Digital + Electric

The fastest path to **Net Zero**

Lucian Enaru
Schneider Electric Romania

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Megatrends reshaping our world

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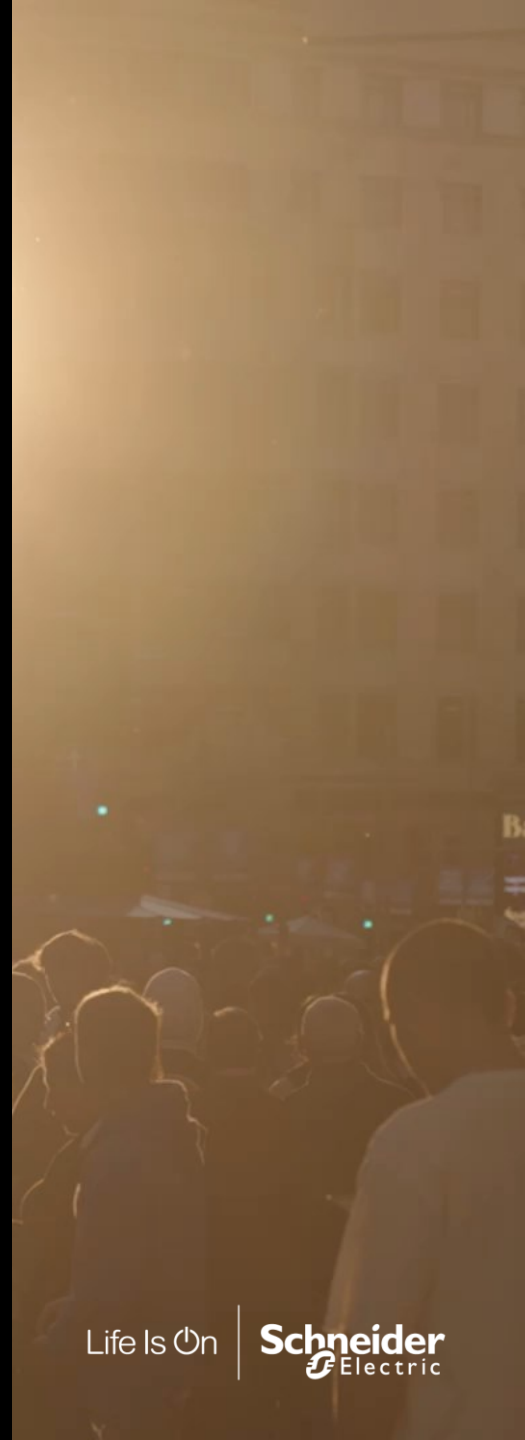
Climate Change



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3.6bn

people live in areas highly susceptible to climate change

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Digitization & Artificial Intelligence

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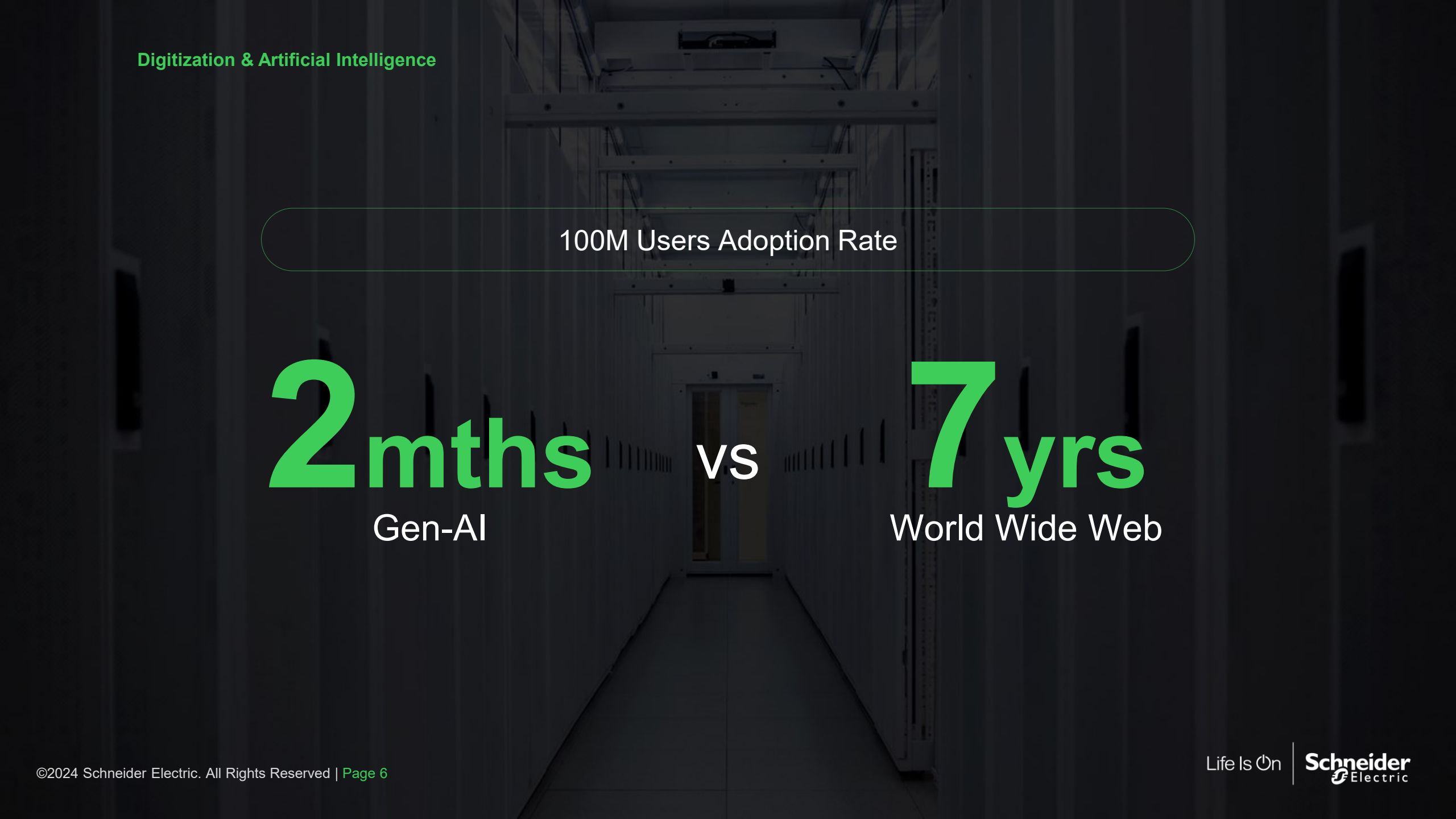

100M Users Adoption Rate

2 mths Gen-AI

vs

7 yrs World Wide Web

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6x

IoT Device Growth,
2020-2030

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4.2x

AI Power Consumption Growth, 2023-2028

10x

More energy consumed for a ChatGPT query than a simple Google search

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Energy Transition

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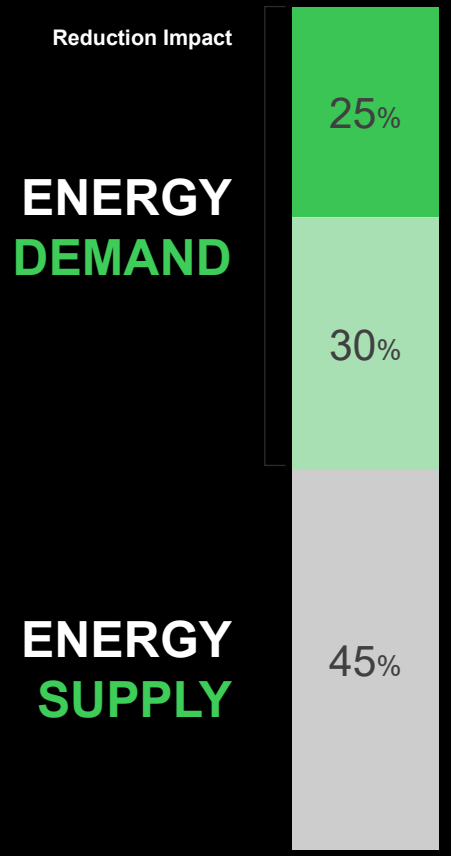
70%

CO_2 emissions can be removed with existing technologies



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Prosumers

Individuals

Produce
Consume
Control

Grid

Reliable
Flexible
Sustainable

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Short term

Energy crisis

We are at an **inflection point**

Long term

Climate crisis

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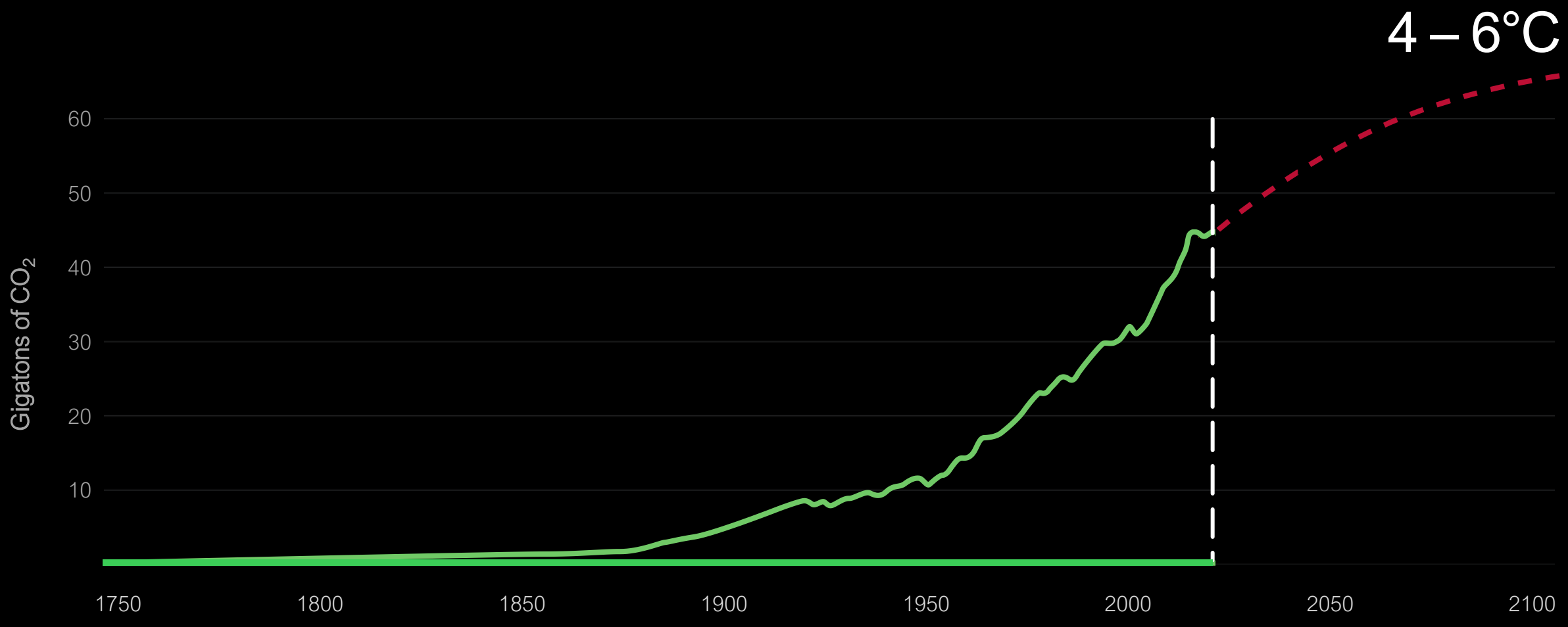
To tackle the climate crisis, we must **decarbonize**



Global Carbon Budget (2019); IPCC (2020), ETC, Making clean electrification possible (2021), Schneider Electric Research Institute
View includes industry process emissions, changes in land uses, such as deforestation

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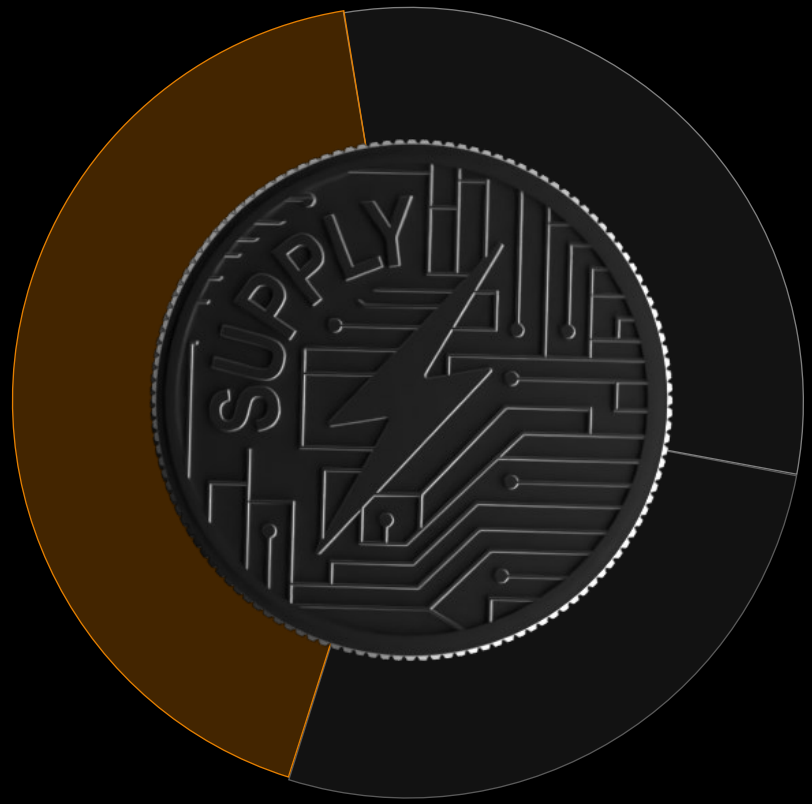
Decarbonizing supply is just one side of the energy coin…

Replace
energy supply
45%*

Offsite renewables purchasing
PPAs

Onsite renewables generation
Solar, microgrid, storage



*Contribution to net-zero energy by 2050

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SUPPLY

We need to look at both sides… and tackle **energy demand**

Reduce

for efficiency and circularity

25%*

Design & Build for Low Carbon

3D-6D BIM design to reduce embodied carbon

Measure, Monitor & Save

Connected systems and software for real-time data, insights and automation

Circularity for sustainability

Choose green by design, with extended life, efficient usage & clean disposal options

*Contribution to net-zero energy by 2050

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Electricity 4.0

is our **vision** to help our customers achieve their
energy and sustainability goals **from strategy to execution**, globally and locally

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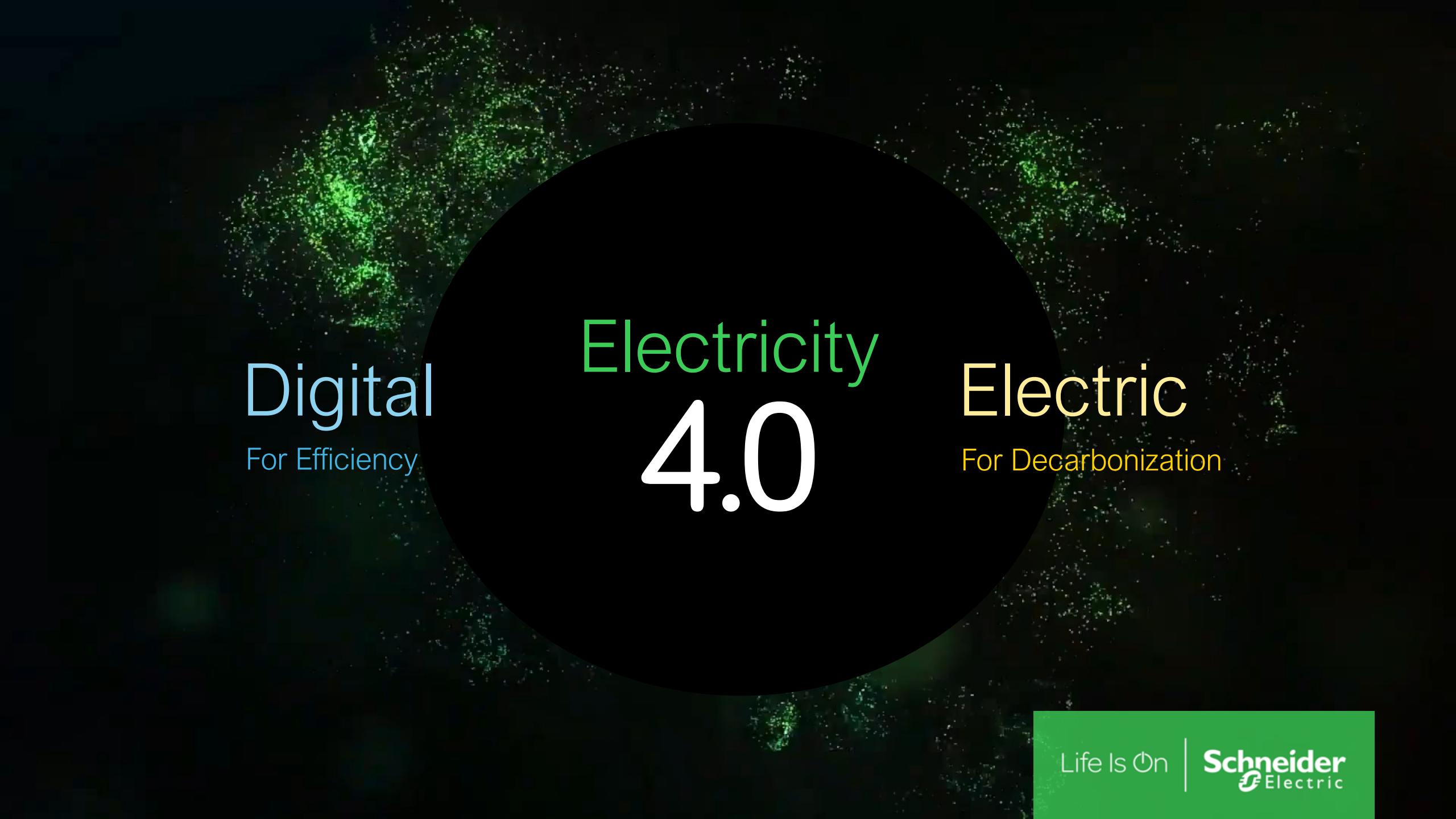
Digital
For Efficiency
Electricity
4.0
Electric
For Decarbonization
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The Equation for the Future

Digital + Electric = **Sustainable**

For Efficiency | For Decarbonization | Green and Smart Energy

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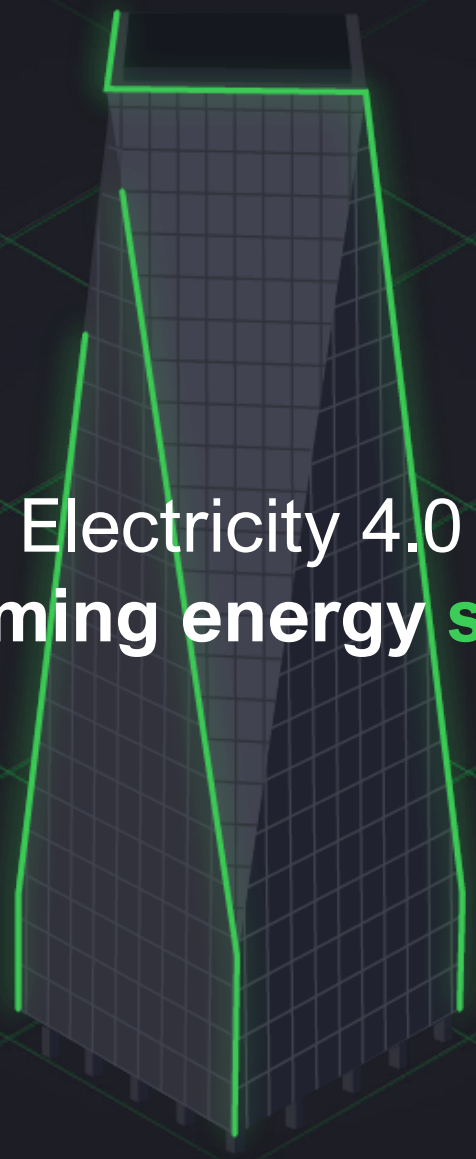

Electricity 4.0

is already transforming energy supply and demand

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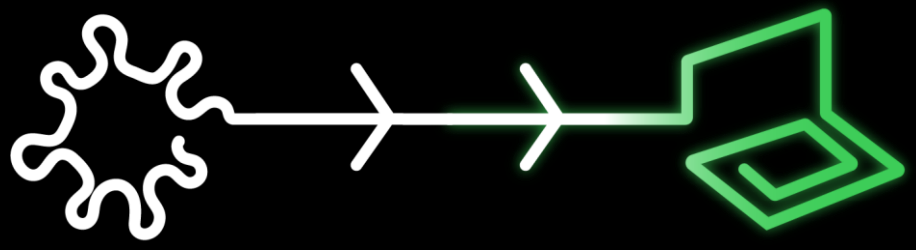
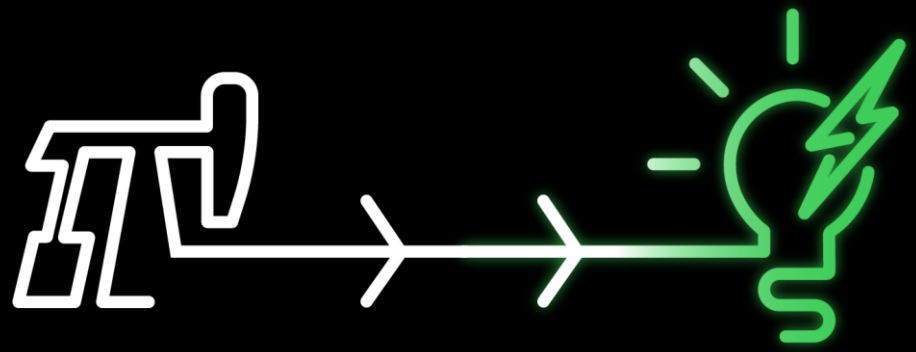
Challenging times > **catalysts for change**

Global pandemic



Accelerated **Digitization**

Energy crisis



Accelerating **Electrification** and automation

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The time to act is **now**

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Technology
already exists to
flatten the curve

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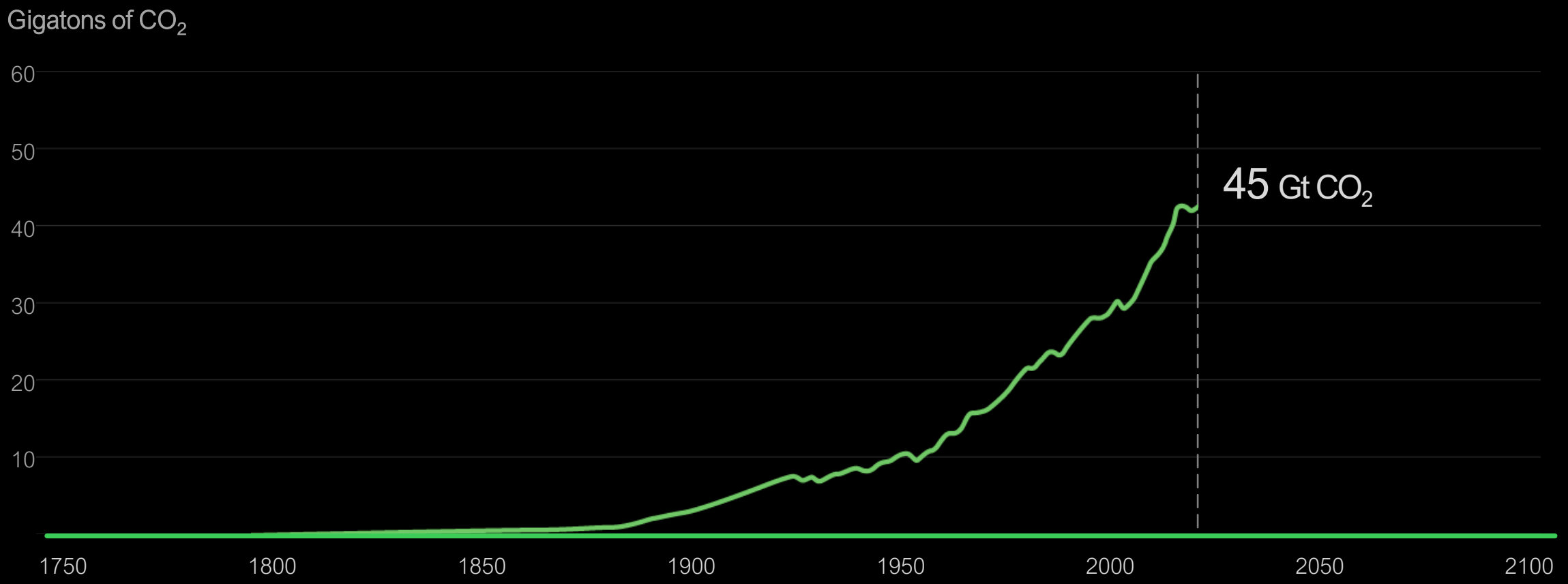

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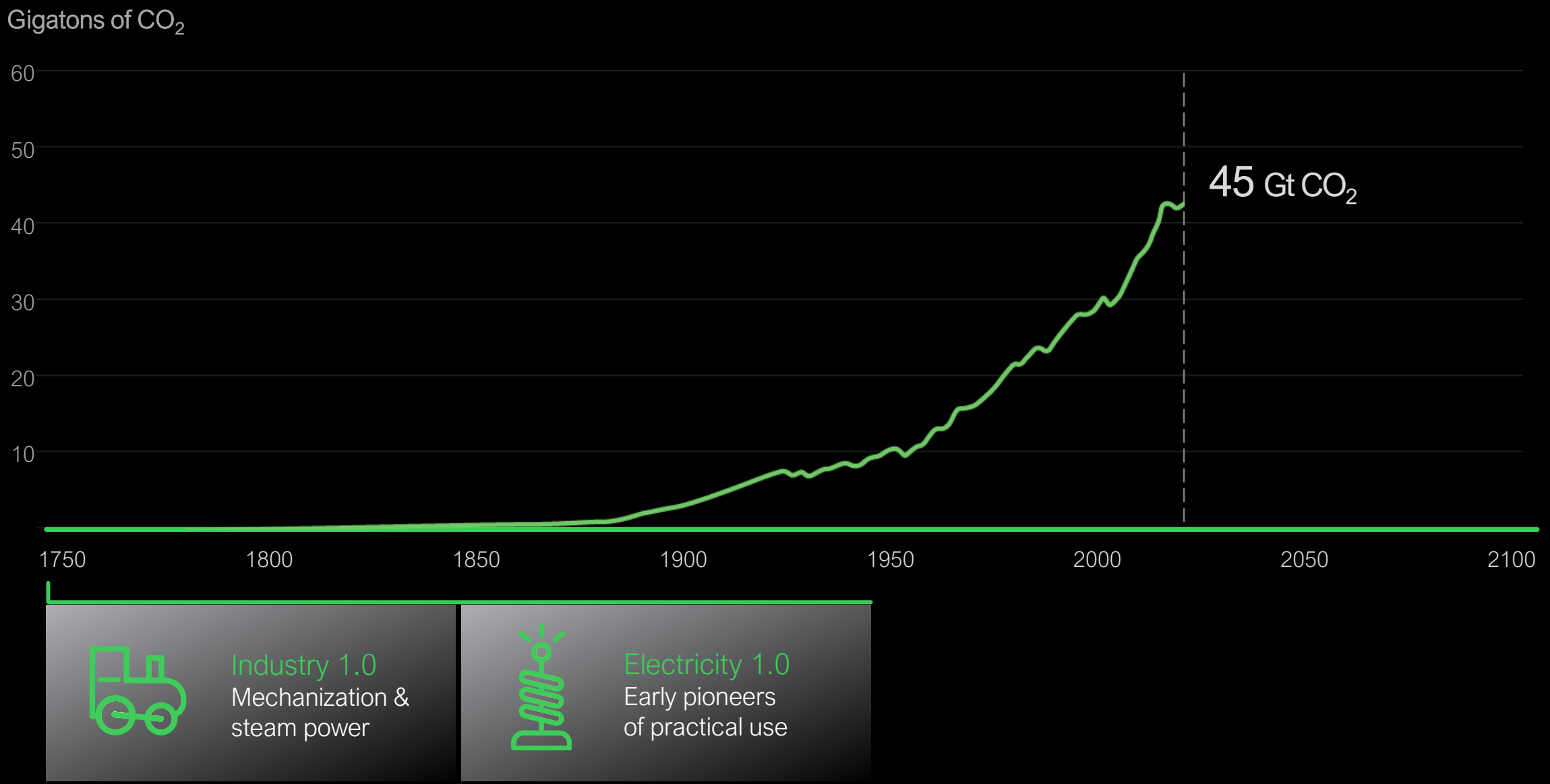

Industry 1.0
Mechanization & steam power

Electricity 1.0
Early pioneers of practical use

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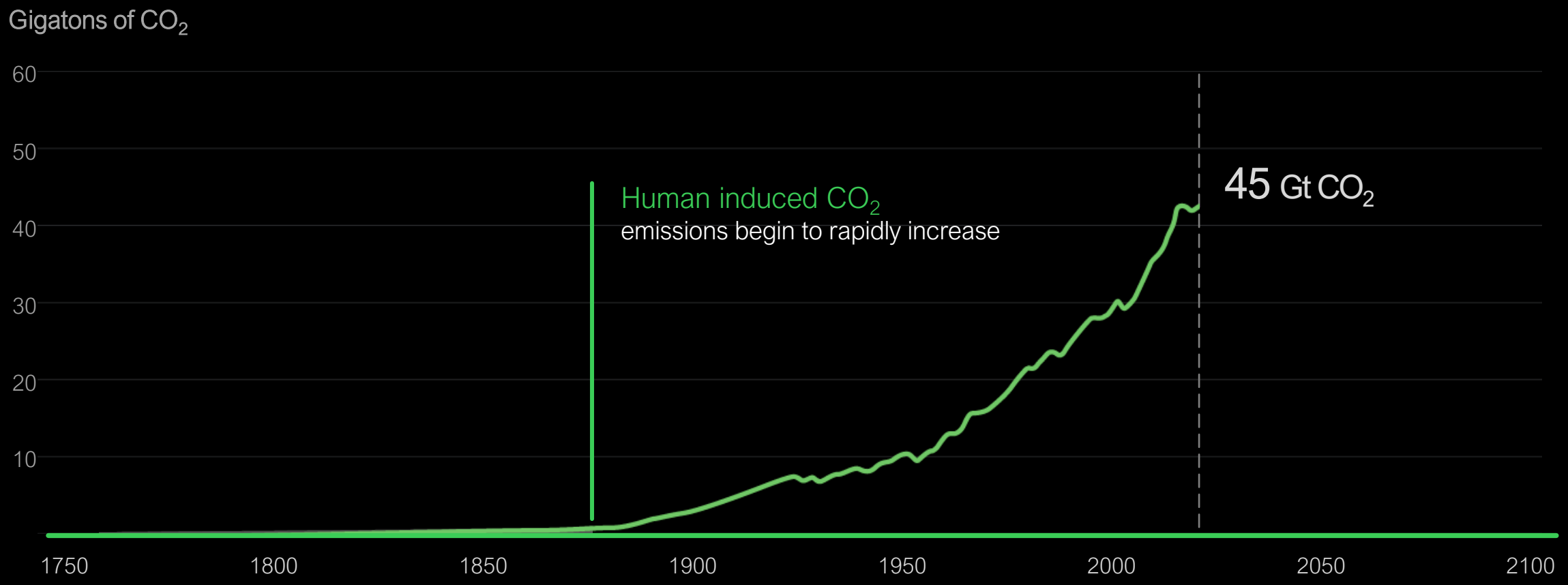

Industry 2.0
Mass production

Electricity 2.0
Mass electrification

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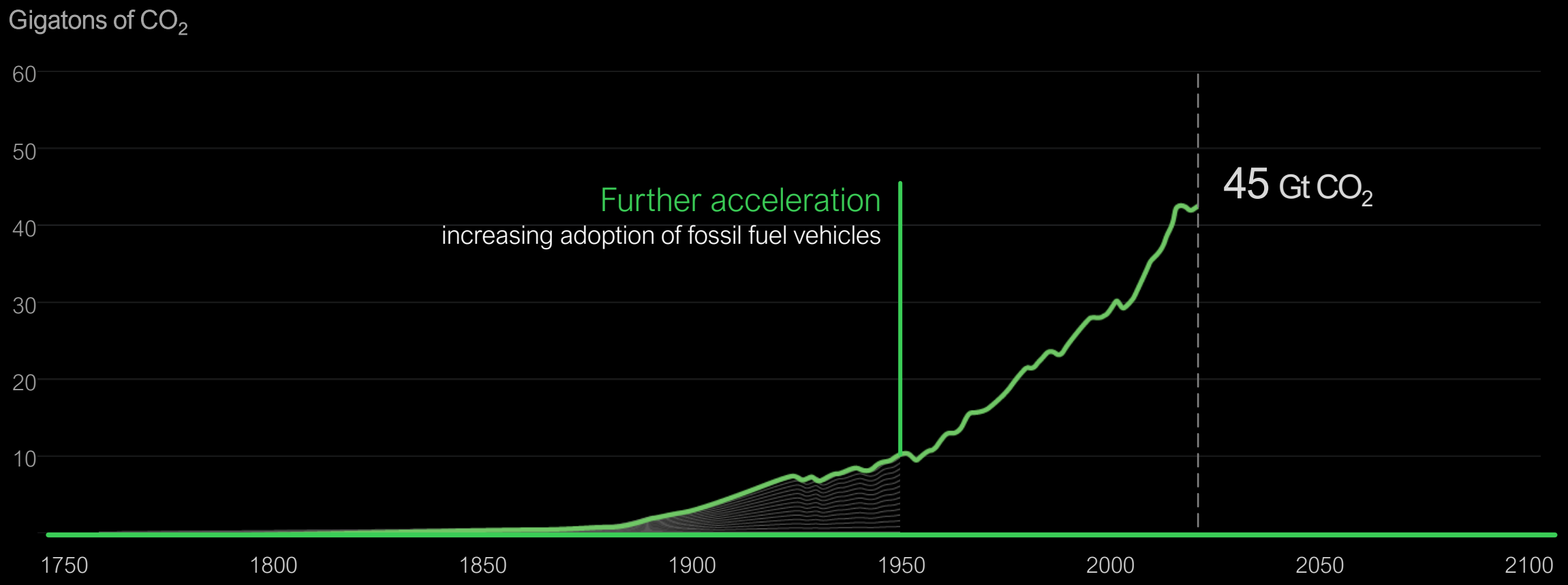

Industry 3.0
Silicon enables automation

Electricity 3.0
Silicon enables solar & digital

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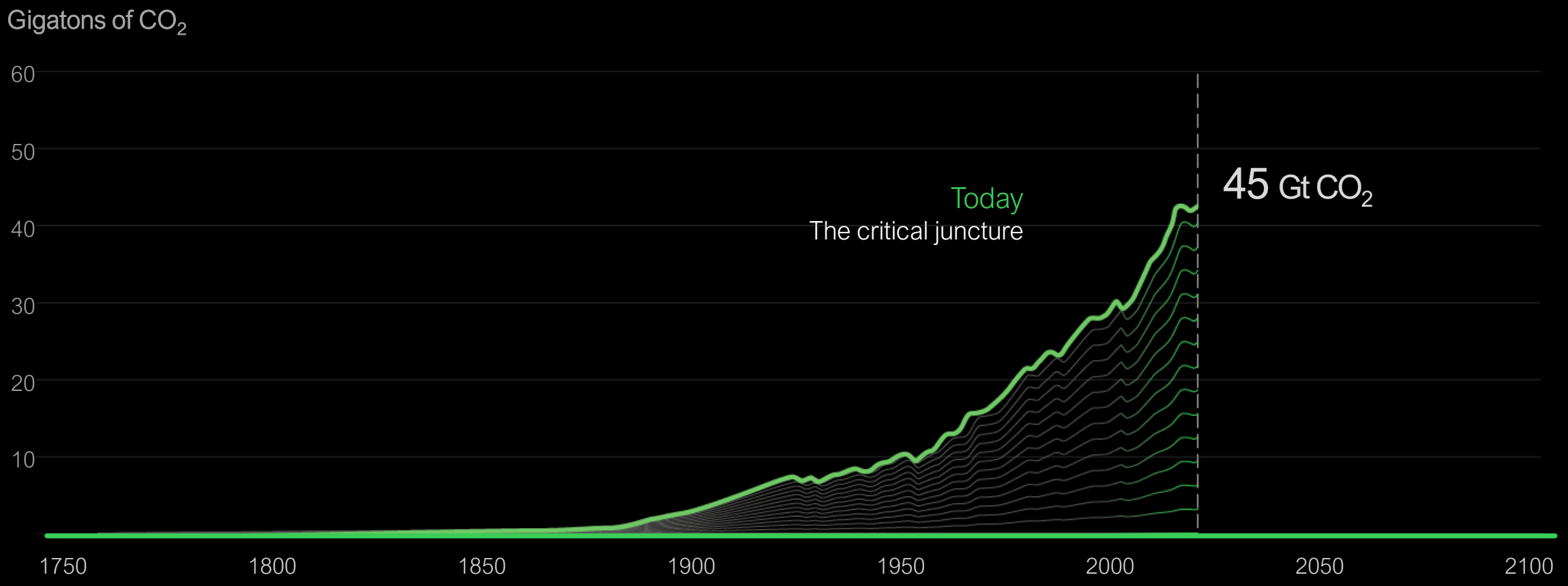

Industry 4.0
Industrial IOT
and automation

Electricity 4.0
Electric and digital
at scale

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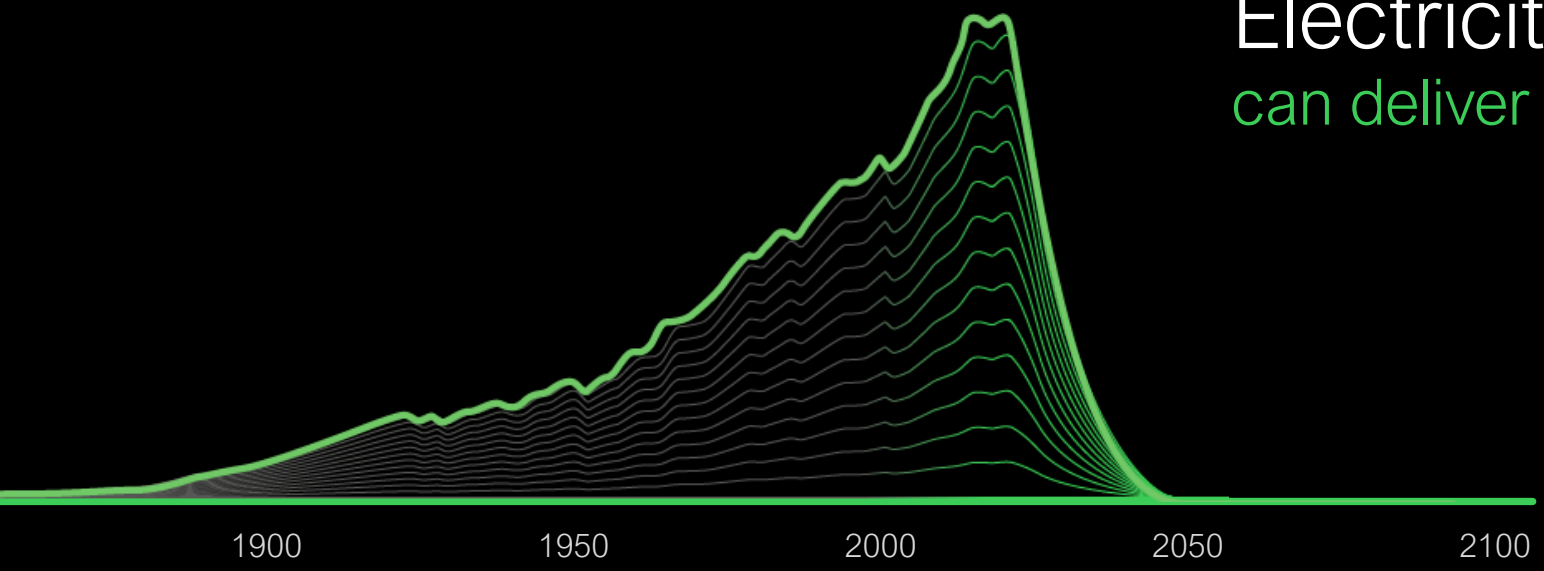

Electricity 4.0

can deliver the 3x acceleration

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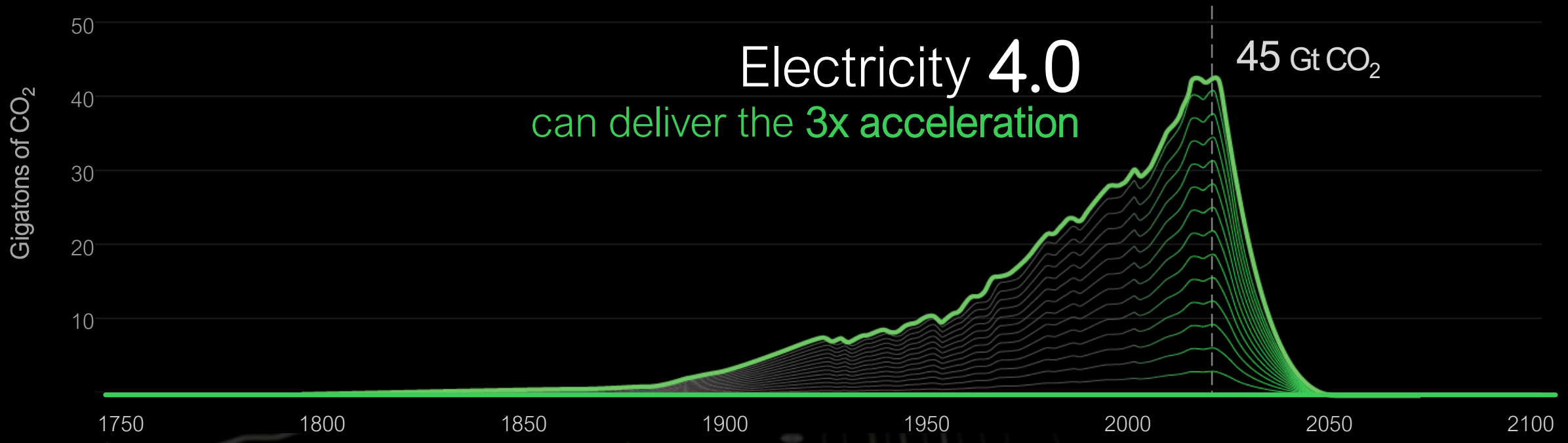
Electricity 4.0
can deliver the 3x acceleration



Industry 1.0
Mechanization & steam power

Industry 2.0
Mass production

Industry 3.0
Silicon enables automation

Industry 4.0
Industrial IOT

Electricity 1.0
Early pioneers of practical use

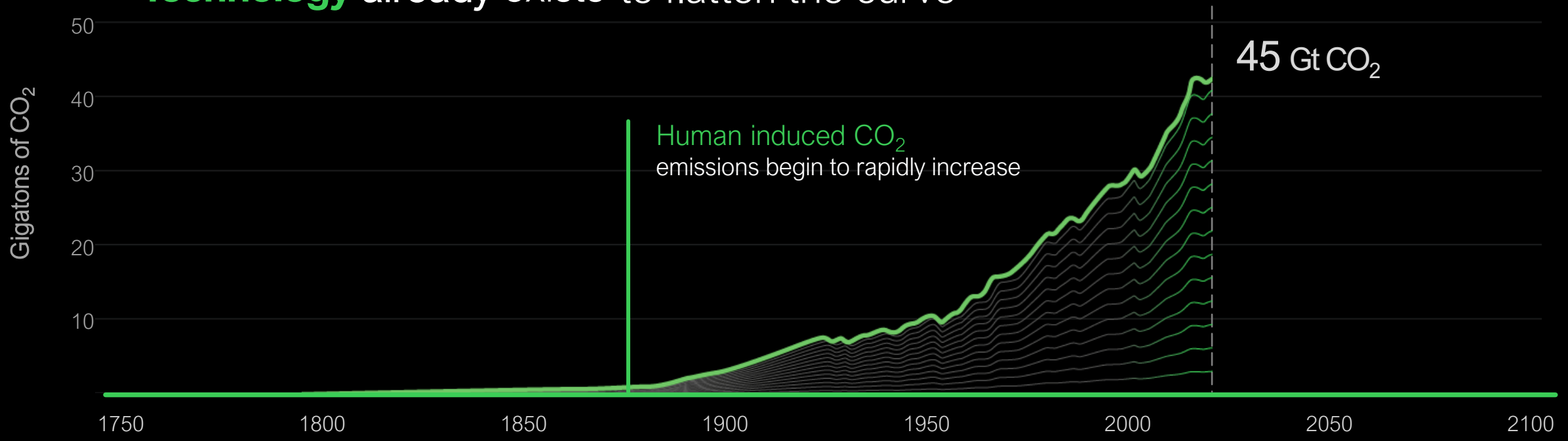
Electricity 2.0
Mass electrification

Electricity 3.0
Silicon enables solar & digital

Electricity 4.0
Electric and digital at scale

Internal

Technology already exists to flatten the curve



Industry 1.0
Mechanization & steam power

Electricity 1.0
Early pioneers of practical use

Industry 2.0
Mass production

Electricity 2.0
Mass electrification

Industry 3.0
Silicon enables automation

Electricity 3.0
Silicon enables solar & digital

Industry 4.0
Industrial IOT

Electricity 4.0
Electric and digital at scale

The Equation for the Future

Ranked #1

Digital + **Electric** = **Sustainable**

Automation
Software
Data

Energy
Decarbonization

Green and Smart

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Electrical & Automation technologies are converging with Software, Services & Sustainability as enablers for rapid acceleration

Energy Management

Cooling

Data Center Infrastructure Management (DCIM)

Molded-case Breaker

Uninterrupted Power Supply, Single & 3 Phase

Final Distribution

Wiring Devices

Medium Voltage Products & Equipment

Software, Services & Sustainability

AVEVA

Wonderware by AVEVA

AVEVA PI System

etap

RIB

EcoStruxure Resource Advisor

Zeigo

ecoact an Eviden business

EcoCare

Sustainability Consulting

Energy Performance contracting (VPP)

Industrial Automation

Software-defined automation

Triconex Safety

Foxboro Distributed Control System (DCS)

Programmable Logic Controllers (PLCs)

Multi-carrier Transport System

Drives & Motion Control

Control & Signaling

Contactors

HMI

DATA CENTERS | BUILDINGS | INDUSTRY | INFRASTRUCTURE

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The moment is **now**

Thank you!

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