

Intel's Approach to Renewable Electricity

The path to achieve net zero greenhouse gas emissions through renewable electricity.

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Executive Summary

Intel has been a pioneer in the investment of renewable electricity as a key tenet in its greenhouse gas (GHG) emissions reduction strategy. Intel began investing in renewable electricity (RE) 20 years ago to reduce its GHG emissions and increase the demand for RE and spur the market.

By following a portfolio approach that includes distributed generation, direct purchase agreements and attribute purchases, Intel has achieved 99% RE use globally in 2023 and is committed to reach 100% RE by 2030.²

Intel leverages our global scale and reach, purchasing power and collaboration across our industry and supply chain to foster renewables markets around the world.

Intel's History

Intel believes that global climate change is a serious environmental, economic and social challenge that warrants an equally serious response by governments and the private sector.

Addressing climate change requires broad leadership from all sectors around the world. One of the largest contributors to global GHG emissions is from the use of fossil fuels to generate electricity, which has continued to



Over the last 5 years, our renewable electricity supply and attribute purchases have totaled more than 38 billion kilowatt-hours, enough to power over 3.5 million US households for one year.¹

¹ Based on average US household energy usage figures published by the US Energy Information Administration.

² Includes the nearly 100% RE from Costa Rica's electricity grid.

increase since the Industrial Revolution in the 18th century. According to the International Energy Association, fossil fuels make up more than 80% of the global energy mix.³ Renewable energy sources – energy sources that do not run out – such as wind, solar and hydropower, drastically reduce or eliminate GHG emissions associated with the generation and transmission of electricity. As such, decarbonizing the electricity grid is one of the bigger opportunities the world has to mitigate climate change.

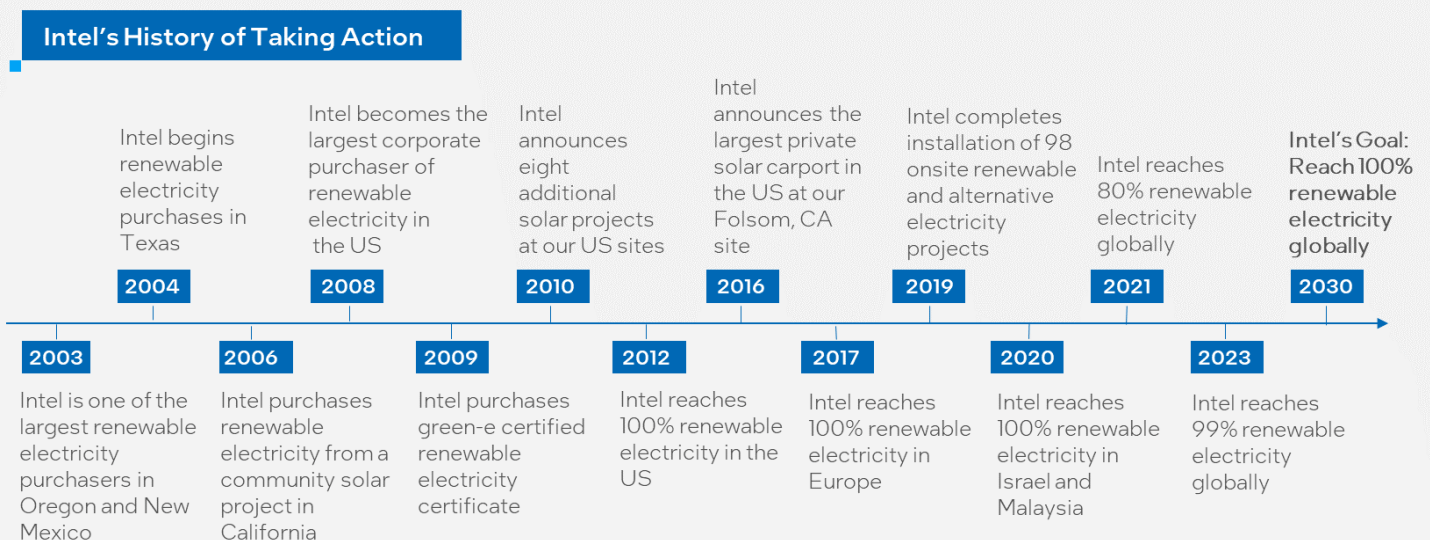
Purchasing RE is one of the most impactful investments that organizations can make to reduce their carbon footprint. In 2003 (more than two decades ago), Intel recognized the importance of RE as a key element of a climate change mitigation strategy and began purchasing RE – making Intel one of the earliest and largest movers of voluntary RE purchases. This was a strategic investment to reduce our GHG emissions while also creating a growing demand for RE, which effectively helps make RE available for more organizations.

Over the last two decades, Intel has continued to increase the amount of RE its purchases – reaching 100% in the US in 2012, Europe in 2017, Israel and Malaysia in 2020, and Vietnam

and China in 2023. Our commitment to RE has not wavered since our first purchase in 2003 and our achievements have occurred during a period of significant company growth. In 2023, Intel reached 99% RE globally¹ – well on our way to reach our goal of 100% RE globally by 2030. In 2023, these purchases, as well as energy conservation and GHG reduction projects, contributed to a Scope 1 + 2 GHG emissions reduction of 78% from our peak year of 2006.

Approach

We recognize the influence that voluntary corporate purchasers have on the RE industry and the scale that such purchasers can support the RE market, helping to decarbonize the electricity grids in countries where we operate. Intel’s RE philosophy has and will continue to be to reduce our carbon footprint and use our global scale and purchasing power to support the growth of RE market. Guided by this philosophy, we will also continue to work with government on regulatory challenges for faster adoption of RE for driving momentum to their net zero emission goal. closely with our local utility providers, which



³ <https://www.iea.org/reports/world-energy-balances-overview/world> (2019).

are primarily regulated markets with no choice of electricity provider.

As we work toward our goal of reaching 100% RE globally, this collaboration with our utility providers is critical to navigate the complexities of market practices around renewable electricity.

There are many different mechanisms to purchase RE, including direct purchase agreements (via onsite and offsite PPAs), and RE attributes. We recognize that a one-size-fits-all approach will not work for the scale and geographic footprint of our global operations. Therefore, Intel’s RE strategy follows a portfolio approach that utilizes transparent, credible and scalable options for RE claims at each location where we operate.

Our RE objectives include the following, where feasible, available, and credible:

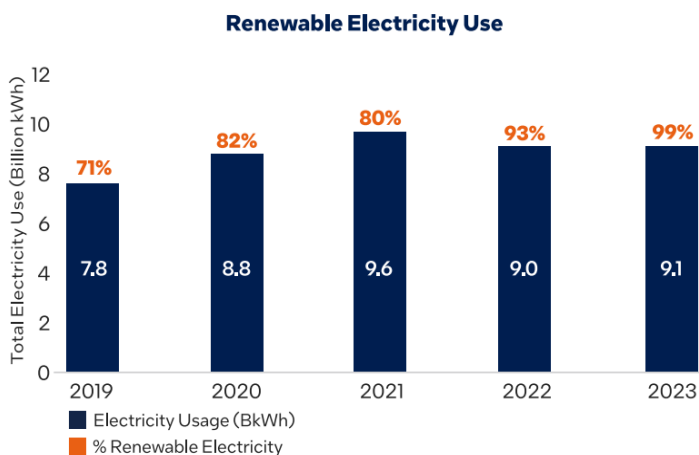
- Match 100% of our global electricity consumption with RE by 2030.
- Buy RE from the same geographic regions where we operate.
- Enable additional RE generation capacity.
- Open new markets, for ourselves and others.
- Influence or support new purchasing mechanisms with our utility partners, for ourselves and others.



The 7.7-megawatt solar carpark at Intel’s Ocotillo, Arizona campus is made up of 30,000 solar modules covering 3,200 parking spaces. The system was the second largest in the country at time of installation in 2017, with the largest installation at Intel’s campus in Folsom, California.

Intel has made significant progress toward its goal to reach 100% RE by 2030, reaching 99% globally in 2023. Following a portfolio approach is a large part of this progress, as it enables us to proactively focus on finding the most credible, scalable, and available RE purchase options rather than relying solely on the transition of local electricity grids over to RE.

On-site Generation: Through the end of 2023, Intel completed more than 110 alternative and RE installations with capacity of more than 50,000 kilowatt (kW) across 22 campuses. These installations use 22 different technology applications, such as solar hot and



2030 Goal: Renewable Electricity

Description. Achieve 100% renewable electricity across our global operations.

Baseline. During 2020, we had reached 100% renewable electricity in our US and European operations, 50% in our Israel operations, and 71% globally.

Progress in 2023. We continued 100% renewable electricity purchases for our US, Europe, Israel, and Malaysia operations, and we achieved 100% renewable electricity in Vietnam and China for the first time. We are also approaching 100% in Costa Rica—bringing the global total to 99% as of the end of 2023.

Looking Ahead. We will continue developing renewable electricity purchases in other locations, primarily India and Mexico, and are well on track to achieve our goal of 100% by 2030.

cooling water systems, solar electric photovoltaic-covered parking lots, fuel cell and co-generation sources, as well as mini bioenergy, motion power, geothermal energy, and micro wind turbine array systems. Several of our large sites have solar PV arrays – many of which provide cover in parking lots. This includes our Ocotillo, Arizona campus, which has a solar array with the capacity of 7.7 MW in direct sunlight and also provides covered parking for more than 3,000 spaces. Although onsite installations are unable to generate enough electricity to run our operations, Intel employees appreciate the onsite installations and expect that we will continue to invest in proven and emerging technologies.

Direct Purchase PPAs: Intel participates in PPA programs and supports corporate power purchase projects, such as a [100 MW solar project](#) in Arizona, 198 MW worth of solar

Energy Attribute Certificates



EACs, which include Renewable Energy Certificates (RECs), Guarantees of Origin (GOOs), and International RECs (I-RECs), send demand signals to the RE market that there is interest from voluntary purchasers, which in turn will incentivize the construction of more assets. Having short and long term EAC contracts can also have the added benefit of helping developers obtain project financing.

EACs allow businesses to track the origin of RE, provide documentation that 1 megawatt-hour (MWh) has been produced and added to the grid, and ensures that the RE generated can only be claimed by the purchaser.

EACs come in two forms - bundled and unbundled. A bundled EAC means it comes to the consumer via direct contract for electricity. The most common examples are PPAs and virtual power purchase agreements (VPPAs). Unbundled EACs are separated from the electricity generation component and sold separately. Both mechanisms result in an EAC that is retired for the user's benefit and enables the ability to zero out Scope 2 GHG emissions.

projects in Oregon and other global projects that are expected to come online in 2024 and begin generating RECs for Intel in 2026. These projects support the introduction of renewables into the supply mix reducing Intel's carbon footprint. We also entered into a 35 MW offsite solar PPA which will serve Intel's locations in Malaysia, once operational and registered with the relevant authorities. We continue to work with our local utility providers and community stakeholders to evaluate opportunities to support local purchase contracts.

Attribute Purchases: Energy Attribute Certificates (EACs) are utilized to demonstrate ownership of the RE on the electricity grid and eliminate the risk of double counting.

Intel follows US Environmental Protection Agency (EPA) guidelines for making credible EAC claims, including retaining and retiring attestations for the benefit of our operations in US. All of Intel's EAC purchases are, and will continue to be, aligned with the World Resources Institute's (WRI) [GHG Protocol Scope 2 Guidance](#). In addition, we purchase EACs that are compliant with additional certification layers, such as Green-e® in North America, and/or the I-REC and GOO standards globally.

EACs play a large role in Intel's RE program due to the scale, regulatory practices, and geographic locations where we operate. For example, in the US, we are typically unable to contract directly with other electricity generators, and instead are reliant on strong relationships with our local utilities to create innovative sleeved PPAs.

Roadmap to Net Zero

Semiconductors are the foundation of modern technology and are in high demand as the world becomes more digital. Intel's IDM2.0 strategy involves the expansion of manufacturing facilities around the world, to

help create a more resilient, sustainable and globally balanced supply chain.

These products are designed and delivered with sustainability in mind, including product energy efficiency and product solutions and innovations used by our customers to reduce environmental impact and increase product circularity.

Intel has committed to reach 100% RE globally by 2030 and net zero GHG emissions (Scope 1 and 2) across our global operations by 2040. And, in 2023, Intel published its [Climate Transition Action Plan](#) and made a new commitment to work with our value chain to achieve net-zero upstream Scope 3 GHG emissions by 2050.

To meet the growing demand for semiconductors and to diversify the supply of semiconductors around the world, Intel is undergoing significant growth, with new manufacturing sites in the US, Germany, and Poland as well as expansions at several existing manufacturing sites that are expected to increase energy demand. But regardless of our growth, locations, or manufacturing complexity, Intel remains committed to reaching 100% RE and net-zero GHG emissions across our global operations.

Advocacy and Collaboration

As one of the largest voluntary corporate purchasers of RE in the world, we believe we have an important role to play in fostering the RE market in more ways than through our purchases. For example, Intel participates in a variety of leadership or advisory positions with organizations such as WRI, Clean Energy Buyers Alliance (CEBA), We Mean Business Coalition, and the Emissions First Partnership. Participation with each of these groups gives us the opportunity to give the perspective of a large RE buyer, while also advocating for policies that are beneficial to all buyers, large and small.



Operations at Intel Malaysia are harnessing solar energy to help power six buildings across the company's Kulim and Penang campus, thanks to a new 3.2 megawatt (MW) solar installation completed in January. The installation is achieving 4.1 MW in total installed capacity, and is Intel's largest solar farm outside the U.S. The solar project, which began in 2020, contributes about 15% of Intel's global, on-site solar photovoltaic electric power capacity. It will also reduce carbon dioxide emissions by about 3,800 tons.

In areas where this is not available, Intel works with government and regulators to encourage development of RE generation and to establish mechanisms to purchase RE.

To accelerate this transition, Intel participates in several industry groups to influence decarbonization action:

Semiconductor Climate Consortium: Intel is a founding member of the consortium, which is part of [SEMI](#), one of the leading microelectronics industry associations. The Consortium is focused on encouraging the semiconductor industry to align on common approaches to continuously improve and reduce greenhouse gas emissions through the industry value chain. Most recently, the consortium has published a [white paper](#) on the industry's GHG emissions profile.

Catalyze Program: For Intel and the broader semiconductor industry, our GHG reduction strategy includes decarbonizing our supply chain. In 2023, Intel announced a partnership with Schneider Electric and Applied Materials for a new program called [Catalyze](#). The objective of Catalyze is to accelerate the adoption of RE and reduce GHG emissions throughout the complex global

semiconductor supply chain by accelerating development of RE projects, providing opportunities for suppliers to source RE, and increasing awareness and support needed to enable more suppliers to purchase RE.

Emissions First Partnership: Intel participates in the [Emissions First Partnership, which](#) brings together companies working to reduce their GHG emissions through RE projects, accelerating progress through collective action, and the adoption and implementation of 4 principles to prioritize decarbonization. These 4 principles are: quantifying the emissions impacts of each activity, making continuous improvements in data quality and availability, embracing transparency, and developing appropriate governance processes.

Call to Action

Since decarbonizing the electricity grid is one of the largest opportunities to mitigate climate change, a transition to RE is critical for every electricity grid in the world. Intel is committed to reducing our own carbon footprint while supporting the work needed to transition the grid to renewable sources of electricity. Intel will continue to leveraging its portfolio approach in leading global energy transition roadmap towards a net-zero target that runs on 100% renewable electricity.

Intel is a world leader in the design and manufacturing of essential products and technologies that power the cloud and an increasingly smart, connected world.

Learn more about Intel's environmental sustainability efforts at www.intel.com/environment.

Notices & Disclaimers

Past performance does not guarantee future results. These responses contain forward-looking results, and actual results could differ materially. Risk factors that could affect Intel's results are included in Intel's filings with the Securities and Exchange Commission, including our most recent reports on Form 10-Q and Form 10-K and earnings release.