Google

資料 5

Presentation to the Expert Committee for Development of Digital Infrastructure

15 November 2021

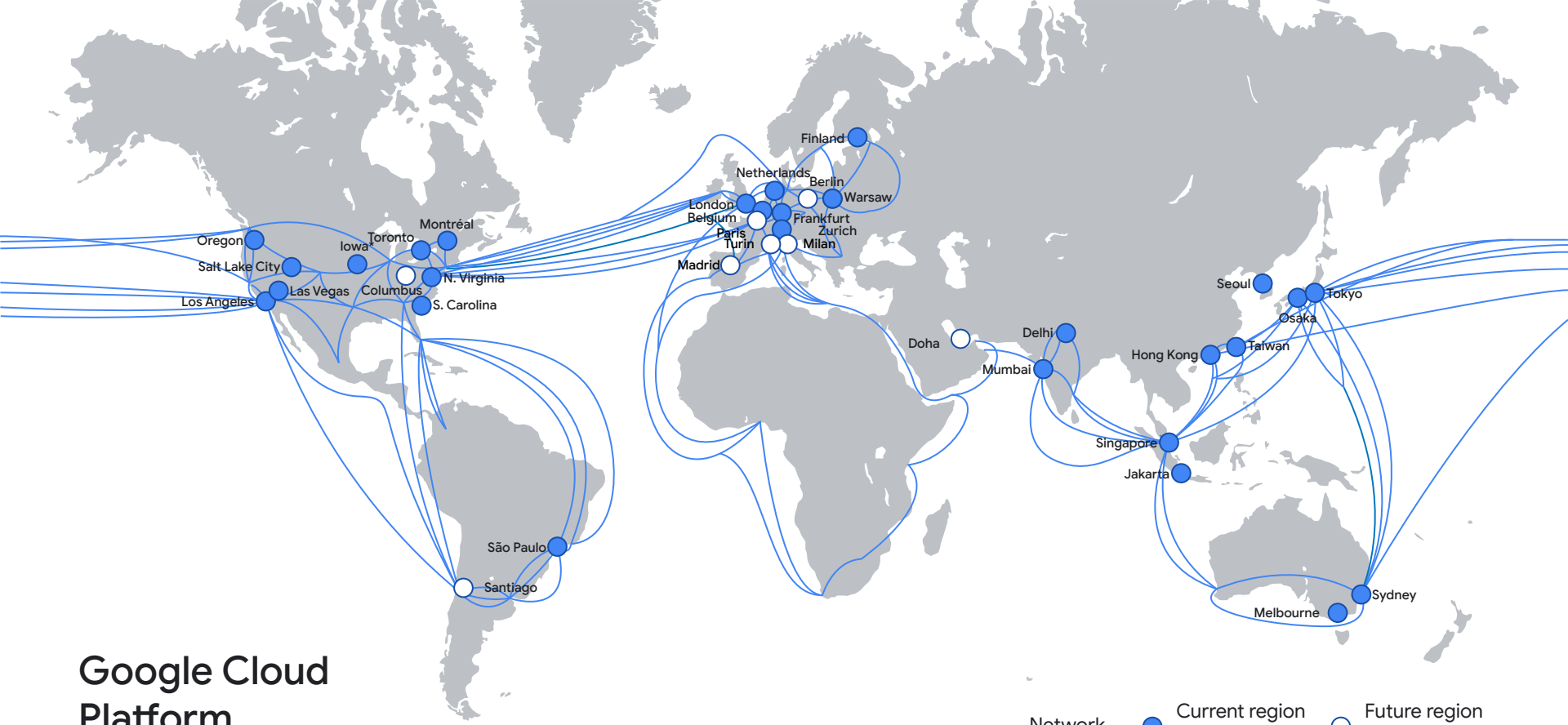
Proprietary + Confidential

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

Network

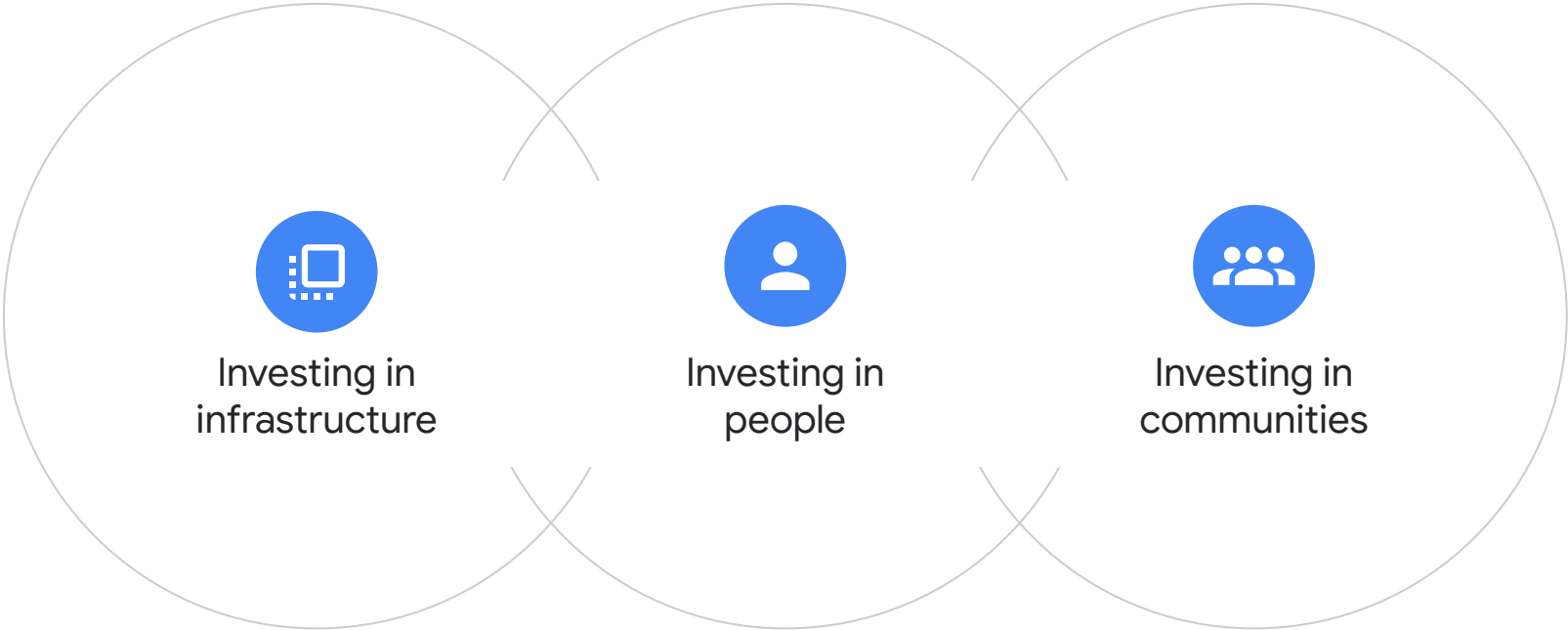
Current region with 3 zones

Future region with 3 zones

*Exception: region has 4 zones.

Google

Investing in local economies



Investing in infrastructure

Building the Internet through capital investment

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Investing in people

Empowering livelihoods through job creation

Google

Investing in communities

Grants given to data center communities

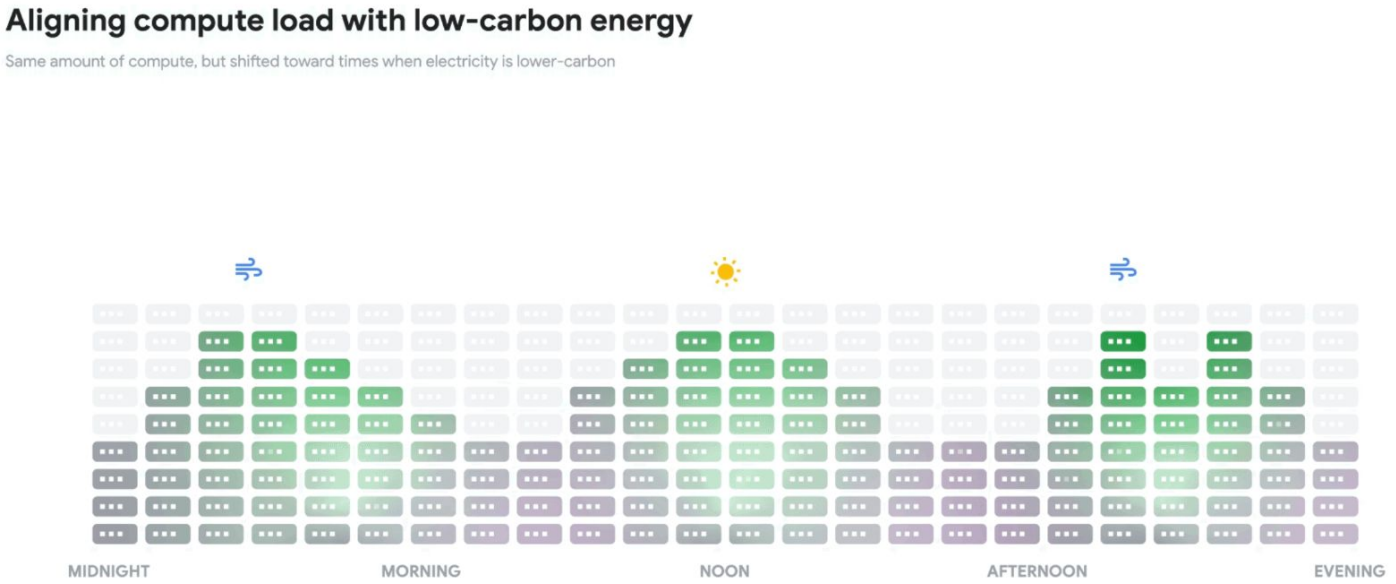
Our Third Decade of Climate Action

Realizing A Carbon-Free Future

Google

Carbon-intelligent load-shifting

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



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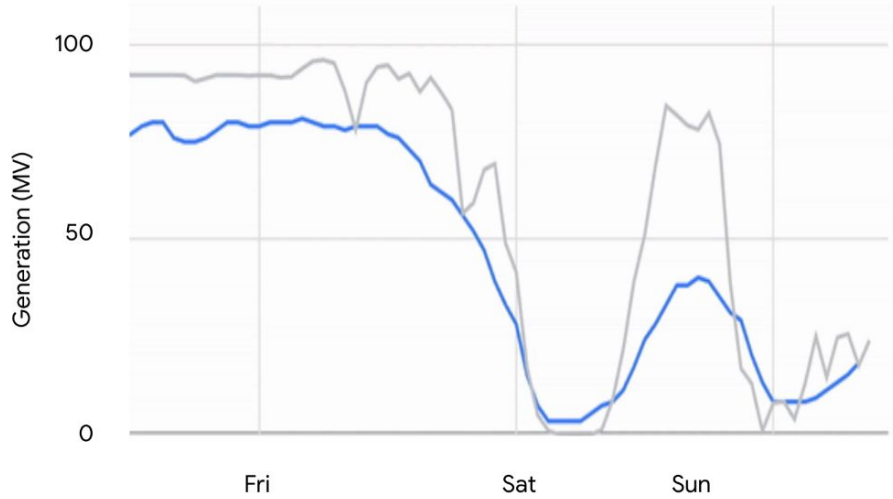
Technology for renewables

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



Predicted

Actual

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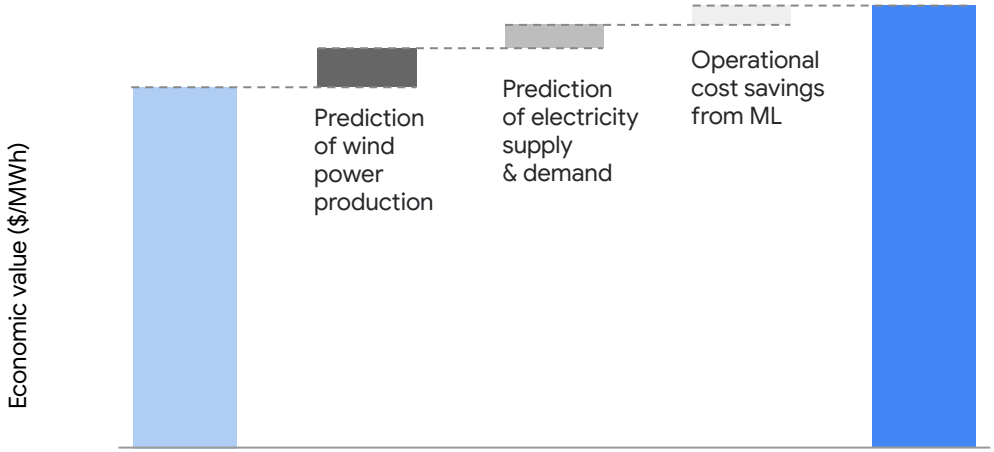
Machine learning

Increasing the value of wind energy by 20%

- Typical wind farm
- Wind farm using ML



Source: 2018 Google/DeepMind field study

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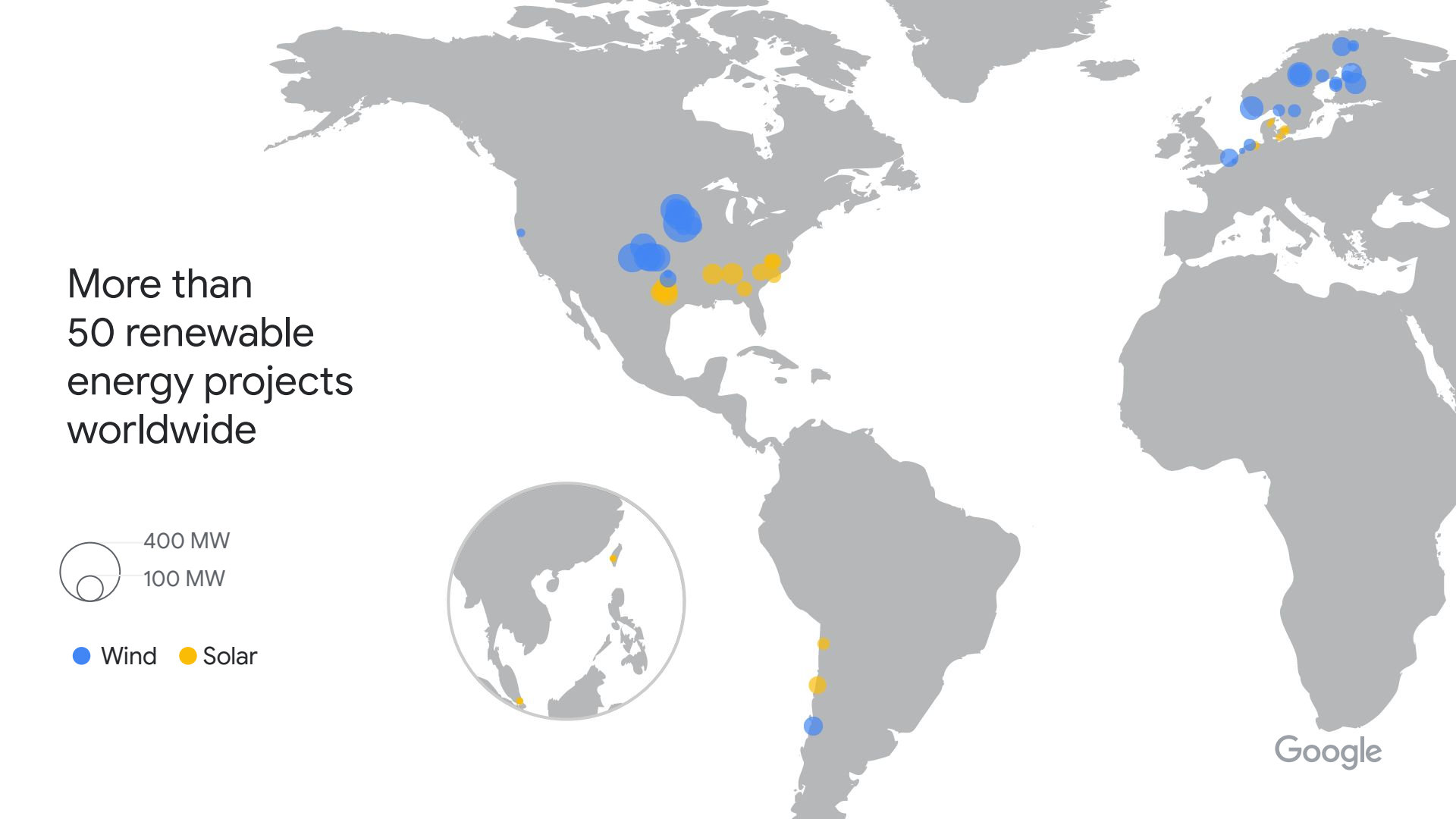
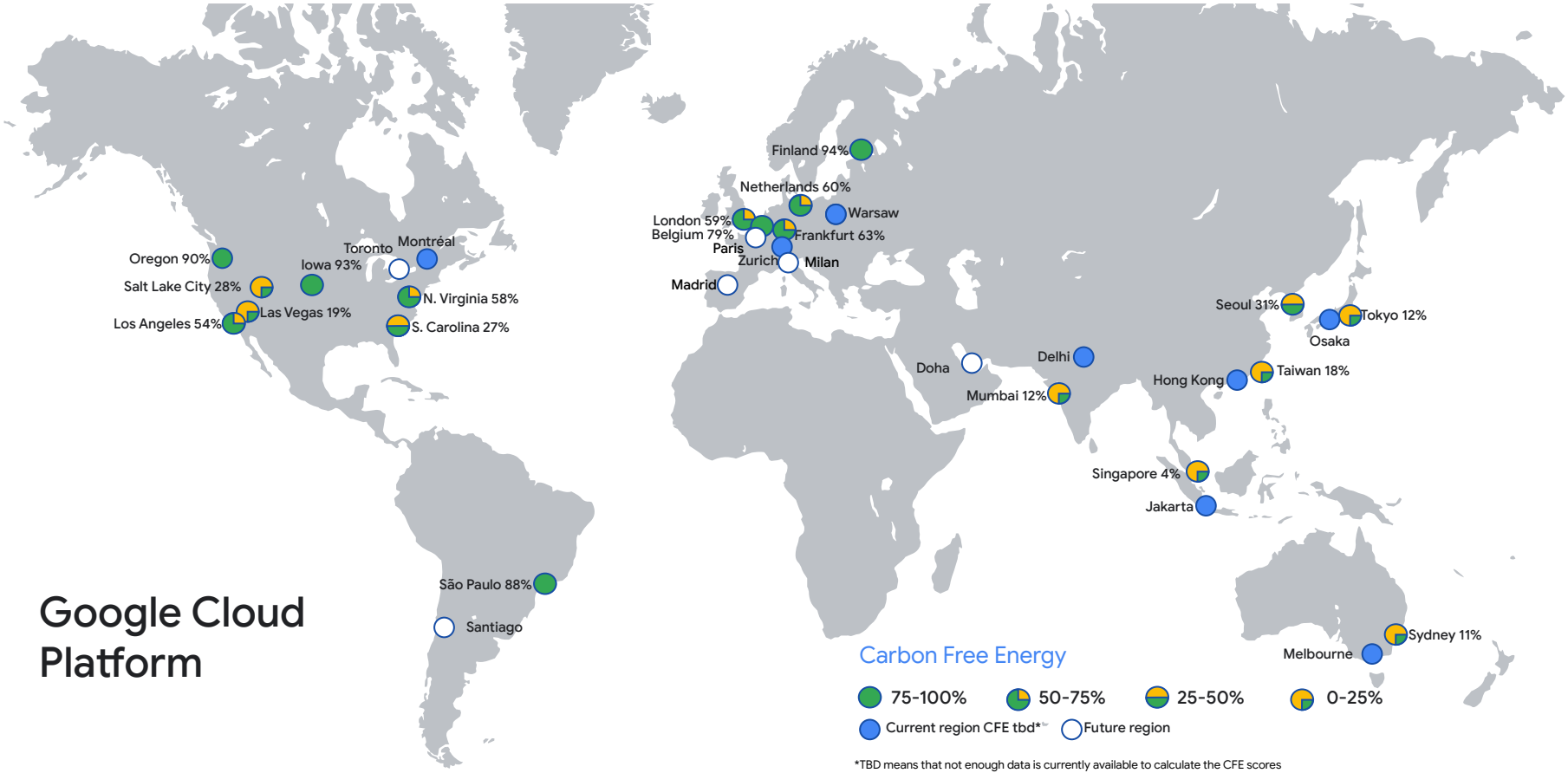

More than
50 renewable
energy projects
worldwide
400 MW
100 MW
Wind
Solar
Google



Available on cloud.google.com/sustainability/region-carbon, Github, and BigQuery

24/7 Carbon-Free Energy
By 2030, we intend to source carbon-free energy for Google’s operations in all places, at all times
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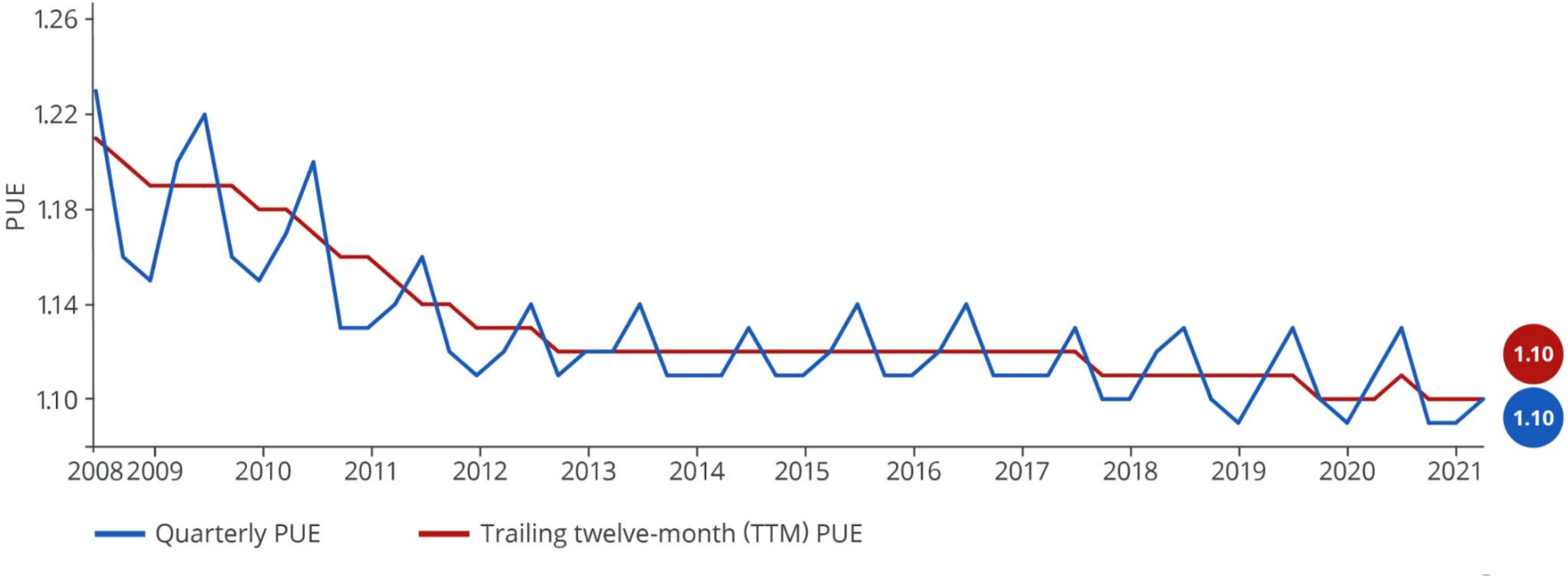
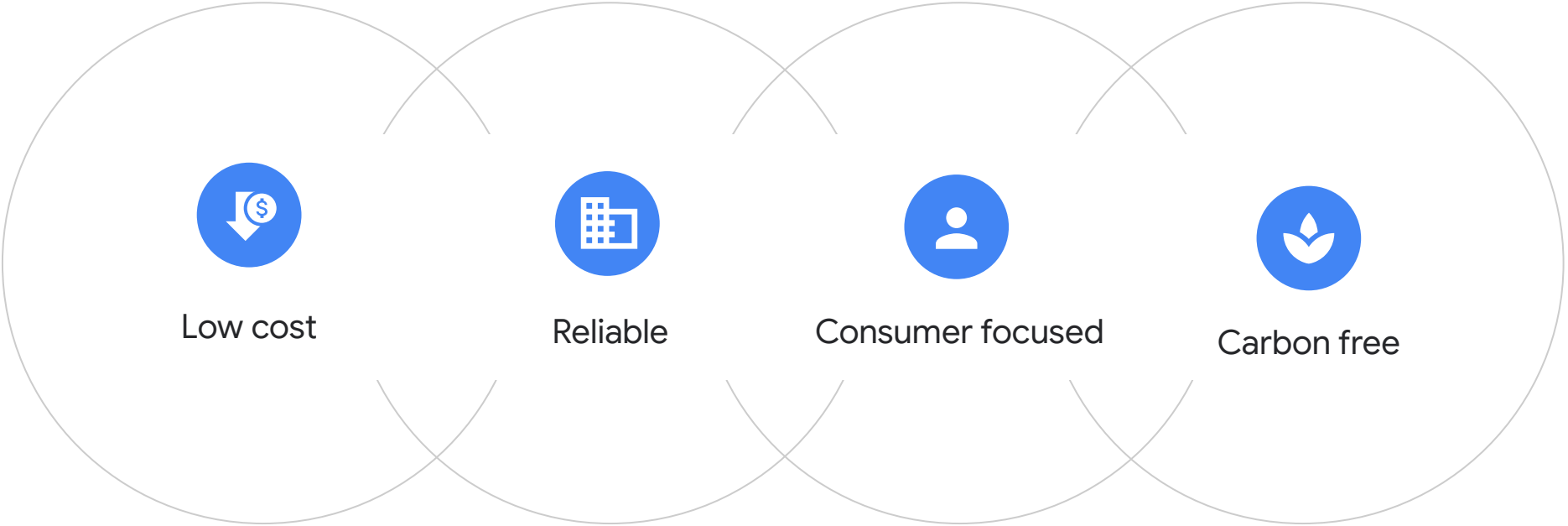
Average Power Usage Effectiveness for Google data centers



Our energy objectives



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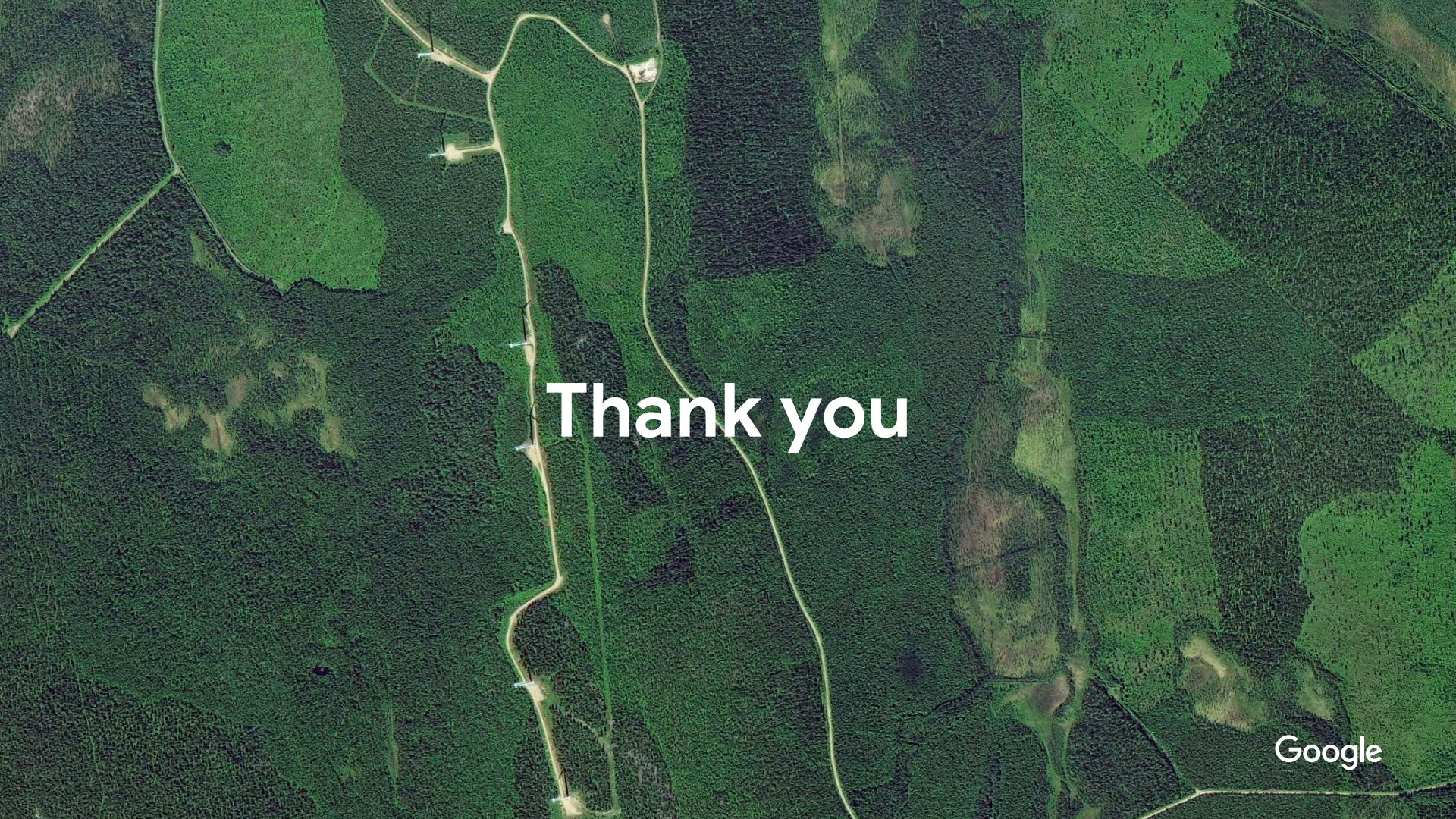
Construction

Cost and efficiency of construction

Availability of manpower


Thank you
Google