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 outsize role in global energy infrastructure. 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. 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.3 But this technology, even though newer, still generates significant pollution and carbon emissions.4 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 2050.5 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.6

GE’s own official position 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.”7 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.8 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.9

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.10 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 of 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.11

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.12 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.13 GE’s CEO expects renewable power to be the fastest-growing business for the company in 2019.14

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.15 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.16 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.17

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.18 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).19 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.20 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.21 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.22 GE’s two plants in Vietnam, Long Phu I 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.23 The Ostroleka C plant in Poland will be powered by lignite, the most polluting form of coal.24 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.25

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.

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NRDC
TABLE 1: COAL PLANTS UNDER CONSTRUCTION, PLANNED, OR DELAYED THAT WILL USE GE EQUIPMENT

<table>
<thead>
<tr>
<th>COUNTRY</th>
<th>PLANT</th>
<th>MW</th>
<th>STATUS</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bosnia</td>
<td>Tuzla 7</td>
<td>450</td>
<td>Planned</td>
</tr>
<tr>
<td>Bangladesh</td>
<td>Mawa 1</td>
<td>660</td>
<td>Delayed</td>
</tr>
<tr>
<td>Cambodia</td>
<td>Sihanoukville Stung Hav 3</td>
<td>150</td>
<td>Under construction (completion 2019)</td>
</tr>
<tr>
<td>Dominican Republic</td>
<td>Punta Catalina 29</td>
<td>770</td>
<td>Under construction (completion unknown)</td>
</tr>
<tr>
<td>Kenya</td>
<td>Lamu 30</td>
<td>1,050</td>
<td>Delayed</td>
</tr>
<tr>
<td>Kosovo</td>
<td>Kosovo e Re 31</td>
<td>500</td>
<td>Planned</td>
</tr>
<tr>
<td>Mozambique</td>
<td>Ncondezi Tete 32</td>
<td>300</td>
<td>Planned</td>
</tr>
<tr>
<td>Pakistan</td>
<td>CPHGC 33</td>
<td>1,320</td>
<td>Under construction (completion 2019)</td>
</tr>
<tr>
<td>Pakistan</td>
<td>Port Qasim Lucky 1 34</td>
<td>660</td>
<td>Under construction (completion 2021)</td>
</tr>
<tr>
<td>Philippines</td>
<td>Concepcion 35</td>
<td>270</td>
<td>Under construction (completion 2019)</td>
</tr>
<tr>
<td>Philippines</td>
<td>Masinloc 36</td>
<td>300</td>
<td>Under construction (completion 2019)</td>
</tr>
<tr>
<td>Poland</td>
<td>Ostroleka 0 37</td>
<td>1,000</td>
<td>Under construction (completion 2023)</td>
</tr>
<tr>
<td>South Africa</td>
<td>Khanyisa 38</td>
<td>306</td>
<td>Planned</td>
</tr>
<tr>
<td>UAE</td>
<td>Hassyan 39</td>
<td>2,400</td>
<td>Under construction (completion 2020–2023)</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Long Phu 1 40</td>
<td>1,200</td>
<td>Delayed</td>
</tr>
<tr>
<td>Vietnam</td>
<td>Vung Ang 2 41</td>
<td>1,200</td>
<td>Planned</td>
</tr>
<tr>
<td>TOTAL MW</td>
<td></td>
<td>12,486</td>
<td></td>
</tr>
</tbody>
</table>

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. 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. 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.

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. 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.

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. 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 underutilized.” 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.

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.”
and ruled that a new environmental
of the existing lignite-burning
and that the full cost of the
51
65
52
59
53
55
61
© Save Lamu
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In June 2019 that such involvement likely
investment Corporation) is considering subsidizing the
The U.S. government agency OPIC (Overseas Private
construction and equipment.
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. 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. Given
that the GE board has not approved this transaction, now is the
time to make the right decision and reject any involvement
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.

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
coke. So, without question, we are not going to [support the
Kosovo plant].” However, as of this past May, GE intended
to revive the dead project since it had won the contracts for
construction and equipment.

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. “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. 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. 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. 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.

Since 2016, local communities have protested the planned
waste disposal and landfill site. The country’s ombudsman
rejected the proposed site in June of this year, citing its
dangerous health impacts.

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.

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.
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.”
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.

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.

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. However, progress has been halted, and the United States has imposed sanctions on a Russian contractor working on the plant. Long Phu was the subject of a lengthy *New York Times* exposé on controversies surrounding the project. 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.

The Long Phu project has met with significant local backlash due to concerns over air pollution, water contamination, and climate impacts. 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. The estimates were “unexplained and unsupported,” according to the analysis, 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. 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.


6 The National Association of Regulatory Utility Commissioners reports the average life span of coal plants as 40 years, though the average age of U.S. coal plants retired from 2010–2016 was more than 50 years.


12 Ibid., p. 8.


32 “Ncondezi Energy Gets CMEC, GE as Co-developers.”


36 Ibid.


50 Ibid.


55 Ibid.

56 Bytyci, “GE to Build Kosovo’s New 500 MW Coal Power Plant.”


60 Ibid.


63 BankTrack, “Tuzla 7 Coal Power Plant,” November 19, 2018, https://www.banktrack.org/project/tuzla_7_lignitefire_power_plant8...
CEE Bankwatch Network, HEAL, and CEE, *Lifting the Smog*.


Ibid.