



## Key Findings

**Electronics manufacturers lack ambitious emissions reduction plans.** No major tech suppliers have pledged to halve their carbon emissions by 2030, a level necessary to align with the Paris Agreement 1.5°C goal.

**Intel is the only major electronics supplier that has pledged to transition to 100% renewable energy by 2030,** but it continues to rely heavily on low-impact procurement methods, such as renewable energy certificates (RECs), to achieve this goal. Samsung Electronics still plans to transition to 100% renewable energy by 2050, a deadline that is far too distant in the future to help avert the most catastrophic impacts of climate change. In September, TSMC moved forward its 100% renewable electricity target from 2050 to 2040, but in 2022 the company's renewable electricity ratio was just 10%.

**The median reported renewable electricity ratio for the 11 electronics suppliers in the ranking was 20% in 2022, compared to 10% for the same 11 companies in 2021.** In 2022, 9 out of 11 suppliers in the ranking increased their renewable electricity ratio. In 2022, Intel's renewable electricity ratio was 93%, followed by Samsung Electronics at 31% and SK Hynix at 30%. Hon Hai Technology Group (Foxconn) and Goertek reported renewable electricity ratios of less than 10% in 2022.







**SK Hynix demonstrated the most dramatic year-on-year increase in its renewable electricity ratio in 2022, a jump of more than 25% compared to the year prior.** The increase was due in large part to the purchase of RECs and participation in South Korea's Green Premium scheme. TSMC reported the lowest renewable electricity ratio increase, at just over 1%.

**Many suppliers, most notably Intel, Samsung Electronics and SK Hynix, have relied heavily on low-impact procurement mechanisms, such as renewable energy certificates (RECs), to increase their renewable electricity ratio.** In practice, RECs and green pricing rarely result in the addition of new renewable energy capacity to the grid. In 2022, only Luxshare Precision, Pegatron, and Foxconn sourced at least 70% of their renewable electricity through high-impact sourcing methods, such as onsite generation, renewable energy investment and Power Purchase Agreements (PPAs).

**The emissions of five ranked suppliers – Intel, TSMC, Samsung Electronics, Foxconn, and Luxshare Precision – increased during the two-year period ending in 2022.** Goertek and BOE did not disclose sufficient data to assess their overall emissions.

**A growing number of companies have begun to advocate for renewable energy-friendly policies.** However, their level of impact has varied. Five ranked companies, Luxshare Precision, TSMC, LG Display, Samsung Display and Pegatron, have suggested policies locally to develop more renewable energy-friendly mechanisms. Other ranked companies, including Samsung Electronics, did not participate in any visible or significant policy advocacy work.

## Ranking

Company	Sector	2022	2021	2021/2022 Progress
 LUXSHARE ICT	Final Assembly	C+	D+	↑
 intel	Semiconductor	C+	C+	–
 SK hynix	Semiconductor	C	D	↑
 TSMC	Semiconductor	C	C-	↑
PEGATRON	Final Assembly	C	D-	↑
 LG Display	Display Manufacturing	C-	D	↑
 SAMSUNG DISPLAY	Display Manufacturing	C-	D+	↑
SAMSUNG	Semiconductor	D+	D+	–
 FOXCONN 群海科技集團	Final Assembly	D+	D+	–
BOE	Display Manufacturing	F	F	–
Goertek	Final Assembly	F	F	–

**Samsung Electronics received the lowest grade of major semiconductor manufacturers in the ranking, at a D+,** due to its lack of 2030 emissions reduction target, slow timeline to transition to 100% renewable energy, and heavy reliance on low-impact renewable energy sourcing methods.

**Foxconn reported the highest emissions and electricity consumption in the final assembly category of the ranking.** In 2022, the company's emissions exceeded the annual emissions of Iceland.<sup>8</sup> In 2022, Foxconn showed little progress on emissions reduction and renewable electricity adoption compared to its rival, Luxshare Precision. Foxconn's renewable electricity usage rate was just 8% in 2022.

<sup>8</sup> Ritchie, H., Rosado, P., & Roser, M. (2023, September 28). *Greenhouse gas emissions*. Our World in Data. Retrieved October 17, 2023. from <https://ourworldindata.org/greenhouse-gas-emissions>

**Luxshare Precision has moved up a full grade point due to the company's progress over the past year.**

In April 2023, Luxshare Precision pledged to achieve 50% renewable energy by 2025. In 2022, the company sourced more than 70% of its renewable electricity from high-impact methods, such as onsite generation, direct investment in renewable energy, and PPAs.

**Goertek and BOE received the overall lowest grade, an F,** due to their lack of emissions reduction and 100% renewable energy transition targets, low transparency of renewable energy sourcing and environmental data, and lack of advocacy work.

## Methodology

This ranking is based on data from public sources, including corporate publications, news reports and third-party voluntary information disclosure platforms. Companies were scored on the categories of climate commitments, climate action, environmental data transparency and advocacy. They received higher scores for ambitious commitment timelines, higher renewable electricity ratios, higher increases in renewable electricity ratios, and a greater proportion of high-impact sourcing methods. Detailed information about the methodology is available in the report.

## Recommendations

**Companies need to transition to 100% renewable energy by 2030.**

On an industry level, both the latest International Panel on Climate Change (IPCC) findings and science-based targets initiative (SBTi) suggestions underscore the potential for a 50% emissions reduction by 2030.<sup>9,10</sup> In July 2023, the International Energy Agency (IEA) published a report that highlighted the importance of tripling renewable power by 2030 to keep the 1.5°C goal within reach. As major consumers of electricity,<sup>11</sup> electronics suppliers need to lead and expand procurement as well as consumption of renewable energy. Companies have to transition to 100% renewable energy by 2030 to help progress towards meeting the 1.5°C goal.

**Companies should choose high-impact sourcing methods.**

High-impact renewable electricity sourcing options, such as PPAs, renewable energy investment, and onsite generation, should be the primary options for a company to achieve renewable electricity targets

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<sup>9</sup> Intergovernmental Panel on Climate Change (2022). The evidence is clear: The time for action is now. We can halve emissions by 2030 Retrieved October 17, 2023, from <https://www.ipcc.ch/2022/04/04/ipcc-ar6-wgiii-pressrelease/#:~:text=In%20the%20scenarios%20we%20assessed,reduced%20by%20about%20a%20third.>

<sup>10</sup> International Energy Agency (2023). Tripling renewable power capacity by 2030 is vital to keep the 1.5°C goal within reach. Retrieved October 17, 2023, from <https://www.iea.org/commentaries/tripling-renewable-power-capacity-by-2030-is-vital-to-keep-the-150c-goal-within-reach>

<sup>11</sup> International Energy Agency (2023). Tripling renewable power capacity by 2030 is vital to keep the 1.5°C goal within reach. Retrieved October 17, 2023, from <https://www.iea.org/commentaries/tripling-renewable-power-capacity-by-2030-is-vital-to-keep-the-150c-goal-within-reach>

because these methods have clear additionality and trackability and are therefore impactful for climate mitigation. When companies set renewable electricity procurement targets, high-impact sourcing methods need to be clearly stated.

**Companies need to actively participate in renewable energy-related policy advocacy.**

Participation in renewable energy-related policy advocacy can help the industry as a whole move forward with decarbonisation. In China Mainland, companies should participate in the suggestion of green electricity trading mechanisms, such as long-term PPAs; In Taiwan, companies can advocate for policies that enable them to be more actively involved in self-generating and investing in renewable energy; in South Korea, companies should call on the government to increase renewable energy capacity.