GeSI GLOBAL ENABLING SUSTAINABILITY INITIATIVE

USE CASE SHEET

Data Centres, Energy and Water Working Group

Making Every Hour Count for Clean Electricity

Google

1. The shift: From annual matching to hourly accountability

Google is advancing an approach to clean electricity that considers not only how much carbon-free energy is purchased, but when and where it is available. Its ambition is to operate on 24/7 carbon-free energy on the grids where it operates by 2030—matching electricity consumption with carbon-free energy every hour of every day.

2. The challenge: Annual totals do not tell the whole story

Electricity demand and clean-energy generation do not always coincide. Matching annual consumption with an equivalent volume of renewable electricity is an important achievement, but it does not show whether carbon-free energy is available during the hours when facilities need it. Google's approach brings those hourly differences into focus, providing a clearer picture of progress and the opportunities that remain.

3. The practice: Building hourly accountability into energy management

Google is developing the data and accounting capabilities needed to track its clean-energy portfolio at an hourly level. Connecting electricity certificates with hourly generation data creates a more detailed and traceable basis for assessing progress toward its carbon-free energy goal.

A project reported in 2025 demonstrated this capability across Google's energy portfolio, covering 10.5 TWh of electricity from more than 100 generation sites in seven countries. Using the EnergyTag Granular Certificate Scheme Standard, the project showed how established procurement arrangements can support more granular tracking at scale.

4. The Blueprint connection: Making time and place visible

The Blueprint emphasises understanding electricity use in the context of the systems supplying it, including the timing and location of demand. Google illustrates how a company can translate that principle into a clear operational ambition, supported by detailed measurement and traceable evidence.

5. The takeaway: A clear ambition changes how performance is managed

Google's 24/7 carbon-free energy goal makes hourly performance central to its electricity strategy. It offers a practical example of moving beyond annual totals toward a more precise understanding of how digital infrastructure connects with the clean-energy transition.

Source notes: EnergyTag, "Matching for Google's 24/7 CFE Goal"; Flexidao, "Hourly Energy Accounting at Scale" (2025) and "Flexidao's Clean Energy System for Google."

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