforts because they experience "institutional incapacity."[8] To generate institutional capacity—a government's ability to create, implement, and maintain goals under a fixed budget—Professor Anozie recommended developing countries improve public institutions, develop expertise, strengthen their rule of law, and fight corruption.[9] By generating institutional capacity, Professor Anozie explained, developing countries can better use invested funds, leading to more effective use of clean energy and greater profitability for investors.[10] Institutional incapacity in developing countries is a problem in and of itself, but it is especially so for global efforts to transition to reliance on clean energy sources. Recognizing the problem Professor Anozie identified, this Comment asks "why" and "how": *Why* do developing countries experience institutional incapacity, and *how* can those countries create the capacity to better utilize invested funds toward clean energy development?

The conditions of loans that the World Bank and International Monetary Fund (IMF) provide to developing countries are, in part, why such countries experience institutional incapacity.[11] These loan conditions require recipient countries to cut government spending, privatize government services, and deregulate their economy, depriving public sectors in developing countries of the infrastructure and personnel required to administer clean energy projects with invested funds.[12] Changing these loan conditions to fund physical infrastructure for clean energy development and provide technical expertise and training can improve institutional capacity while enhancing profitability for private actors.[13]

II. BACKGROUND

A. *Defining Institutional Capacity*

The term "institutional capacity" can be hard to define; in fact, some organizations intentionally do not define it.[14] The Organization for Economic Cooperation and Development defines "capacity" in general as "the ability of people, organizations and society as a whole to manage their affairs successfully."[15] The United States Agency for International Development incorporates this and other definitions into its Organizational Capacity Assessment,[16] which considers seven factors when awarding funds to countries: (1) governance and legal structure; (2)

[8] *Cf.* Chinonso Anozie, *Left Behind: Funding Climate Action in the Global South*, 11 TEX. A&M L. REV. 333 (2024) (explaining, in article accompanying symposium panel comments, that institutional incapacity inhibits effective use of international funds).

[9] *See id.*

[10] *Id.*

[11] *See infra* Part II.B.

[12] *See id.*

[13] *See infra* Part III.

[14] *See* U.S. AGENCY FOR INT'L DEV., ORGANIZATIONAL CAPACITY DEVELOPMENT MEASUREMENT 1, 1–2 (2017).

[15] ORG. FOR ECON. COOP. & DEV., PERSPECTIVES NOTE: THE ENABLING ENVIRONMENT FOR CAPACITY DEVELOPMENT 1, 2 (2011).

[16] U.S. AGENCY FOR INT'L DEV., *supra* note 14, at 1.

financial management and internal control systems; (3) administration and procurement systems; (4) human resources systems; (5) program management; (6) project performance management; and (7) organizational management and sustainability.[17] Institutional capacity is then whether—and how well—government facilitates plans, projects, permits, and more, as measured by how institutions, like the judicial, legislative, and executive branches, operate at national and local levels.[18]

What does institutional *incapacity* look like, particularly in developing countries? One view is that it depends on the ease of doing business in a country. In 2019, the World Bank ranked African and Latin American countries among the hardest countries in which to do business—meaning their regulatory environments are not conducive to business operations.[19] Other views consider the presence of paved roads,[20] access to clean water,[21] educational attainment,[22] and technical expertise.[23] These conditions are often lacking in developing countries. Institutional incapacity in developing countries means public sectors are ill-equipped, understaffed, untrained, and lacking the technical expertise to administer climate action with invested funds.

But why? What explains this institutional incapacity among developing countries? One partial explanation for institutional incapacity in developing countries is the conditions the World Bank and the IMF attach to their loans.

B. *Structural Adjustment Programs*

Formed out of the Bretton Woods Conference in 1944, the IMF and World Bank offer loans to countries with capital largely collected for member-countries.[24] The IMF commonly

[17] U.S. AGENCY FOR INT'L DEV., *Instructions for the USAID Organizational Capacity Assessment (OCA) Tool* 1, 5 (last updated July 10, 2015).

[18] *See supra* notes 14–17 and accompanying text.

[19] *Ease of Doing Business Rank (1=Most Business-Friendly Regulations)*, WORLD BANK (2019), https://data.worldbank.org/indicator/IC.BUS.EASE.XQ?end=2019&start=2019&view=map [https://perma.cc/5AJJ-5R95]. The World Bank formerly ranked countries in their "Ease of Doing Business Rank," but it discontinued that ranking system in 2021 and will replace it with B-READY, which "assesses an economy's business environment by focusing on the regulatory framework and the provision of related public services directed at firms and markets, as well as the efficiency with which regulatory framework and public services are combined in practice." WORLD BANK GROUP, BUSINESS READY (B-READY) MANUAL AND GUIDE 6 (2023).

[20] *See* Johan R. Meijer et al., *Global Patterns of Current and Future Road Infrastructure*, ENV'T RSCH. LETTERS, May 23, 2018, at 1, 5.

[21] *See* DIANA MITLIN ET AL., UNAFFORDABLE AND UNDRINKABLE: RETHINKING URBAN WATER ACCESS IN THE GLOBAL SOUTH 2, 32, 34 (2019).

[22] *See* WORLD BANK GRP., WORLD DEVELOPMENT REPORT: LEARNING TO REALIZE EDUCATION'S PROMISE 3, 60–64 (2018); *see also* Noam Angrist et al., *Measuring Human Capital Using Global Learning Data*, 592 NATURE 403, 403, 407 (2021), https://doi.org/10.1038/s41586-021-03323-7 (explaining that "global progress in learning . . . has been limited, despite increasing enrolment in primary and secondary education" because "students are in school, but do not learn enough" from poor-quality schools).

[23] *See* UNITED NATIONS, CAPACITY DEVELOPMENT FOR 2030 AGENDA IMPLEMENTATION 5, 12 (2019).

[24] *See* Michael D. Bordo, *The Bretton Woods International Monetary System: A Historical Overview*, *in* A RETROSPECTIVE ON THE BRETTON WOODS SYSTEM: LESSONS FOR INTERNATIONAL MONETARY REFORM (Michael D. Bordo & Barry Eichengreen eds., 1991).

provides loans to countries experiencing, or preparing in advance for, economic crises.[25] The World Bank provides loans for specific projects to reduce poverty and raise income.[26] Countries seeking loans from either institution usually must perform certain conditions called Structural Adjustment Programs (SAPs).[27] SAPs are designed to "remov[e] 'excess' government controls and promot[e] market competition"[28] in a country by reducing government spending, lowering real wages, devaluing currency, selling government enterprise, and reforming laws to invite foreign investment.[29] Borrowing countries often must defund and discontinue services to citizens, such as schools, public utilities, and transportation.[30] For example, when Greece risked defaulting on its debt, the country received loans conditioned, in part, on privatizing its electricity transmission company ADMIE.[31] The IMF and World Bank require SAPs to reduce inflation, promote exports, decrease budget deficits, and help countries meet their debt-payment schedule based on the idea that countries are most successful when they privatize as much as they can.[32]

While the IMF and World Bank loans do help the global economy and recipient countries in some respects, SAP austerity conditions hamper countries' attempts to develop clean energy because they exacerbate institutional incapacity.[33] Considering that SAP austerity limits government spending on services, fewer citizens have access to the education and technical training required to adequately implement and maintain complex projects.[34] The IMF, World Bank, and the member-states to each institution undoubtedly seek to assist developing countries with their loans, but the conditions of those loans fail to raise, and in fact lower, institutional capacity.[35]

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[25] IMF, *IMF Lending*, INT'L MONETARY FUND, https://www.imf.org/en/About/Factsheets/IMF-Lending# [https://perma.cc/MH5J-Q83C] (last updated July 2023).

[26] *What We Do*, WORLD BANK, https://www.worldbank.org/en/about/what-we-do.print [https://perma.cc/C2NW-J7AZ].

[27] U.N., Econ. & Soc. Comm. for W. Asia, *Structural Adjustment Programmes*, https://archive.unescwa.org/structural-adjustment-programmes [https://perma.cc/3XNK-FWRW].

[28] *Id.*

[29] *See* Michael A. Munroe & Damion K. Blake, *Governance and Disorder: Neoliberalism and Violent Change in Jamaica*, 38 THIRD WORLD Q. 580 (2017); *see also* Jason Oringer & Carol Welch, *Structural Adjustment Programs*, INST. FOR POL'Y STUD. (April 1, 1998), https://ips-dc.org/structural_adjustment_programs/ [https://perma.cc/Y69Z-XHPZ].

[30] *See* Johnathan Masters et al., *The IMF: The World's Controversial Financial Firefighter*, COUNCIL ON FOREIGN RELS. (Sept. 8, 2021, 1:10 PM), https://www.cfr.org/backgrounder/imf-worlds-controversial-financial-firefighter [https://perma.cc/5XVD-SXRN]; *see also* JOSEPH STIGLITZ, GLOBALIZATION AND ITS DISCONTENTS (2012).

[31] IMF, *Greece*, IMF COUNTRY REP., REPORT NO. 14/151, 19 (June 2014).

[32] Oringer & Welch, *supra* note 29 (explaining SAP conditions); Jan Nederveen Pieterse, *Neoliberal Globalization and the Washington Consensus*, INT'L DEV. GOVERNANCE 91, 99–101 (2017) (explaining principle that privatization leads to economic success).

[33] *See* Bernhard Reinsberg et al., *The World System and the Hollowing Out of State Capacity: How Structural Adjustment Programs Affect Bureaucratic Quality in Developing Countries*, 124 AM. J. OF SOCIO. 1222, 1224 (2019).

[34] Mark K Smith, *The Impact of Austerity on Schools and Children's Education and Well-Being*, ENCYC. PEDAGOGY AND INFORMAL EDUC. (2019), https://infed.org/mobi/the-impact-of-austerity-on-schools-and-childrens-education-and-well-being/ [https://perma.cc/DC99-U5KS].

[35] *See* Anup Shah, *Structural Adjustment—A Major Cause of Poverty*, GLOB. ISSUES (Mar. 24, 2013), https://www.globalissues.org/article/3/structural-adjustment-a-major-cause-of-poverty [https://perma.cc/2NA4-

Both the IMF and World Bank have developed SAP conditions and debt mechanisms that attempt to affect clean energy, but these fail without first building institutional capacity. For example, the IMF offers debt-for-climate and debt-for-nature swaps with borrowing countries.[36] With these, creditors offer debt relief to developing countries that commit to climate change measures like decarbonization, investment in climate-resilient infrastructure, and biodiversity protection.[37] Some countries have signed up,[38] but ultimately these swaps assume that countries can effectively implement pledged climate actions. As Professor Anozie explained, many developing countries simply lack the infrastructure necessary to meet these conditions.[39] For example, many of Ecuador's green reforms rely on foreign money precisely *because* of SAP austerity, as the country faces "harsh budgetary restrictions" imposed by the IMF that essentially "preclude any major new environmental investment."[40] Institutional incapacity perhaps explains why the IMF has struggled to strike swap deals with other developing countries, imperiling their overall efficacy.[41]

The IMF administers the Resilience and Sustainability Trust (RST), which provides "longer-term, affordable" financing to address "longer-term challenges" like "climate change and pandemic preparedness."[42] Rwanda was the first African nation to join the RST in 2022 and will receive $310 million over three years to "build resilience to external shocks" with a focus on "longer-term balance of payments stability."[43] The World Bank offered Ethiopia $375 million in credits to finance its electricity development and "strengthen . . . the policy and regulatory capacity

LQK5] (explaining that if poverty and inequality increase, government necessarily collects less revenue, further diminishing institutional capacity); *see also* Thomas Stubbs et al., *Poverty, Inequality, and the International Monetary Fund: How Austerity Hurts the Poor and Widens Inequality*, 13 J. GLOBALIZATION & DEV. 61, 61 (2022), https://doi.org/10.1515/jgd-2021-0018 (explaining that if poverty and inequality increase, government necessarily collects less revenue, further diminishing institutional capacity).

[36] Kristalina Georgieva et al., *Swapping Debt for Climate or Nature Pledges Can Help Fund Resilience*, IMF BLOG (Dec. 14, 2022), https://www.imf.org/en/Blogs/Articles/2022/12/14/swapping-debt-for-climate-or-nature-pledges-can-help-fund-resilience [https://perma.cc/YF6M-QRFT]; *see* Bernat Camps Adrogué & Mark Plant, *Debt-for-Climate Swaps Won't Solve the Climate or Debt Crises, but Can They Help?*, CTR. FOR GLOB. DEV. (Dec. 12, 2022), https://www.cgdev.org/blog/debt-climate-swaps-wont-solve-climate-or-debt-crises-can-they-help [https://perma.cc/7KA7-MJQX] (providing nuanced critique of debt-for-climate swaps).

[37] Georgieva et al., *supra* note 36.

[38] *Id*.

[39] Anozie, *supra* note 8, at 338.

[40] Catherine Osborn, *Ecuador's Distant Dream of a Green Recovery*, FOREIGN POL'Y (Apr. 19, 2022, 9:17 AM), https://foreignpolicy.com/2022/04/19/ecuador-lasso-oil-climate-imf-world-bank-debt-austerity/ [https://perma.cc/T26A-LHJQ].

[41] Andrea Shalal, *IMF Struggling over Long-Awaited 'Green Debt Swap' Push as COP26 Nears*, REUTERS (Oct. 29, 2021, 12:29 PM), https://www.reuters.com/business/sustainable-business/imf-struggling-over-long-awaited-green-debt-swap-push-cop26-nears-2021-10-29/ [https://perma.cc/Z6F6-PP8H].

[42] IMF, *Resilience and Sustainability Trust*, https://www.imf.org/en/Topics/Resilience-and-Sustainability-Trust [https://perma.cc/36GN-J3KN].

[43] *Rwanda to Access US $310 Million Under the New Resilience and Sustainability Trust Facility*, RWANDA MINISTRY OF FIN. & ECON. PLAN. (Oct. 7, 2022), https://www.minecofin.gov.rw/news-detail/rwanda-to-access-us-310-million-under-the-new-resilience-and-sustainability-facility [https://perma.cc/3JA2-Q5BA].

of the" Ethiopian government.[44] The loan follows after the country passed its National Electrification Plan, suggesting the country has sufficient institutional capacity to develop and implement its energy transition plans.[45] Yet only 10% of the loan is dedicated to "Public Administration," and none of the "Project Development Objective Indicators" includes development of institutional capacity.[46] As well, the IMF's RST emphasizes the same kind of conditions evidenced in SAPs.[47]

Perhaps, then, a change is in order. Developing countries endure austerity measures while the global economy experiences the stable growth that was promised to loan-receiving countries. As these countries decrease investment in education and other social services to receive loans, they are further dispossessed of tools to develop both the technical and government infrastructure needed for their climate plans. SAP loan conditions deplete developing countries' institutional capacity for clean energy development—the very obstacle identified by Professor Anozie.[48] The IMF and World Bank austerity conditions, therefore, must change to give developing countries the chance to build institutional capacity and effectively utilize international financing.

III. ANALYSIS

Privatization can benefit many industries, including the energy sector.[49] However, privatization depends on the support of private investors who can create and provide energy to customers.[50] To attract private investors, countries must show that creating and providing energy will be profitable for the investors.[51] One way countries do that is by evidencing institutional

[44] *Ethiopia's Transformational Approach to Universal Electrification*, WORLD BANK GRP. (Mar. 8, 2018), https://www.worldbank.org/en/news/feature/2018/03/08/ethiopias-transformational-approach-to-universal-electrification [https://perma.cc/F4JA-PSS4].

[45] *World Bank Approves $500mln for Ethiopia's Universal Electricity Access 2025*, ETH. EMBASSY BLOG (Mar. 31, 2021), https://ethiopianembassy.org/world-bank-approves-500mln-for-ethiopias-universal-electricity-access-2025-march-31-2021/ [https://perma.cc/7EGP-BG6L]. It is also worth noting that Ethiopia is the third-largest Sub-Saharan African country by GDP, possibly suggesting its greater institutional capacity relative to the rest of developing countries. *GDP (Current US$) - Sub-Saharan Africa*, WORLD BANK, https://data.worldbank.org/indicator/NY.GDP.MKTP.CD?locations=ZG&most_recent_value_desc=true [https://perma.cc/VFM7-74G2].

[46] *Ethiopia Electrification Program (ELEAP)*, WORLD BANK, https://projects.worldbank.org/en/projects-operations/project-detail/P160395?lang=en [https://perma.cc/8GQ2-QGTD].

[47] John Hicklin, *Launching the RST: Country Policies Must Adapt—and So Too Must IMF Conditionality*, CTR. FOR GLOB. DEV. (Feb. 21, 2023), https://www.cgdev.org/blog/launching-rst-country-policies-must-adapt-and-so-too-must-imf-conditionality [https://perma.cc/9V3D-C2LH].

[48] *See* Anozie, *supra* note 8, at 352 (identifying obstacle).

[49] *See generally* Brian Murray, *Carrots, Sticks, and the Evolution of U.S. Climate Policy*, 11 TEX. A&M L. REV. 431 (2024).

[50] *See generally* MANLIO F. COVIELLO ET AL., PUBLIC-PRIVATE PARTNERSHIPS IN RENEWABLE ENERGY IN LATIN AMERICA AND THE CARIBBEAN 55 (2012), http://repositorio.cepal.org/bitstream/handle/11362/4016/S2012109_en.pdf?sequence=1&isAllowed=y [https://perma.cc/JMN5-22D5NC2N-879C].

[51] *See id.* ("Because these projects are characterized by high investment costs and substantial risk, governments need to establish financing mechanisms and agreements through which the purchase of the power generated is guaranteed for a long period and an agreed price.").

capacity.[52] Without existing energy infrastructure, however, the start-up costs of creating energy are often too high to justify such investments.[53] Developing countries often lack both the institutional capacity and existing infrastructure necessary to privatize their energy sectors.[54] Conditioning SAP loans on privatization does not magically change this. Instead, privatization conditions simply prevent developing countries from effectively using the resources that SAPs offer.[55] To better provide clean energy to developing countries, the IMF and World Bank should change the SAP conditions from privatizing clean energy to developing infrastructure alongside loan recipients.

A. *Infrastructure Necessary to Privatize*

Privatization is generally good for economies because it creates competition, which lowers prices for consumers.[56] However, private companies cannot operate in unprofitable markets. A company's ability to profitably operate in the energy sector depends on both the upfront costs of generating and transporting power to consumers and the long-term revenue from providing that power.[57] In developing countries, private companies often cannot operate profitably because the upfront costs exceed the potential revenue value.[58] Indeed, clean energy development often faces "high investment and maintenance costs, complex construction issues and economic returns that are not always high."[59] A significant contributing factor in these high upfront costs is the lack of existing energy infrastructure.[60] These high upfront costs present a significant barrier to the development of clean energy in developing countries.[61] Because of the added difficulties that developing countries face in developing clean energy owing to their institutional incapacity, they are often "stuck in a vicious cycle where they pay more for electricity; cannot afford the high upfront cost of clean energy; and are locked into fossil fuel projects."[62] The path forward in developing clean energy must, therefore, involve overcoming these high upfront costs both in the short-term with physical infrastructure and in the long-term with institutional capacity.[63]

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[52] *Cf. id.*

[53] *See generally, e.g.*, *Breaking Down Barriers to Clean Energy Transition*, WORLD BANK. (May 16, 2023), https://www.worldbank.org/en/news/feature/2023/05/16/breaking-down-barriers-to-clean-energy-transition [https://perma.cc/Q465-WYENV9J9-EW6Y] (explaining that developing countries face high start-up costs for clean energy); COVIELLO ET AL., *supra* note 50, at 29.

[54] *Cf.* COVIELLO ET AL., *supra* note 50, at 5–6, 29.

[55] *See* Anozie, *supra* note 8, at 351.

[56] *See generally* Saul Estrin & Adeline Pelletier, *Privatization in Developing Countries: What Are the Lessons of Recent Experience?*, 33 WORLD BANK RSCH. OBSERVER 65, 65–66 (2018), https://doi.org/10.1093/wbro/lkx007 (explaining that purpose of privatizing energy sectors in developed countries was "to enhance economic efficiency by improving firm performance, to decrease government intervention and increase its revenue, and to introduce competition in monopolized sectors").

[57] *Cf.* COVIELLO ET AL., *supra* note 50, at 29.

[58] *See id.*

[59] *Id.*

[60] *Cf. id.* at 55.

[61] *Id.* at 29.

[62] *Breaking Down Barriers to Clean Energy Transition*, *supra* note 53 (quoting Demetrios Papathanasiou).

[63] COVIELLO ET AL., *supra* note 50, at 29.

Unfortunately, SAPs do not effectively overcome the high upfront costs of developing clean energy.[64] Instead, SAPs offer a circular solution to a linear problem. Whether the IMF is providing crisis loans or the World Bank is offering project loans, both condition receipt on privatization, which includes privatizing energy infrastructure.[65] Developing this infrastructure is necessary to reduce the high upfront costs that private companies face in providing clean energy to people in developing countries.[66] Effectively reducing these upfront costs is necessary to privatize the development of clean energy.[67] However, the IMF and World Bank condition their loans—that developing countries could use to develop the infrastructure necessary to eventually privatize their energy sectors—upon those countries' success in privatizing their energy sectors.[68] In effect, SAPs condition completion of the first step of clean energy development upon completion of a subsequent step.[69] This circular condition ignores the high upfront costs associated with privatization without bolstering either physical infrastructure or institutional capacity, causing the very problem that Professor Anozie identified at the symposium.[70]

To help developing countries more effectively employ financing for clean energy development, the IMF and World Bank should modify the conditions of their SAPs to require they use financing to build, and train developing countries to build, infrastructure rather than to privatize energy. The condition should include requiring technical experts to provide education and oversight to loan recipients as well as funds to complete the project. Private companies could then bid to provide their expertise to developing countries on the condition that they gain control of the operation at some specified point. Conditioning SAP financing on building infrastructure would create institutional capacity as well as an opportunity for privatization because having "a more enabling environment . . . reduces the cost of capital and makes it easier for the private sector to come in."[71]

Modifying the SAP financing conditions would also better balance the needed integration of public and private financing that has emerged in recent years. In the 1990s, international energy authorities began encouraging developing countries to privatize their energy sectors to make the sectors more efficient and to introduce competition into previously monopolized markets.[72] This shift was largely based on success that *developed* countries—countries with existing energy infrastructure—had experienced in privatizing their energy sectors.[73] Developing countries that have attempted to privatize their energy sectors have experienced challenges because of the high upfront costs to private countries.[74] Because of these challenges in privatizing energy sectors, "more emphasis in policy-making is now being placed on creating the preconditions for successful

[64] *See* Anozie, *supra* note 8, at 350, 352.

[65] *See supra* notes 22–27 and accompanying text.

[66] *Cf.* COVIELLO ET AL., *supra* note 50.

[67] *Cf. id.*

[68] *Cf.* Bernhard Reinsberg et al., *supra* note 33.

[69] *See generally id*.

[70] *See* Anozie, *supra* note 8, at 338.

[71] *Breaking Down Barriers to Clean Energy Transition*, *supra* note 48 (quoting Alexia Latortue).

[72] Estrin & Pelletier, *supra* note 51, at 65–66 (explaining that purpose of privatizing energy sectors in developed countries was "to enhance economic efficiency by improving firm performance, to decrease government intervention and increase its revenue, and to introduce competition in monopolized sectors").

[73] *Id.*

[74] *See, e.g.*, *id.*; COVIELLO ET AL., *supra* note 50.

privatization."[75] One important precondition that is currently lacking in developing countries is infrastructure.[76] The IMF and World Bank can simultaneously fund this precondition while training government officials to offer a profitable business environment for future private projects. Conditioning SAP financing on infrastructure and institutional capacity rather than privatization would better allow for future privatization.

B. *Infrastructure Builds Economies*

Modifying SAP financing conditions to require developing countries to develop infrastructure for clean energy would provide two benefits to those countries. First, building infrastructure would strengthen the economies of developing countries. Building clean energy infrastructure would allow developing countries to rely upon clean energy sources. Using clean energy sources "can significantly reduce . . . national dependency on imported fuels."[77] Additionally, using clean energy sources can stabilize energy prices for consumers.[78] For example, in Latin America and the Caribbean, about half of the electricity is produced by fossil fuels.[79] Because of market fluctuations in the prices of fossil fuels such as oil, Latin America and the Caribbean sometimes experience "high and unpredictable electricity costs."[80] Furthermore, modifying the SAP conditions would create jobs and raise a technically knowledgeable workforce profitable for private investment.

Second, building clean energy infrastructure would allow more people in developing countries to access electricity. Clean energy "can be used remotely in communities that are not connected to the national electricity supply networks, drawing on energy sources that are locally available."[81] Solar power can be particularly beneficial for people living in remote communities because "it is a naturally decentralized technology based on a resource that is widely available in geographic terms and that is immune to the supply problems and price uncertainty associated with traditional fuels."[82] Clean energy sources are "free and inexhaustible."[83] Therefore, they can provide reliable electricity to people who might not otherwise have access to any electricity and is especially beneficial for low-income communities.[84] By not only funding physical infrastructure, but also providing training necessary to build and maintain it, developing countries can make their efforts to provide electricity profitable for all.

Because developing countries often lack the institutional capacity and existing infrastructure necessary to privatize their energy sectors, conditioning SAP loans on privatization hinders efforts at climate adaptation and mitigation.[85] Instead, the IMF and the World Bank should condition their SAPs on building institutional capacity and physical infrastructure necessary to

[75] Estrin & Pelletier, *supra* note 56.
[76] *Cf. id*.
[77] COVIELLO ET AL., *supra* note 50, at 6.
[78] *Cf. id.* at 5.
[79] *Id.*
[80] *See id.*
[81] *Id.* at 27.
[82] *Id.*
[83] *Id.*
[84] *Id.*
[85] *See supra* Part III.A.

privatize clean energy sources in the future. Modifying the SAP loan conditions would better enable developing countries to privatize their clean energy sources, benefit developing countries' economies, and provide electricity to more communities within those countries.[86]

IV. CONCLUSION

Getting to green energy will require both public and private efforts. However, as Professor Anozie identified, developing countries have a harder time because they often experience institutional incapacity, causing them to ineffectively utilize private funds invested for climate mitigation and adaptation.[87] Developing countries also often lack the physical infrastructure necessary to provide energy at all.[88] Unfortunately, two important sources of financing for developing countries—the IMF and World Bank—condition receipt of their loans on privatization of the energy sector.[89] As a result, start-up costs are too high for private investors, leaving clean energy out of reach for developing countries.[90] If the IMF and World Bank changed their loan conditions to incorporate financing for energy infrastructure projects and technical training to administer those projects, then developing countries' institutional capacity and economies could grow.[91] With greater institutional capacity and newly built infrastructure, developing countries could be in a better position to attract and use invested funds.[92] While only one among many possible solutions to the problem of institutional incapacity, changing IMF and World Bank loan conditions from privatizing to building capacity would positively impact getting to green.

[86] *See id.*
[87] *See* Anozie, *supra* note 8, at 350.
[88] *See supra* Part III.A.
[89] *See id.* Part II.B.
[90] *See id.* Part III.A.
[91] *See id.* Part III.
[92] *See id.*