Deploying Innovation and Technology to Address Climate

November 4, 2022

CAUTION CONCERNING FORWARD-LOOKING STATEMENTS:
For details on the uncertainties that may cause our actual future results to be materially different than those expressed in our forward-looking statements, see https://www.ge.com/investor-relations/important-forward-looking-statement-information as well as our annual reports on Form 10-K and quarterly reports on Form 10-Q. We do not undertake to update our forward-looking statements.
Building a world that works for tomorrow

Sustainability Priorities

How our strategy and sustainability priorities align with the UN Sustainable Development Goals (SDGs)

Progressing our efforts & improving programs

- **CLIMATE CHANGE:**
  - Progress toward **2030 carbon neutrality** commitment: **21% reduction** vs. 2019 (Scope 1 & 2 emissions)
  - Reported **Scope 3 emissions from use of sold products** for the first time, and added views of the path to **net zero by 2050** by business
  - Reported on our **policy engagement and thought leadership on climate action**, including Paris-alignment of our lobbying activities

- **STRATEGY & RISK:** Executed **ESG issues assessments** for GE Company and our businesses

- **SAFETY & QUALITY:** Added detail about **product safety and quality** programs and initiatives and developed a new holistic strategy around **product stewardship and circular economy** at the business level

- **DIVERSITY & INCLUSION:** Disclosed **EEO-1 and pay equity data** in our **2021 GE Diversity Annual Report**

- **HUMAN RIGHTS:** Published our **inaugural GE Human Rights Report**, providing increased transparency into our governance and due diligence processes

1 based on full-time equivalent, active employees as of December 31, 2021
2 CFM International is a 50-50 joint venture (JV) between GE and Safran Aircraft Engines; Engine Alliance is a 50-50 JV between GE and Pratt & Whitney
3 GE, customer and partner funded
Greenhouse Gas Protocol emissions definitions

15 Scope 3 categories:
CARBON NEUTRAL 2030 COMMITMENT

Having met our 2020 emissions reduction targets ahead of schedule, we set a new goal to achieve carbon neutrality within our own operations (i.e., Scope 1 and 2 emissions) by 2030. To achieve this goal, our businesses are making operational investments in energy efficiency, reducing emissions from the grid through smart power sourcing and using lean practices to eliminate energy waste. While we are focused on driving absolute reductions to achieve carbon neutrality, where necessary we will balance remaining emissions with carbon offsets.

AVIATION
GE Aviation is using several long-term strategies to lower its Scope 1 and 2 emissions, including energy efficient infrastructure investments and optimization, facility energy contracts derived from lower carbon and renewable-sourced energy, and exploring the use of Sustainable Aviation Fuel and other low carbon fuels at engine testing operations.

RENEWABLE ENERGY
GE Renewable Energy is using two green lean workstreams to lower its Scope 1 and 2 emissions: optimizing energy use in global manufacturing facilities and expanding renewable electricity through the adoption of green tariffs, pursuit of onsite solar opportunities, and more.

POWER
GE Gas Power is focused on reducing its Scope 1 and 2 emissions through initiatives like reducing energy waste and investing in automated energy management with real time carbon tracking. Energy champions at 13 of our largest sites completed an intensive series of training and treasure hunt workshops, resulting in the identification of over 40 energy reduction projects.

HEALTHCARE
GE Healthcare is focused on reducing its Scope 1 and 2 emissions through initiatives like reducing greenhouse gas releases from our facilities, moving fleet vehicles to electric and hybrid options, and transitioning to renewable energy.
NET ZERO 2050 AMBITION
In 2021, we articulated GE’s ambition to be a net zero company by 2050, including not just GE’s own operations, but also the Scope 3 emissions associated with the use of our sold products. We are collaborating closely with our customers, suppliers, policymakers and other companies to turn net zero engineering challenges into business opportunities. We have several principles that are guiding our approach to our net zero ambitions.

GE NET ZERO PRINCIPLES

CREDIBILITY
Knowing this path will take decades, we prioritize credibility first and foremost with our stakeholders to share what we objectively know and don’t know. This also means as we get better and more credible information, we will share that with our stakeholders.

CONTINUOUS LEARNING
Our analysis is our most credible information based on how we see things today. We are committed to continuous learning to enable more insights and opportunities to make a difference, and we expect to make progress over time.

COLLABORATION
We know no one company can solve these issues alone. With GE’s spirit of humility, we welcome continued collaborations with our customers, investors, regulators, and peers to achieve success toward our goals. We summarize several of these key collaborations here.

COMMITMENT TO INNOVATION AND TECHNOLOGY
Simply stated, GE’s role in the world’s path toward net zero is to deliver state of the art technology today to make progress while innovating the breakthrough technologies for tomorrow.

3 PATHWAYS TOWARD NET ZERO AMBITION

Actions pre-2020
Building on substantial contributions from past action. Our efforts toward net zero began well before 2021. GE has long innovated its products to drive efficiencies and reduce CO₂ emissions by delivering state of the art products. Our past efforts lay a strong foundation for the progress forward.

Driving continued progress this decade. We are prioritizing the 2020s as a decade of action, with a focus on innovating the technology solutions needed to achieve net zero emissions in 2050. This will take several forms, including advancing technology with the potential to further reduce carbon emissions and carbon intensity in this decade and beyond.

Innovating for the future. While we are optimistic about the role of GE’s technologies to make progress through 2030, we know they will not be enough to achieve 2050 net zero ambitions. We are investing today to innovate the next generation of breakthrough technologies to achieve the step changes that will be needed for the power and renewable energy and the aviation sectors.
GE POWER AND RENEWABLE ENERGY: PATH TO NET ZERO BY 2050

**Contributing Factors**

- Coal-to-gas switching with more than 50% fewer carbon emissions
- Offshore wind growth and capacity factor improvement (turbine diameter, height)
- Hydro/Nuclear build and repowering
- World record gas combined cycle plant efficiencies
- Advanced gas path upgrades reducing carbon emissions from existing gas turbines

**Impacts**

- **13%** GE installed base growth during 2010-2021
- **16%** Increase in renewables and zero-carbon power generation technologies (2010-2021)
- **42%** Reduction in carbon intensity of the GE installed base (2010-2021)

Building on substantial contributions from past action.

2020-2030

Driving continued progress this decade.

Innovating for the future.

2030-2050

Post-combustion carbon capture improvements in cost, space & operating expense

Small modular nuclear reactors

100% hydrogen gas-turbine capability across portfolio

**Research & Development**

**Testing**

**Commercialization**

**Actions pre-2020**

**Contributing Factors**

- Coal exit (new build)
- Offshore and onshore wind growth & capacity factor improvement
- Hydrogen or renewable natural gas blending
- Flexibility retrofit of existing plants to reduce emissions while balancing variable renewables
- LM6000 Hybrid EGT integrates battery storage with gas turbine, enabling contingency (spinning) reserve without fuel burn and emissions demand events
- Advanced transmission and distribution hardware/software to move renewables and ensure system resilience

**Impacts**

- **20-45%** reduction in carbon emissions relative to 2019 levels

GE will focus, working with other industry participants, on bringing into service breakthrough technologies by the early 2030s to help achieve absolute emission reductions for the power sector's path to net zero.

**Research & Development**

**Testing**

**Breakthrough Technologies Timeline**

**Actions pre-2020**

GE AVIATION: 2050 SCOPE 3 NET ZERO AMBITION FOR SOLD PRODUCTS

**Contributing Factors**

- More fuel-efficient commercial engine products certified: GE Passport, GE9X, CFM LEAP, GEnx
- Lighter-weight advanced composite materials vs. metal parts replaced
- More heat-resistant ceramic matrix composites vs. metal alloys
- Lighter-weight, optimized part designs from additive manufacturing vs. conventional manufacturing
- All GE and joint venture engines can operate on advanced Sustainable Aviation Fuel

**Impacts**

- **40%** reduction in fuel consumption and CO2 emissions compared to engines manufactured in 1970s and 1980s

GE this decade will:

- Advance technologies to lower the carbon intensity of its products;
- Innovate and test the breakthrough technologies required to achieve the step changes needed for net zero in the future; and
- Prioritize partnerships to succeed in these outcomes.

**Research & Development**

**Testing**

**Breakthrough Technologies Timeline**

**Actions pre-2020**

Driving continued progress this decade.

Innovating for the future.

2020-2030

Building on substantial contributions from past action.

2030-2050

Support 100% Sustainable Aviation Fuel approval and adoption

Advocacy and industry partnering for wider SAF availability and adoption

360 Foam Wash adoption

Increased deployment of GE Digital, Aviation Software including FlightPulse®, Fuel Insight, and Airspace Insight

Increased use of additively-manufactured and Ceramic Matrix Composite engine parts

**Actions post-2050**

**Contributing Factors**

- Open Fan Engine Design (CFM RISE Program)
- Electrification of aircraft and engine systems
- Hydrogen-fueled direct combustion engine
- Power to Liquid SAF
- Compact engine core
- Three-stream engine architecture

Driving continued progress this decade.

Innovating for the future.
GE Vernova is uniquely positioned to seize the energy opportunities in recent legislation

Congress has enacted two landmark climate change laws, the Inflation Reduction Act (IRA) and Infrastructure Investment & Jobs Act (IIJA), which aim to reduce US greenhouse gas emissions by more than 40% by 2030, while advancing US investments in energy resiliency and breakthrough technologies. With the industry’s broadest portfolio of technologies across the energy value chain, GE Vernova is uniquely positioned to help America achieve the goals of this legislation and is working with key stakeholders to help bring their promise to reality.

The IRA includes multiple clean energy tax credits that will reduce emissions, promote US energy security, and increase jobs and investment. GE Vernova is the only US company with expertise across wind, gas, hydro, storage, nuclear and grid. Our technologies, coupled with our expertise, will accelerate decarbonization efforts across the US, while supporting energy manufacturing and jobs—today and in the future.

**PRODUCTION CREDIT FOR ONSHORE WIND**
GE’s onshore wind business has been named the #1 wind equipment provider in the country for the last 5 years. Our next generation 3MW Sierrra platform is fully tested, validated, and ready to support accelerated wind growth in the US.

**INVESTMENT CREDIT FOR OFFSHORE WIND**
GE’s wind turbines are used at the only commercial offshore wind project in the US at the Block Island Wind Farm, off Rhode Island’s coast. Our turbines will be used for the first US utility scale offshore wind installation at Vineyard Wind, off the coast of Massachusetts.

**PRODUCTION & INVESTMENT CREDITS FOR HYDRO**
A global leader in hydro projects and refurbishments, GE’s technology is providing base load power while also helping the environment. GE Hydro’s portfolio of solutions acts as a force multiplier for renewables, balancing the grid and enhancing grid reliability as more renewable energy resources come online.

**ADVANCED MANUFACTURING CREDITS**
Our Escocota facility in Pensacola, FL and our LM Blade facility in Grand Forks, ND are providing onshore wind turbines to our US customers. For offshore wind, the benefits tied to localization and the significant federal and state targets, provides a clear path for developing a US supply chain.

**INVESTMENT CREDIT FOR STORAGE**
GE’s Hydro pumped storage technology is the most economical storage technology for long duration and is capable of production, storage, grid stabilization, as well as water management. GE’s energy storage solutions use advanced technologies capable of offering both standalone and integrated hybrid applications.

**CARBON CAPTURE SEQUESTRATION CREDITS**
We are working in collaboration with the US Department of Energy and other stakeholders to equip existing natural-gas fired power plants with advanced carbon capture technology.

**PRODUCTION CREDIT FOR CLEAN HYDROGEN**
Our extensive portfolio includes wind and nuclear technologies to propel the new hydrogen economy forward as well as hydrogen-capable gas turbines with more than 4 million hours of operating experience.

**NUCLEAR POWER PRODUCTION CREDITS**
GE is a world-leading provider of advanced reactors, and fuel and nuclear services supporting over ~60% of the US installed fleet.

The IIJA is a once-in-a-generation investment in our nation’s infrastructure and competitiveness. The law is aimed at modernizing the electricity grid to improve resiliency. IIJA also invests in the demonstration and deployment of breakthrough technologies to accelerate energy innovation.

**GRID MODERNIZATION**
GE’s portfolio of software and hardware solutions enables smart grids, prevents outages, optimizes electricity flow, supports transmission facilitation, and enhances grid flexibility and resiliency.

**BREAKTHROUGH TECHNOLOGIES**
GE Research’s 1,000+ scientists and engineers are focused on developing and improving breakthrough technologies to accelerate the energy transition, including but not limited to small modular nuclear reactors, direct air carbon capture, and clean hydrogen production.

*Source: https://www3.ge.com/research/climate-clean-energy-inflation-reduction-act/*
**Confluence (n): A situation in which two things join or come together.**

**June 2022: GE Net Zero Roadmap**

**August 2022: Inflation Reduction Act**

The confluence of the Inflation Reduction Act as the first climate law in the U.S. and the creation of GE Vernova as the purpose-driven clean energy technology company is unparalleled.

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GE Vernova is uniquely positioned to seize the energy opportunities in recent legislation

Congress has enacted two landmark climate change laws, the Inflation Reduction Act (IRA) and Infrastructure Investment & Jobs Act (IIJA), which aim to reduce US greenhouse gas (GHG) emissions by more than 40% by 2030, while advancing US investments in energy resilience and breakthrough technologies. With the industry’s broadest portfolio of technologies across the energy value chain, GE Vernova is uniquely positioned to help America achieve the goals of this legislation and is working with key stakeholders to help bring their promise to reality.

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**GE Technology Reflected in IRA/IIJA**

**Inflation Reduction Act**

- **August 2022:**
  - **GE Power and Renewable Energy:** Path to Net Zero by 2050

**June 2022:**

- **GE Net Zero Roadmap**

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**PRODUCTION CREDIT FOR HYDRO:**
- The Inflation Reduction Act provides a credit for hydroelectric plants.
- GE will focus on water rights to optimize the use of existing water rights.

**INVESTMENT CREDIT FOR BATTERY STORAGE:**
- GE will invest in battery storage technology to enable grid resiliency.

**PRODUCTION CREDIT FOR RENEWABLE ENERGY:**
- GE will invest in wind and solar technologies.

**ADVANCED MANUFACTURING INVESTMENT CREDIT:**
- GE will invest in advanced manufacturing.

**NATIONAL SEQUENCING CREDIT FOR CLEAN ENERGY INVESTMENT:**
- GE will invest in clean energy projects.

**Grid Modernization**
- GE will invest in grid modernization technologies.

**Nuclear Power**
- GE will invest in nuclear power technologies.

**SOURCE:**
- [https://www.ge.com/energy/inflation-reduction-act](https://www.ge.com/energy/inflation-reduction-act)

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**GE Vernova**

**GE Vernova** is the only US company with expertise across wind, gas, hydro, storage, nuclear, and grid, its technology, coupled with its expertise, will accelerate decarbonization efforts across the US, while supporting energy manufacturing and job-creating opportunities in the future.

**REFLECTED IN IRA/IIJA**

- **Producion Credit**
- **Investment Credit**
- **Commercialization Timelines**

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**INFRARED**

- **Carbon**
- **Hydrogen**
- **Nuclear**

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**Geothermal**

**Grid**

**Breakthrough Technologies**

- GE’s research & development teams are focused on breakthrough technologies.

**Grid Modernization**

- GE’s portfolio of digital and software solutions enables smart grids, improving grid operations and network resilience.

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**Net Zero Roadmap**

- **2030-2050**
- **2050-2060**

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**R&D**

- **Research & Development**
- **Testing & Commercialization**

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**Building on substantial contributions from past actions.**

**Contribution Factors**

- **Coal to gas switching with more than 50% lower carbon emissions.**
- **Hydrogen nuclear build and repowering.**
- **World record combined cycle plant efficiencies.**
- **Advanced gas path upgrades, reducing carbon emissions from installed gas turbines.**
- **Children and growth and capacity factor improvement (inter-dome build).**

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**Innovating for the future.**

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**GE Vernova**

- Our portfolio of energy businesses.

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**Confluence:** A situation in which two things join or come together.