

Google

資料 5

A large, modern building with a curved facade and a wind turbine in the background, illuminated at dusk. The building has several large windows and is surrounded by a snowy landscape. The sky is a deep blue, and the ground is covered in snow.

Presentation to the Expert Committee for Development of Digital Infrastructure

15 November 2021

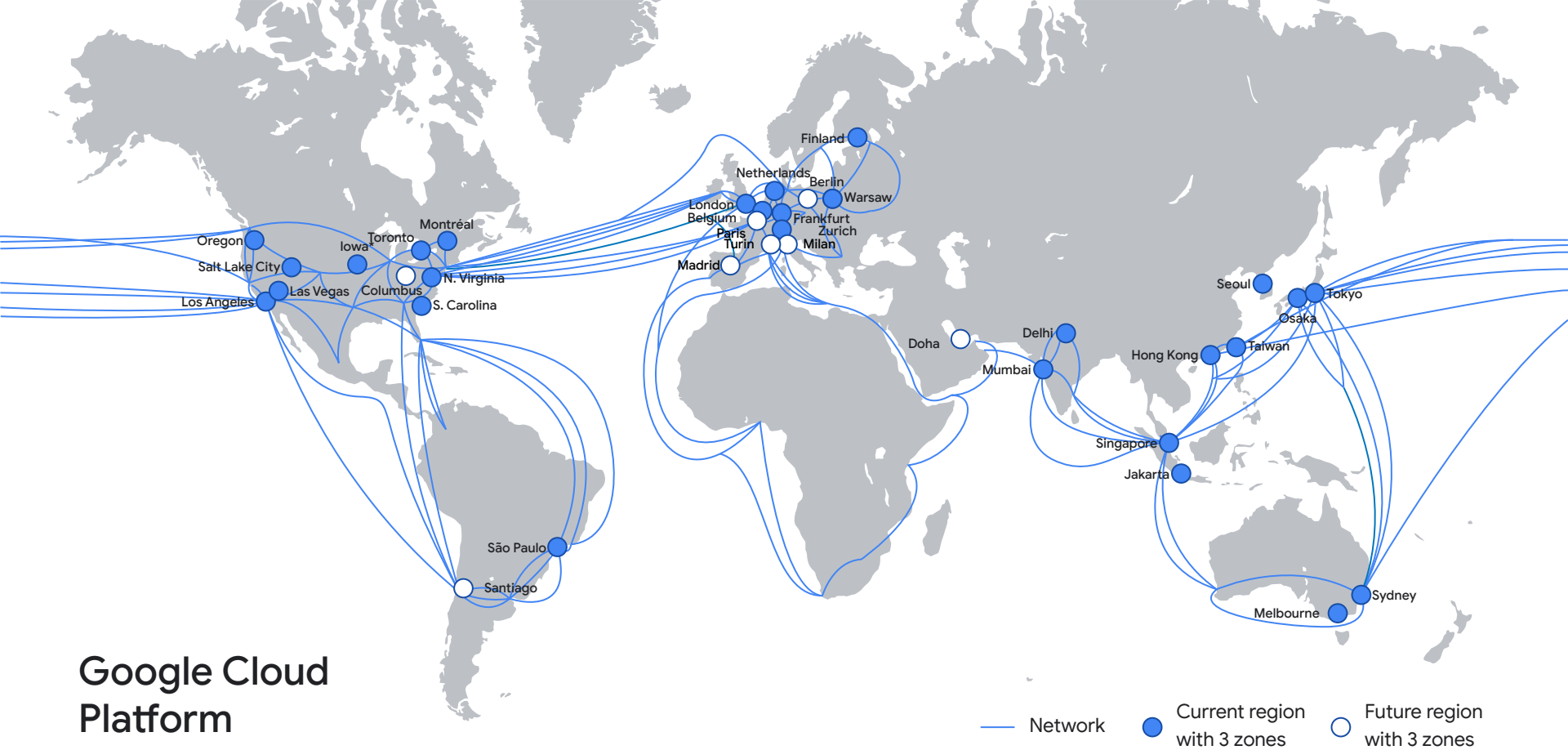
Google のミッション

“世界中の情報を整理し
世界中の人々がアクセスでき
使えるようにする”

"To organize the world's information and make it
universally accessible and useful"

Products with >1 billion users

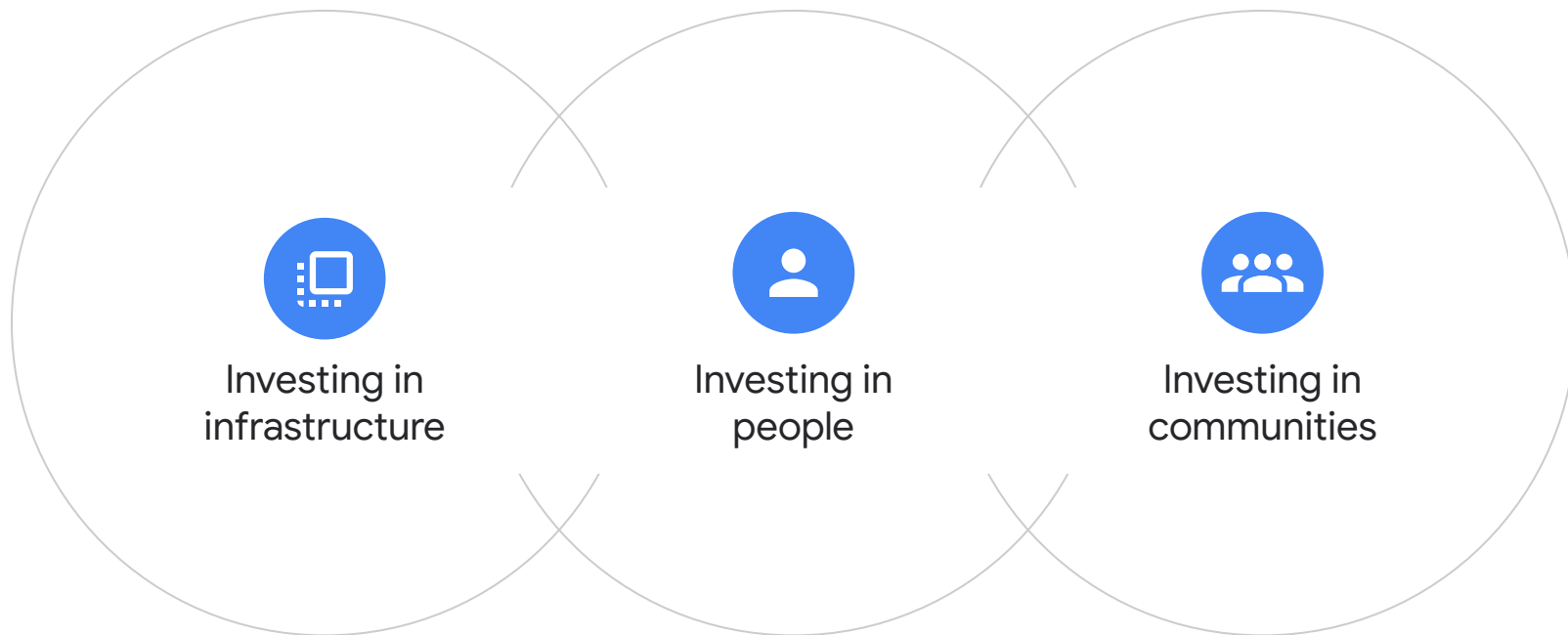




Google Cloud Platform

*Exception: region has 4 zones.

Investing in local economies





Investing in
infrastructure

**Building the Internet
through capital
investment**

Google



Investing in
people

Empowering livelihoods through job creation

Google



Investing in
communities

Grants given to data center
communities

Google

Our Third Decade of Climate Action

Realizing A Carbon-Free Future

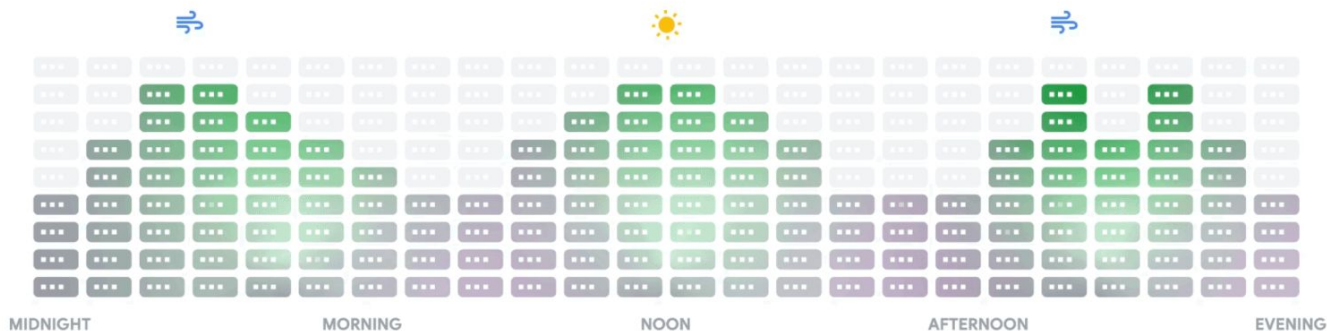


Carbon-intelligent load-shifting

Reducing data center carbon footprints by shifting flexible compute tasks to align with greener hours on the grid

Aligning compute load with low-carbon energy

Same amount of compute, but shifted toward times when electricity is lower-carbon

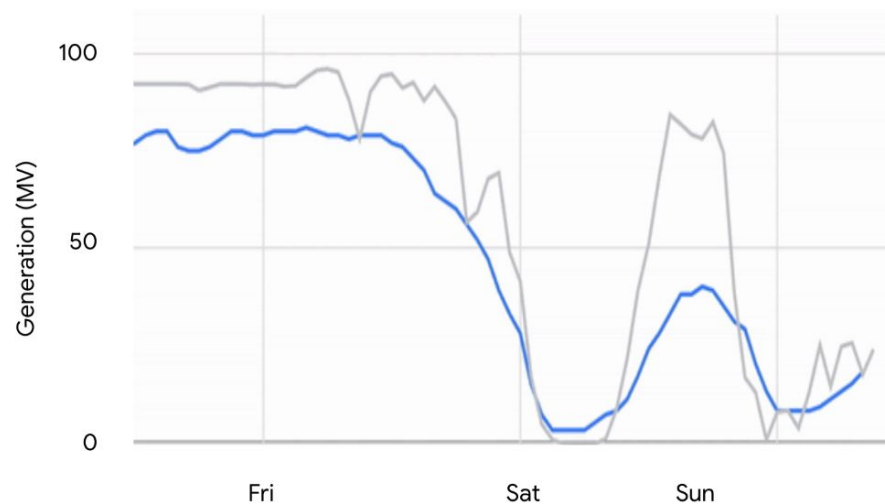


Technology for renewables

The DeepMind system uses a neural network to predict wind power output **36 hours** ahead

● Predicted

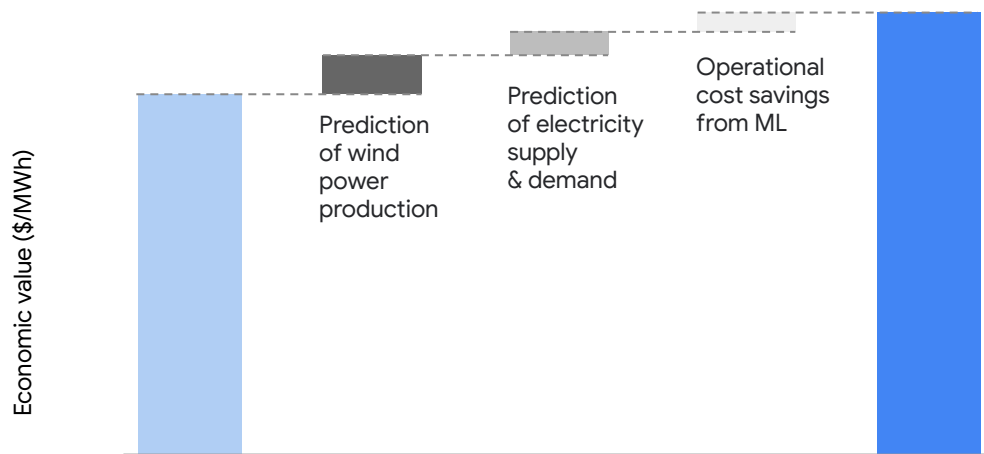
● Actual



Machine learning

Increasing the
value of wind
energy by **20%**

- Typical wind farm
- Wind farm using ML



More than
50 renewable
energy projects
worldwide

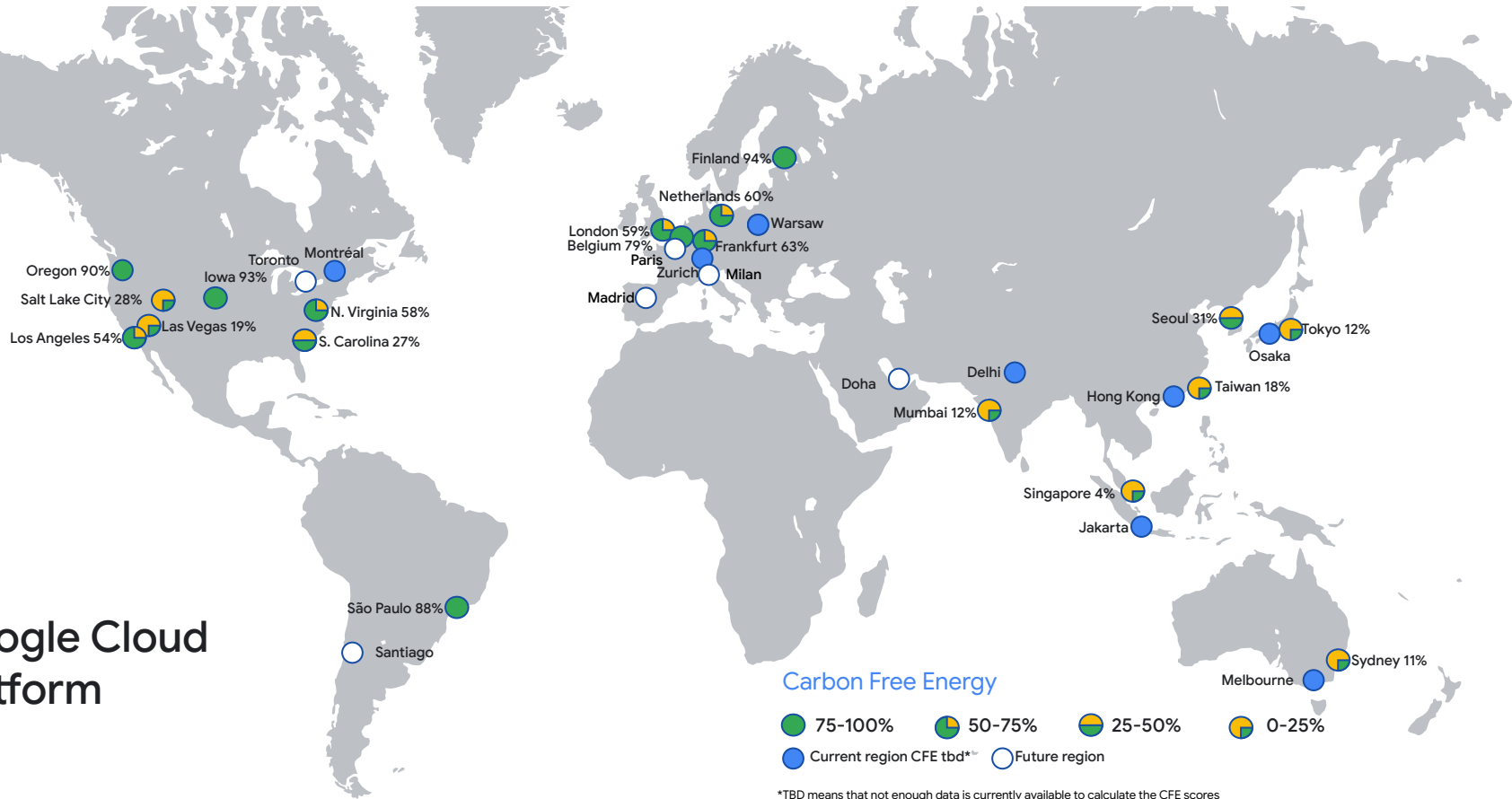


● Wind ● Solar



Google

Google Cloud Platform



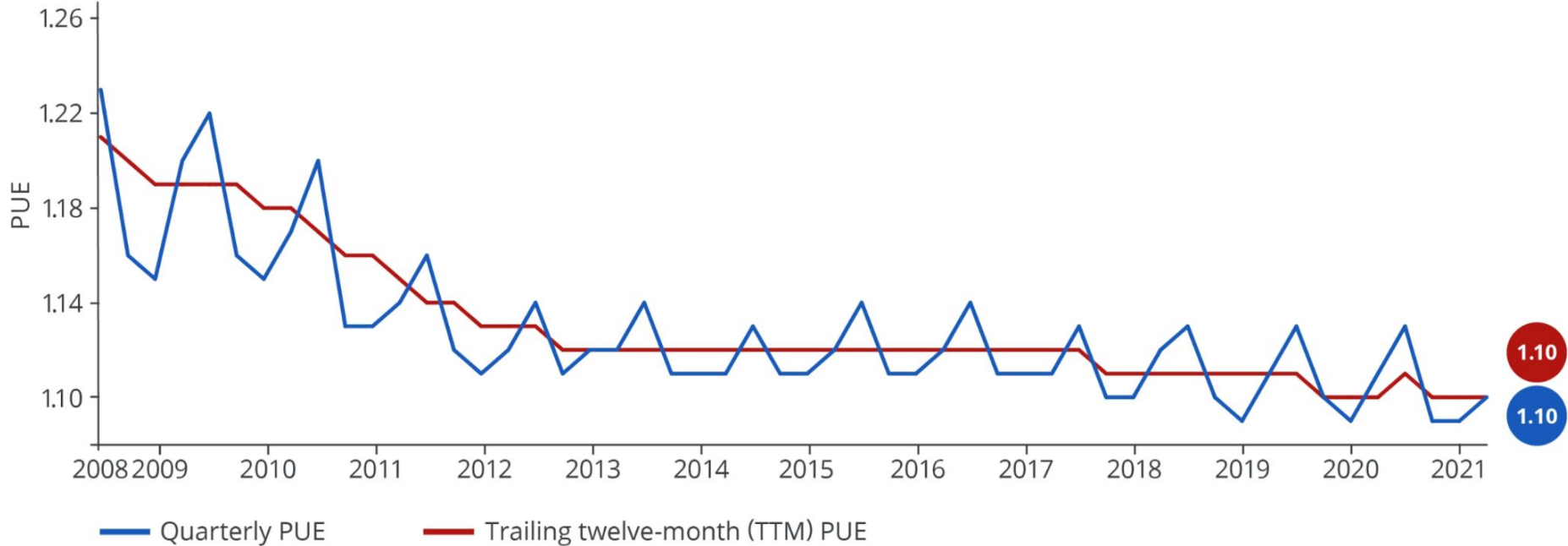
A world map with a green tint. Numerous small, semi-transparent grey circles are scattered across the map, representing Google's global presence. These circles are concentrated in North America, Europe, and Asia, with a few isolated circles in South America and Africa.

24/7 Carbon-Free Energy

By 2030, we intend to source carbon-free
energy for Google's operations
in all places, at all times

Google

Average Power Usage Effectiveness for Google data centers



Our energy objectives



Low cost



Reliable



Consumer focused



Carbon free

Construction

Cost and efficiency of construction

Availability of manpower



An aerial photograph of a dense green forest. A light-colored, winding path or road cuts through the trees, starting from the bottom left and moving towards the top center. Along this path, there are several small, light-colored structures or buildings. The forest is composed of various shades of green, indicating different types of trees or vegetation. The overall scene is a natural, wooded area.

Thank you

Google