

INTERNAL

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# Sustainably caring for a century of technology leadership, through the digital transformation

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 **Hitachi Energy**



01

## Global Technology leader in T&D

The world's largest transmission & distribution installed base

02

## Net-zero transition magnifies electricity as a vector

Installed Base set to grow 25%+ by next decade

03

## Service of tomorrow looks very different

Net-zero transition & Digital Transformation start with Installed Base



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World's largest installed base

Deep responsibility for assets developed over century of T&D leadership

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**\$200 billion+**  
Installed Base Value

**12,000+**  
Customers

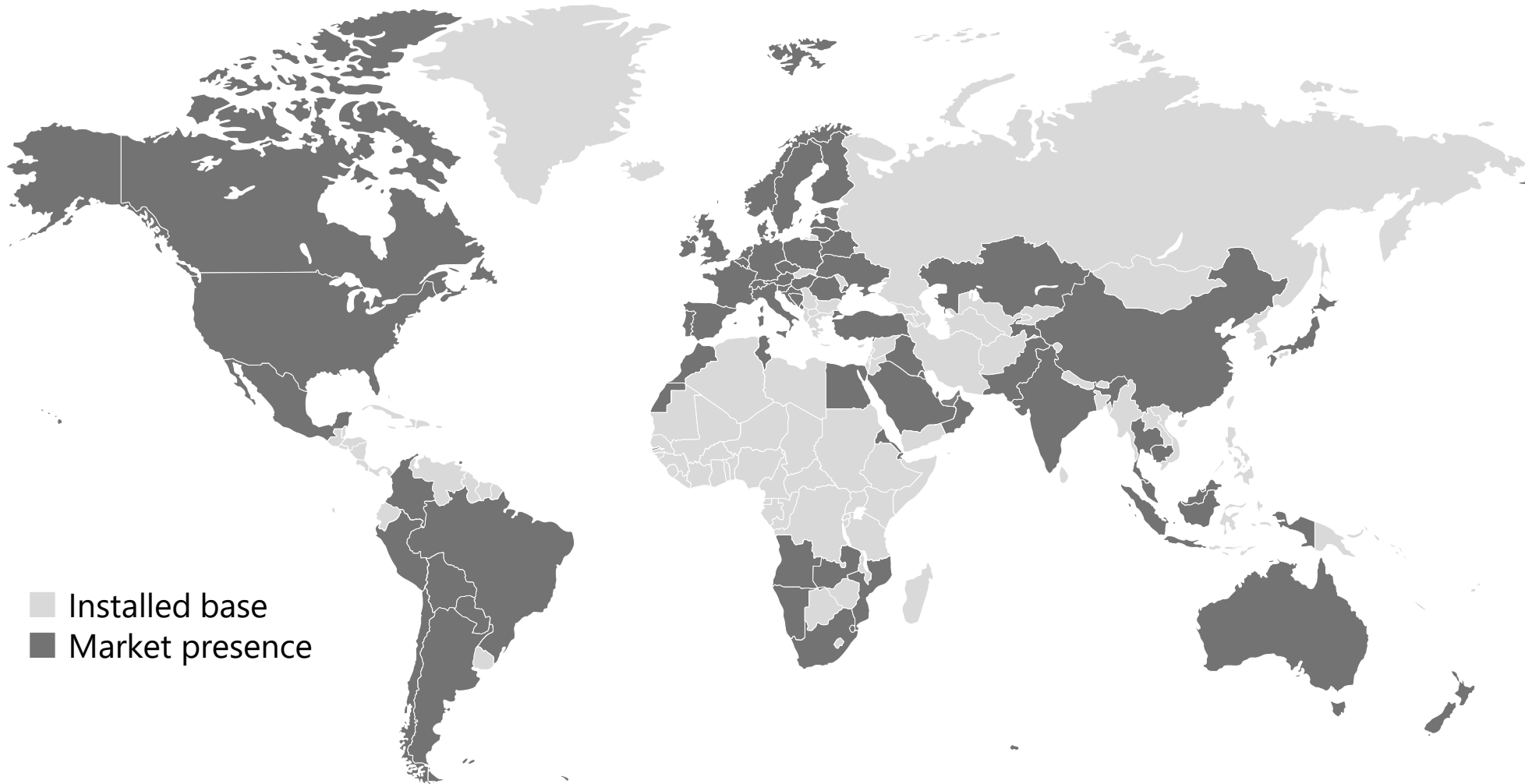
**65+**  
Local Service  
Centers

**1,500+**  
Field-  
engineers

**160+**  
HVDC links

**100,000+**  
Power  
transformers

**300,000+**  
High-voltage  
assets



■ Installed base  
■ Market presence

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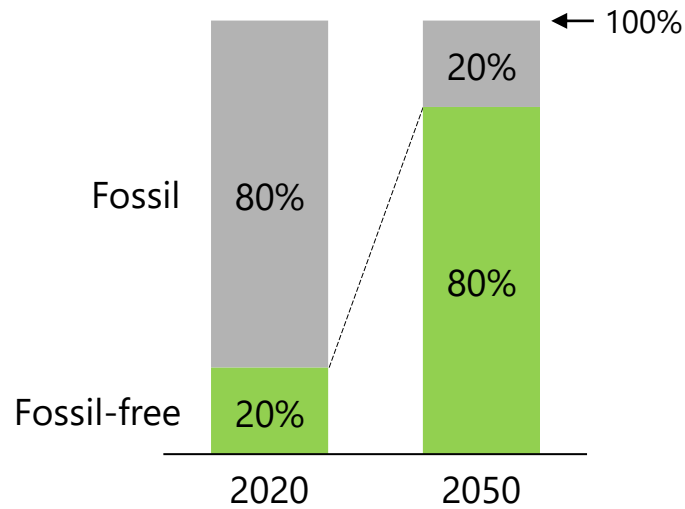
03

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By 2050, 80% of energy mix is to be from fossil-free sources...



Variable renewable capacity must grow **>15x** from 2020 to 2050

...as electricity demand increases dramatically



Industries growing  
**2x to >20 PWh**



Buildings growing  
**~50% to >15 PWh**



Transportation growing  
**>30x to ~10 PWh**

(PWh:  $1 \times 10^{15}$  Wh)

Electric car sales are expected to increase **18x** from 2020 to 2030

**Power System in 2050 must transfer ~3x the electrical energy**

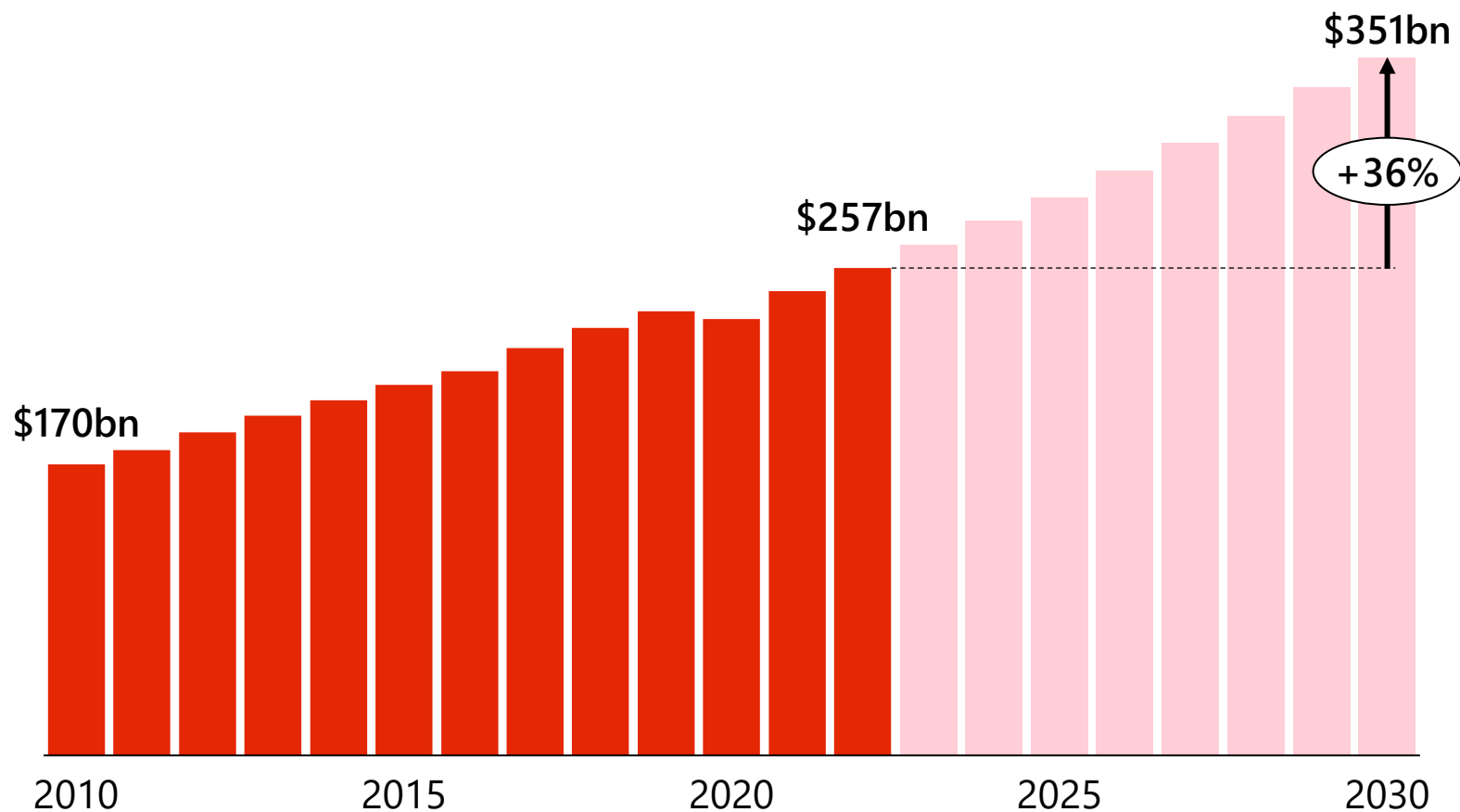
- without compromising on reliability and affordability
- with less predictable generation and consumption patterns

**Total T&D installed capacity will **2x** by 2050**

Source: Hitachi Energy studies and IEA Net Zero 2050. Reference value: Japan electricity consumption 2021 approx.1 PWh

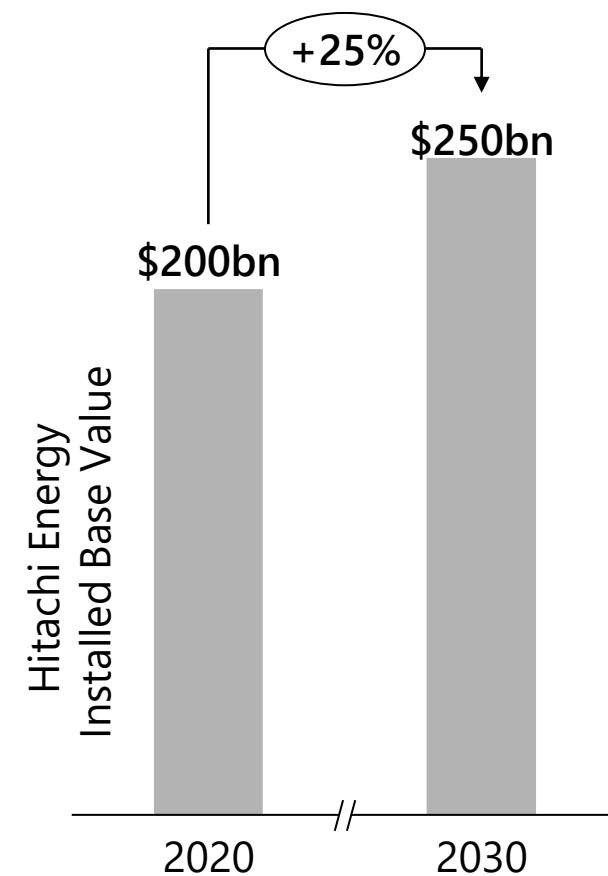
## Annual investments (Capex) in T&D are expected to rise by +36%...

Global investments in Transmission & Distribution, Goulden Report 2021



## ...fueling 25%+ Installed Base growth

Based on Hitachi energy estimates





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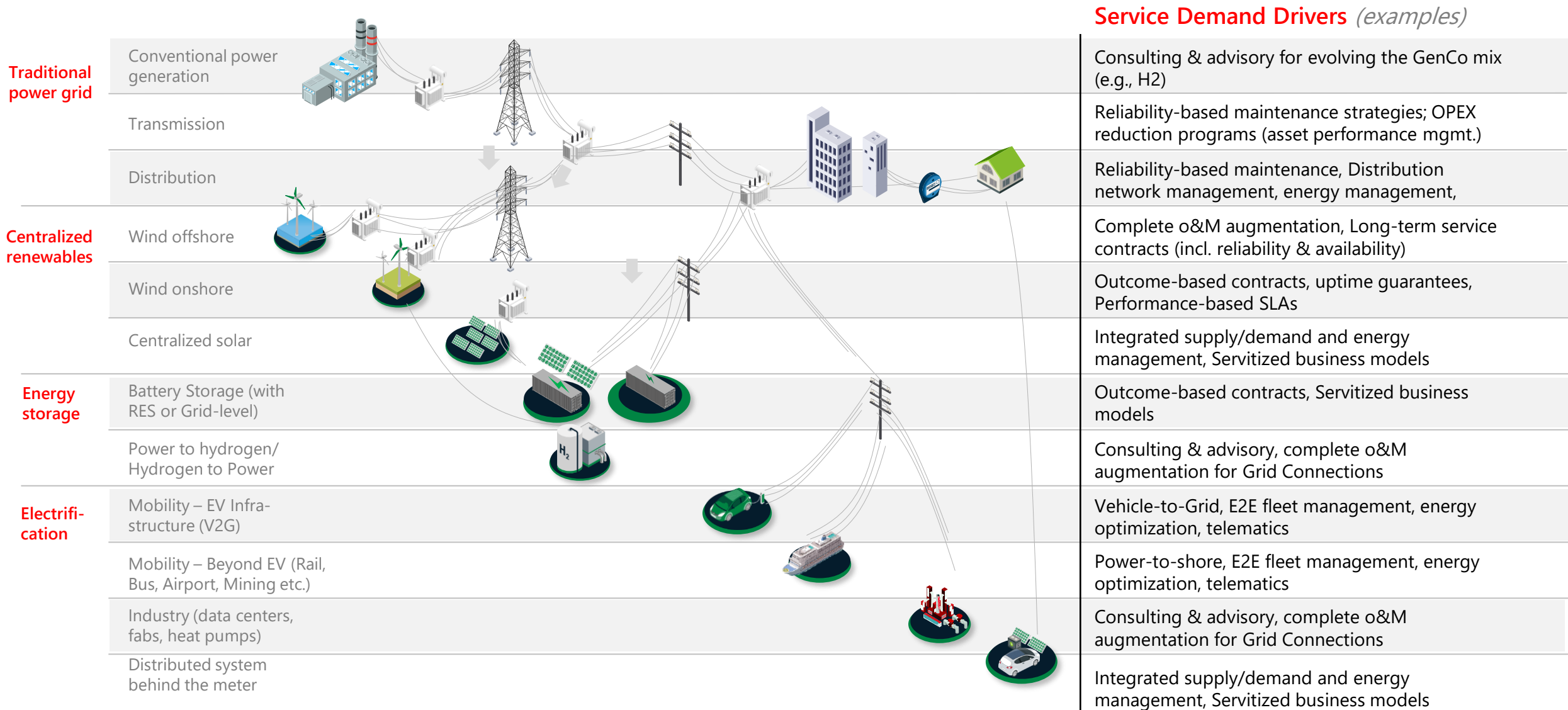
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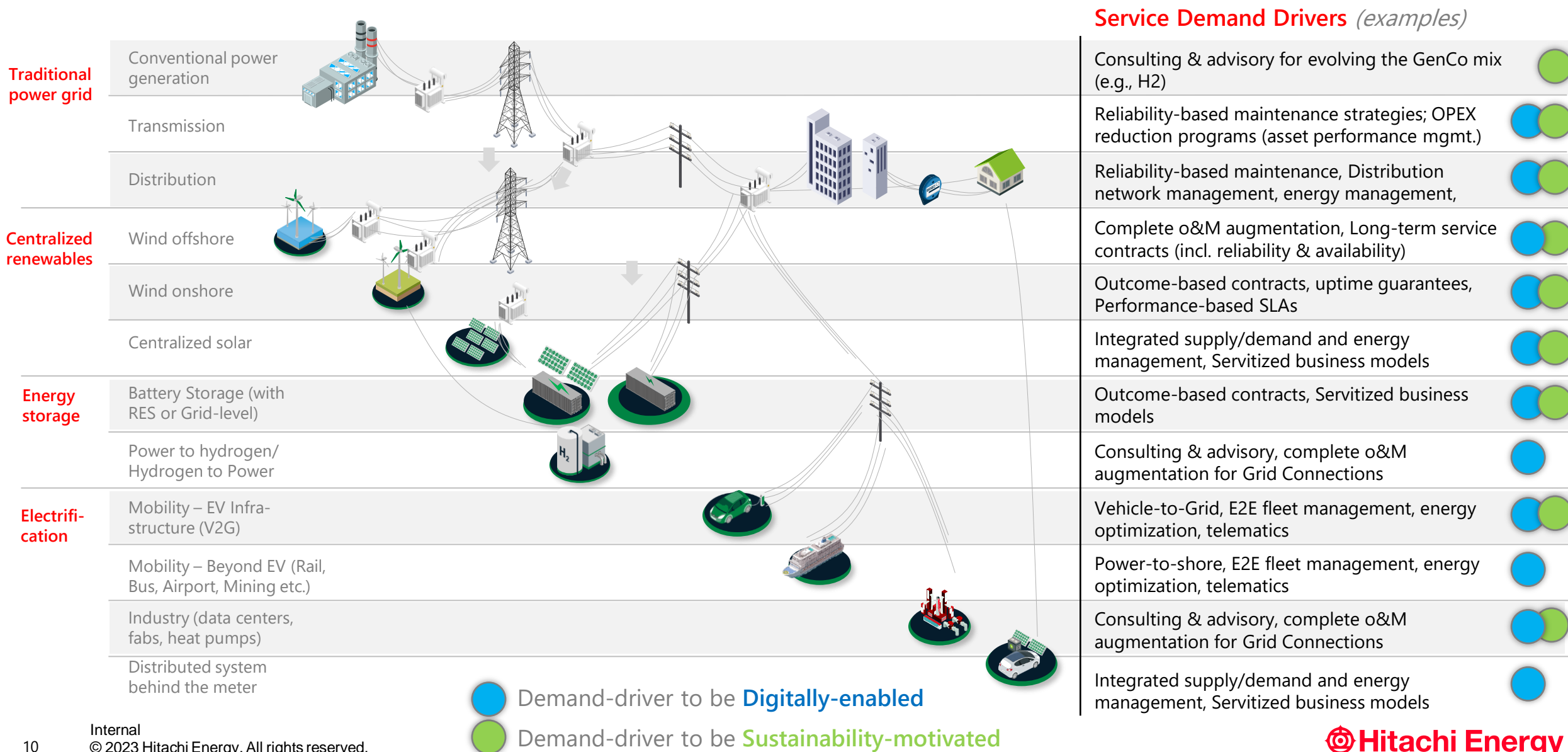




# An evolving energy value-chain, offers new Service opportunities



# Service opportunities driven by Digital & Sustainability value-pillars





- Spares (e.g., self-service, eCommerce),
- Field operations (e.g., AI-driven dispatch)
- Remote support (e.g., AR-based)

- (cyber)Secure communication for as-is location, performance, condition, risk, etc.
- Optimize, extend or upgrade operational life

- Multiply connected-assets & insight generation in domain-expertise, with cross-industry partnerships
- Toward prescriptive-solutions (AI-driven)

Parallel efforts across themes: tie-in learnings from future-contract models, into foundational imperatives

**EconIQ & Sustainability-centered Service offerings** to care for an Installed Base of the past, present & future

**01**

Services to accelerate the renewable energy transition

- Grid studies, planning & optimization
- Decarbonization at Grid-Edge (e.g., BESS)
- Service Portfolio for Renewable, eMobility

**02**

Sustainability-driven Services for the Installed Base

- EconIQ™ Retrofill for SF6-free alternatives
- EconIQ™ Lifecycle assessment & Upgrade
- EcoSpace™ Implementation (CO2 calc.)
- Txpert™ powered Remote Services
- RelCare™ Maintenance Management

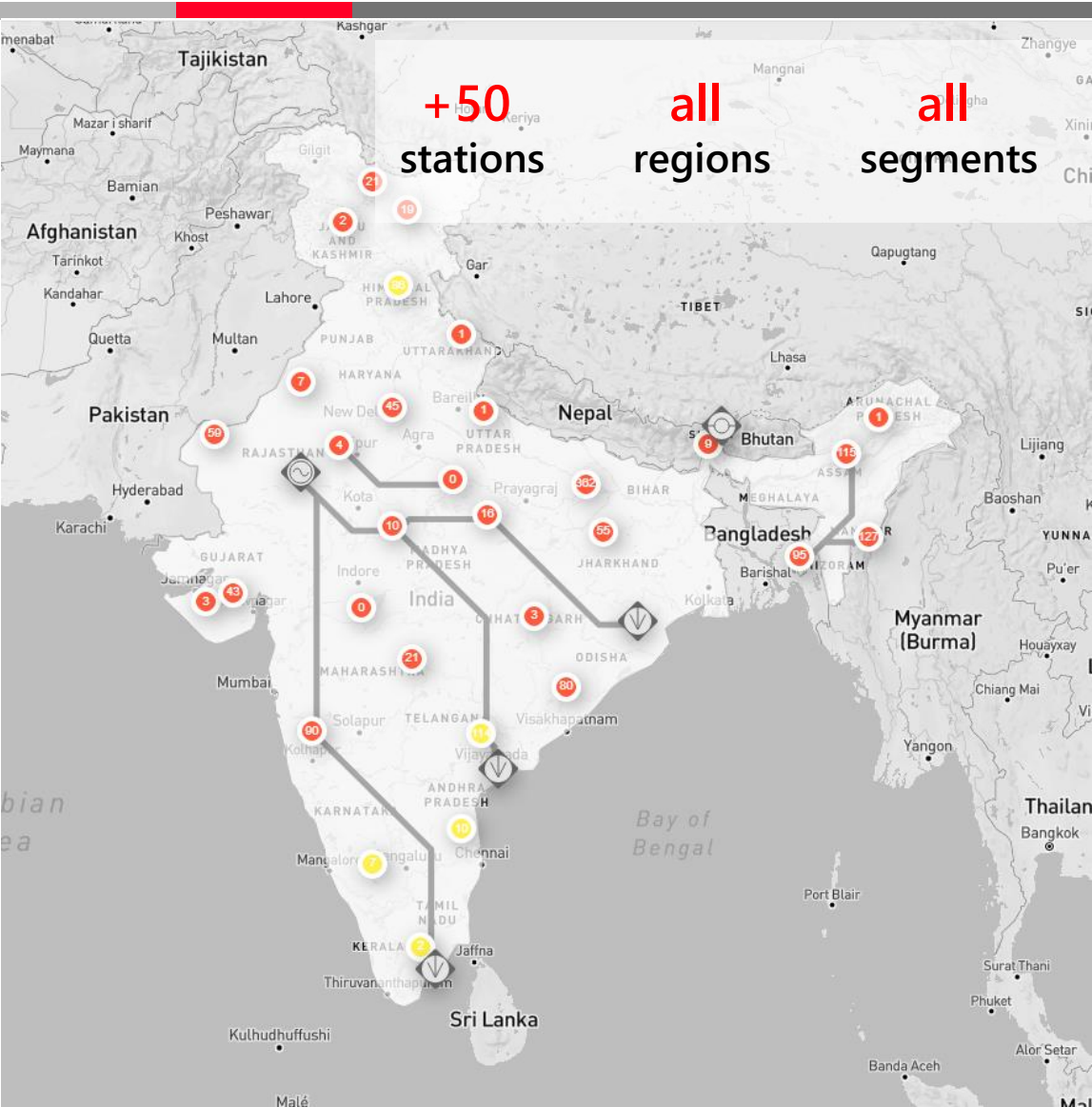
**03**

Services for a Circular Economy

- Recycling (products & components)
- Repurposing & relocation
- Resale & reuse platform



# Digitally-enabled SLAs to help customer meet Sustainability goals



RelCare™ improves sustainability by implementing safeguarding practices that protect people, the environment, and economies

Sustainability

↑ Quality & Safety

99.6% less risk for human errors

↓ Environmental footprint

0.5 tnCO<sub>2</sub>eq reduction per service activity avoided

↓ Cost

Up to 50% lower total lifecycle cost

↑ Reliability

40% reduction outage duration

“

Hitachi Energy Service is a trusted lifecycle partner.

Building on a century of experience and expertise, our team delivers today's and tomorrow's service solutions to support a sustainable energy transition for our partners and customers.

”





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