

## ISSUE BRIEF

# GENERAL ELECTRIC'S COAL PLANT PROFITEERING

Despite calling itself a leader in decarbonization, GE is, in fact, doubling down on the dirty energy of the past by profiteering from the construction of at least a dozen new coal plants around the world and actively lobbying governments to expand the use of coal. These coal plants will lock in decades of fossil fuel dependence and dangerous health and climate impacts—including premature deaths from coal plant pollution. The IPCC report on 1.5°C requires a 70 percent reduction in global coal generation by 2030 and a complete coal phase-out by 2050—making GE's fossil *expansion* completely incompatible with climate needs. GE should immediately end its involvement in new coal projects and position itself to benefit from the energy transition by growing its portfolio in clean energy technology, such as wind turbines and battery storage. GE's involvement in coal includes projects that would be permanently unprofitable without subsidies, involve a Russian partner subject to U.S. sanctions, violate E.U. pollution control standards or aid rules, are suspected of filing false environmental impact assessments, or are stalled for years due to legal challenges in court. GE should cancel its involvement in these projects, beginning with the ones in Kenya, Kosovo, Bosnia, and Vietnam.

As world leaders prepare to convene for the U.N. Climate Action Summit in September, expectations are high for global leaders to ramp up their ambition on climate change. Governments, civil society organizations, and the private sector are being asked to step up their commitments to achieve a global transition from fossil fuels to a more energy-efficient world, powered by renewable energy. This energy transformation will require not only policy direction from governments but also innovation by private companies. One major company, the U.S.-based giant General Electric (GE), plays an outsized role in global energy infrastructure.<sup>1</sup> But so far, GE's actions threaten to hurt climate progress more than they help.

Despite calling itself a leader in “the future of energy” through decarbonization and touting the performance of its wind turbines, GE is, in fact, doubling down on the dirty energy of the past.<sup>2</sup> Even now, GE is helping to build or plan more than a dozen new coal plants around the

world with a total capacity of more than 12,000 megawatts (MW) (Table 1). Many of these plants are expected to be so polluting or uneconomical that they could not be built in the United States. Instead, GE is trying to promote its outdated technology abroad. The construction of these coal plants will lock in decades of fossil fuel dependence and dangerous health and climate impacts in areas already highly vulnerable to climate change.

Four particularly alarming projects involving GE are currently under consideration by developers, regulators, and financiers:

- the first-ever coal plant in East Africa, to be located next to a UNESCO World Heritage site in Lamu, Kenya
- a coal plant in Kosovo from which the World Bank withdrew its financing after determining that renewable energy would be more affordable

- a coal plant in Bosnia and Herzegovina that does not comply with European Union finance standards and violates the union's pollution control rules
- a coal plant in Vietnam that has been delayed following the imposition of U.S. sanctions on a Russian project contractor

GE should immediately end its involvement in these projects and investments in all new coal projects. GE should instead position itself to benefit from the energy transition by growing its portfolio in clean energy technology, such as wind turbines and battery storage, which are far less financially risky.

## GE'S BAD BETS ON FOSSIL FUELS WILL NOT PAY OFF

GE claims that its involvement in coal is beneficial because its coal plant technology is “cleaner” than that of other power suppliers.<sup>3</sup> But this technology, even though newer, still generates significant pollution and carbon emissions.<sup>4</sup> According to the Intergovernmental Panel on Climate Change's landmark report on achieving the Paris Agreement's emissions-reduction targets, limiting global warming to 1.5°C requires a 70 percent reduction in global coal generation by 2030 and a complete coal phase-out by 2050.<sup>5</sup> This means not only that the existing stock of coal plants must be gradually taken offline, but also that no new coal plants should be built. The average life span of a coal plant is 40 to 50 years, so new plants would exceed the 2050 deadline.<sup>6</sup>

GE's own official statement on climate change claims that the company is “uniquely positioned” to achieve the Paris targets and “enable the ultimate transformation to a carbon-free energy economy.”<sup>7</sup> Yet the same document advocates for energy approaches that are decidedly *not* carbon-free, including building new coal and gas power plants. New research this summer found that all currently existing fossil fuel infrastructure, if operated as usual, would emit enough carbon to put the 1.5 °C Paris goal out of reach—making GE's fossil *expansion* completely incompatible with climate needs.<sup>8</sup> GE's own reports have for years warned of the risks of climate inaction, and after the United States announced its withdrawal from the Paris Agreement, GE's then-CEO, Jeff Immelt, tweeted that “industry must now lead” on climate change.<sup>9</sup>

G.E. has been burned by its own fossil investments before. Between 2016 and 2018, the company lost \$193 billion—74 percent of its market value—in part due to its overinvestment in fossil energy.<sup>10</sup> GE made a disastrous play and did not properly calculate that demand for coal and gas turbines worldwide would plummet. GE is certainly aware of its mistake; its 2018 annual report lamented its losses in its coal and gas operations and pointed to “increasing energy efficiency and renewable energy penetration” as a reason for its terrible returns on the fossil fuels side.<sup>11</sup> Indeed, in 2018, while GE's coal and gas division revenues shrank by 22 percent, its revenue from renewables (mostly wind) grew by 4 percent.<sup>12</sup> GE has been promoting its wind turbines as a “cutting-edge” technology, and it

recently opened a new offshore wind turbine factory and development center in China.<sup>13</sup> GE's CEO expects renewable power to be the fastest-growing business for the company in 2019.<sup>14</sup>

Despite acknowledging its bad fossil investment decisions in the past, GE is continuing to finance coal abroad while keeping the largest share of its renewables investments in the United States.<sup>15</sup> Not only is GE making itself vulnerable to further financial losses, it is also endangering the economic health of countries hosting the coal projects. Thanks to its status as a well-known U.S. company, GE's involvement in fossil projects can make it easier for these risky coal plants to receive financing to be built. In some places, such as South Africa, GE is even actively lobbying governments to expand the use of coal.<sup>16</sup> In July 2019, GE announced plans to build a coal plant in Mozambique, though the deal is at an early stage and GE can exit the deal at any time.<sup>17</sup>

By contrast, GE announced in June 2019 that it would demolish a gas-fired power plant in California after only one-third of its useful life because it was uneconomic.<sup>18</sup> Wind and solar generation in California have become far more cost-competitive solutions. GE's turbine technology—hailed as state-of-the-art a decade ago—could not operate with the fast start-up times needed to come online when there is less wind and solar generation (which are lower-cost power sources).<sup>19</sup> GE's gas plant took hours to start, which should be a red flag against building coal plants, which are much slower to start up than most gas plants. Thus, coal plants are not well-designed for a decarbonizing world that is projected to rely more and more on renewable energy projects in the future.<sup>20</sup> The GE gas plant site was sold to a battery storage developer.

## THE DANGERS AND BAD ECONOMICS OF COAL PLANTS

The threats that coal plants pose to economic stability and public health are well documented, and GE's coal plants are no different.<sup>21</sup> Many of these projects involving GE have highly questionable payoffs and major social harms. For example, the Punta Catalina plant under construction in the Dominican Republic was linked to a \$131 million (USD) corruption scandal by construction company Odebrecht.<sup>22</sup> GE's two plants in Vietnam, Long Phu 1 and Vung Ang 2, were approved despite insufficient or incomplete environmental and social impact assessments that underestimated pollution or failed to consult communities affected by the projects.<sup>23</sup> The Ostroleka C plant in Poland will be powered by lignite, the most polluting form of coal.<sup>24</sup> It has a projected net present value of *negative* €1.7 billion (\$1.9 billion USD), meaning it will be “permanently unprofitable,” as one analysis put it, and that Polish taxpayers are subsidizing an expensive power plant that should not have been built.<sup>25</sup>

Although some of GE's coal projects have already begun construction, there is still time for the company to end its involvement. We now discuss particularly notable projects that GE's board should reject immediately.

**TABLE I: COAL PLANTS UNDER CONSTRUCTION, PLANNED, OR DELAYED THAT WILL USE GE EQUIPMENT**

COUNTRY	PLANT	MW	STATUS
Bosnia	Tuzla 7 <sup>26</sup>	450	Planned
Bangladesh	Mawa I <sup>27</sup>	660	Delayed
Cambodia	Sihanoukville Stung Hav 3 <sup>28</sup>	150	Under construction (completion 2019)
Dominican Republic	Punta Catalina <sup>29</sup>	770	Under construction (completion unknown)
Kenya	Lamu <sup>30</sup>	1,050	Delayed
Kosovo	Kosovo e Re <sup>31</sup>	500	Planned
Mozambique	Ncondezi Tete <sup>32</sup>	300	Planned
Pakistan	CPHGC <sup>33</sup>	1,320	Under construction (completion 2019)
Pakistan	Port Qasim Lucky I <sup>34</sup>	660	Under construction (completion 2021)
Philippines	Concepcion <sup>35</sup>	270	Under construction (completion 2019)
Philippines	Masinloc <sup>36</sup>	300	Under construction (completion 2019)
Poland	Ostroleka C <sup>37</sup>	1,000	Under construction (completion 2023)
South Africa	Khanyisa <sup>38</sup>	306	Planned
UAE	Hassyan <sup>39</sup>	2,400	Under construction (completion 2020–2023)
Vietnam	Long Phu I <sup>40</sup>	1,200	Delayed
Vietnam	Vung Ang 2 <sup>41</sup>	1,200	Planned
<b>TOTAL MW</b>		<b>12,486</b>	

## GE'S BOARD SHOULD REJECT ANY INVOLVEMENT IN THE COAL-FIRED POWER PLANT PLANNED IN LAMU, KENYA

The proposed coal power plant in Lamu, Kenya, would be the country's first such plant.<sup>42</sup> The 1,050-MW facility would be located next to Lamu Old Town, the oldest continuous Swahili settlement in East Africa and a UNESCO World Heritage Site.<sup>43</sup> In June 2019, the UNESCO World Heritage Committee called on the government of Kenya to avoid proceeding with the project given that proper impact assessments have not been conducted.<sup>44</sup>

If built, the Lamu plant would be one of the biggest carbon emitters on the African continent and would double the carbon emissions from Kenya's energy sector.<sup>45</sup> An analysis by Greenpeace estimated that emissions of particulate matter and nitrogen oxides will cause 1,600 premature deaths over the 40-year life span of the plant.<sup>46</sup>

In addition to these environmental and social harms, the Lamu plant would come with significant economic risks. According to Kenya's Energy Regulatory Commission (ERC), power plant construction in the country is veering toward a severe oversupply of electricity, which could cause power prices to increase by 70 percent over the next six years as the government would need to raise revenue to sustain idle plants.<sup>47</sup> Kenya's 2018 Updated Least Cost Power Development Plan says that the Lamu plant is expected to operate at 0.9 percent capacity if energy demand growth is moderate, meaning that Lamu would be "grossly



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Crowds march through downtown Nairobi on June 5, 2018, to protest a proposed plan to mine coal and open a coal-fired power plant north of Lamu, Kenya.

underutilized.”<sup>48</sup> This excess of power supply—as well as project developers' unrealistic assumption that coal for the plant will cost half as much as it currently does—means that Kenyan consumers are likely to be saddled with a \$2 billion plant that is too expensive to run and is not economically viable.<sup>49</sup>

Even worse, under the current power purchase agreement for Lamu, if GE decides to proceed with the proposed equity investment in the project, the company would be part of an exploitative deal that forces Kenyan consumers to pay upwards of \$360 million per year in “capacity payments.”<sup>50</sup>





Local community protesters march against a proposed plan to mine coal and open a coal-fired power plant north of Lamu, Kenya, June 2019.

This means that regardless of whether the plant ever generates a kilowatt of electricity, Kenyans will pay. Local communities have engaged a years-long campaign opposing the plant, with mobilizations including Nairobi's first-ever anti-coal demonstration last June and a march this June. Fleecing the people of Kenya by building a coal plant that will barely operate and that local communities oppose is not the way a U.S. firm should be doing business abroad.

In June 2019, in the face of these risks and after years of activist pressure, local opposition, and litigation, Kenya's National Environmental Tribunal revoked Amu Power's environmental impact assessment license for the Lamu coal plant and ruled that a new environmental impact assessment would be required for the project to be reconsidered for license.<sup>51</sup> Despite the economic and reputational risks, however, GE continues to pursue a 20 percent equity share in the plant in exchange for being selected to supply the plant turbine and boiler.<sup>52</sup> Given that the GE board has not approved this transaction, now is the time to make the right decision and reject any involvement in this project.

### GE MUST CEASE INVOLVEMENT IN THE KOSOVO e Re COAL PROJECT

The 500 MW Kosovo e Re coal plant would be the first major energy project in the country in more than two decades.<sup>53</sup> Last October, the World Bank pulled its funding from the project due to the poor economic rationale for the plant. Jim Kim, the World Bank president at the time, stated, "We are required by our bylaws to go with the lowest-cost option, and renewables have now come below the cost of coal. So without question, we are not going to [support the Kosovo plant]."<sup>54</sup> However, as of this past May, GE intended to revive the dead project since it had won the contracts for construction and equipment.<sup>55</sup>

The U.S. government agency OPIC (Overseas Private Investment Corporation) is considering subsidizing the plant, although Kosovar groups pointed out in an open letter in June 2019 that such involvement likely violates U.S.

standards for international finance.<sup>56</sup> "OPIC cannot provide a final commitment to a project until its environmental assessment is complete and a determination is made by OPIC that the environmental, health, and safety impacts of the project are acceptable," the letter said. "This has to be made available to the public of the United States, locally affected groups in the host country, and host country nongovernmental organizations." Further, the letter continued, "the Government has so lavishly subsidized this project that it contravenes Kosovo's legal obligation to maintain competitive energy markets under the Energy Community Treaty. As a result, it contravenes OPIC's requirement that projects adhere to host country laws."

In addition to expanding the use of dirty lignite, the plant would increase the price of electricity for consumers and would cost far more than the project developer's estimates. The Institute for Energy Economics and Financial Analysis found that Kosovo e Re would increase overall electricity prices by as much as 50 percent and that the full cost of the plant when financing and subsidies are included would total at least €4.17 billion (\$4.67 billion USD), more than four times the amount cited by the project's developers.<sup>57</sup> Given that the project has stalled for nearly a decade, GE should cancel any contracts that plan on reviving this controversial and economically unsound project.

### GE MUST CEASE INVOLVEMENT IN THE TUZLA 7 COAL-FIRED POWER STATION IN BOSNIA AND HERZEGOVINA

Unit 7 of the Tuzla coal-fired power plant in Bosnia is a planned 450-MW expansion of the existing lignite-burning plant.<sup>58</sup> The technology proposed for the plant fails to meet the recently updated EU pollution control standards and a questionable permitting process has resulted in several ongoing court challenges.<sup>59</sup> Tuzla 7's original environmental permit expired in 2015, and the reissued permit is being disputed in court due to environmental oversights by the developers, such as failure to address disposal of coal ash in the proposal.<sup>60</sup>

Since 2016, local communities have protested the planned waste disposal and landfill site.<sup>61</sup> The country's ombudsman rejected the proposed site in June of this year, citing its dangerous health impacts.<sup>62</sup>

Additionally, although the project developer claims that planned closures of other Tuzla units would offset new emissions from Tuzla 7, the size of the new Tuzla unit would in fact exceed that of the retired coal units, leading to a net increase in coal combustion, especially since the existing coal units will not be retired immediately.<sup>63</sup> Local communities have rejected the assertion by a U.S. government representative in Bosnia that air and soil pollution will be reduced by constructing a new unit.<sup>64</sup> According to a recent study, the new unit would "perpetuate the need for coal from open-cast mines, leaving behind mountains of dusty spoil-heaps. The new unit would also continue to produce large quantities of ash, whose disposal plays a critical role in aggravating local air pollution due to blowing around in windy weather."<sup>65</sup>



The coal-fired Tuzla Thermal Power Plant in Tuzla, Bosnia and Herzegovina.

The plant is also unlikely to be able to compete with low electricity prices on the European market. In fact, the former and current directors of the company developing Tuzla 7 admitted that the plant is currently economically unfeasible.<sup>66</sup>

The Bosnia and Herzegovina federation government plans to guarantee a loan from the China Exim Bank for the project. According to the Energy Community (the EU energy body), this will not be compliant with EU rules on state aid. The Energy Community Secretariat has launched a dispute settlement process that will continue to delay the project.<sup>67</sup> GE should exit this project immediately.

### GE CAN LEARN FROM THE LONG PHU 1 MESS AND EXIT OTHER PROJECTS

Construction on the 1,200-MW Long Phu 1 plant in Vietnam began in 2015 despite local community opposition to the project, and as of June 2018 the plant was partially built.<sup>68</sup> However, progress has been halted, and the United States has imposed sanctions on a Russian contractor working on the plant.<sup>69</sup> Long Phu was the subject of a lengthy *New York Times* exposé on controversies surrounding the project.<sup>70</sup> After the sanctions were announced, GE reportedly canceled its contract to provide the turbines and generator, although its website still lists Long Phu as an example of “environmentally friendly” power generation.<sup>71</sup>

The Long Phu project has met with significant local backlash due to concerns over air pollution, water contamination, and climate impacts.<sup>72</sup> Analysis by Friends of the Earth found that project developers’ estimates of the plant’s carbon emissions assumed efficiency levels that are technologically infeasible, leading to a severe underestimate of the carbon footprint of the project.<sup>73</sup> The estimates were “unexplained and unsupported,” according to the analysis,



Local demonstration against fossil fuel investment in Ho Chi Minh City, Vietnam, on Global Divestment Day, 2015.

and may have been an attempt by the developers to evade OECD coal plant financing restrictions by falsely claiming the plant would use a technology it does not actually plan to use.<sup>74</sup> If GE has not already canceled its contract for this project, it should do so immediately and update the information on its website.

### TIME FOR GENERAL ELECTRIC TO END ITS PROFITEERING FROM COAL

GE’s involvement in coal projects will lock in carbon emissions, local pollution, and economic harms across the globe at a time when clean, affordable energy solutions abound. GE should cease its involvement in new coal power plants, instead focusing on building up a workforce for zero-carbon technologies in alignment with the Paris Agreement on climate change. It should begin by canceling involvement in the proposed projects in Kenya, Kosovo, Bosnia, and Vietnam. This transition will not only benefit the climate but also help avoid additional financial and reputational losses that could be even worse than what GE has already incurred by betting big—and wrong—on fossil fuels. When world leaders, major companies, and activists from around the world gather in New York for the Climate Summit in September, GE should put forward a new plan for leading a decarbonized future, not peddle outdated technology to countries that deserve better, and truly cleaner, solutions.



## Endnotes

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