

The fastest path to **Net Zero**

Nicolas Raynaud

Vice President, Chief Technology Officer Europe, Schneider Electric

730+

730+

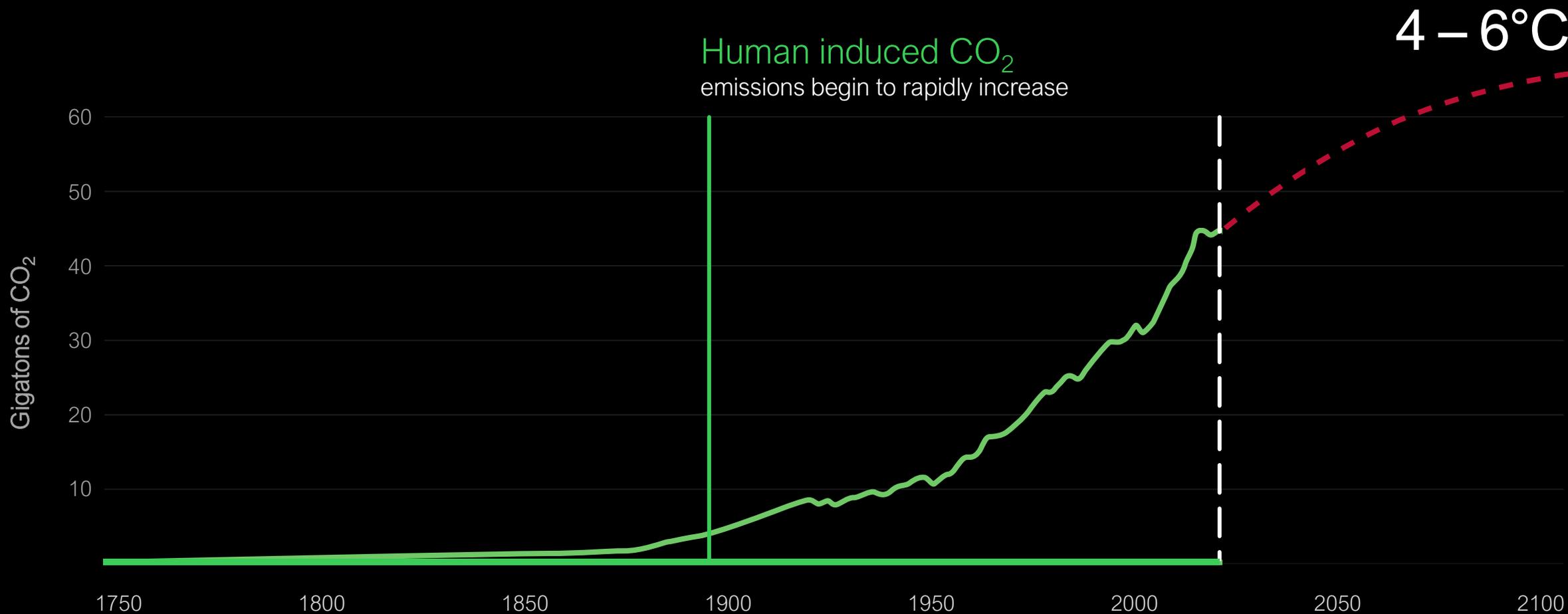
million people
don't have access to energy

We are at an

Inflection point

The time to act is now

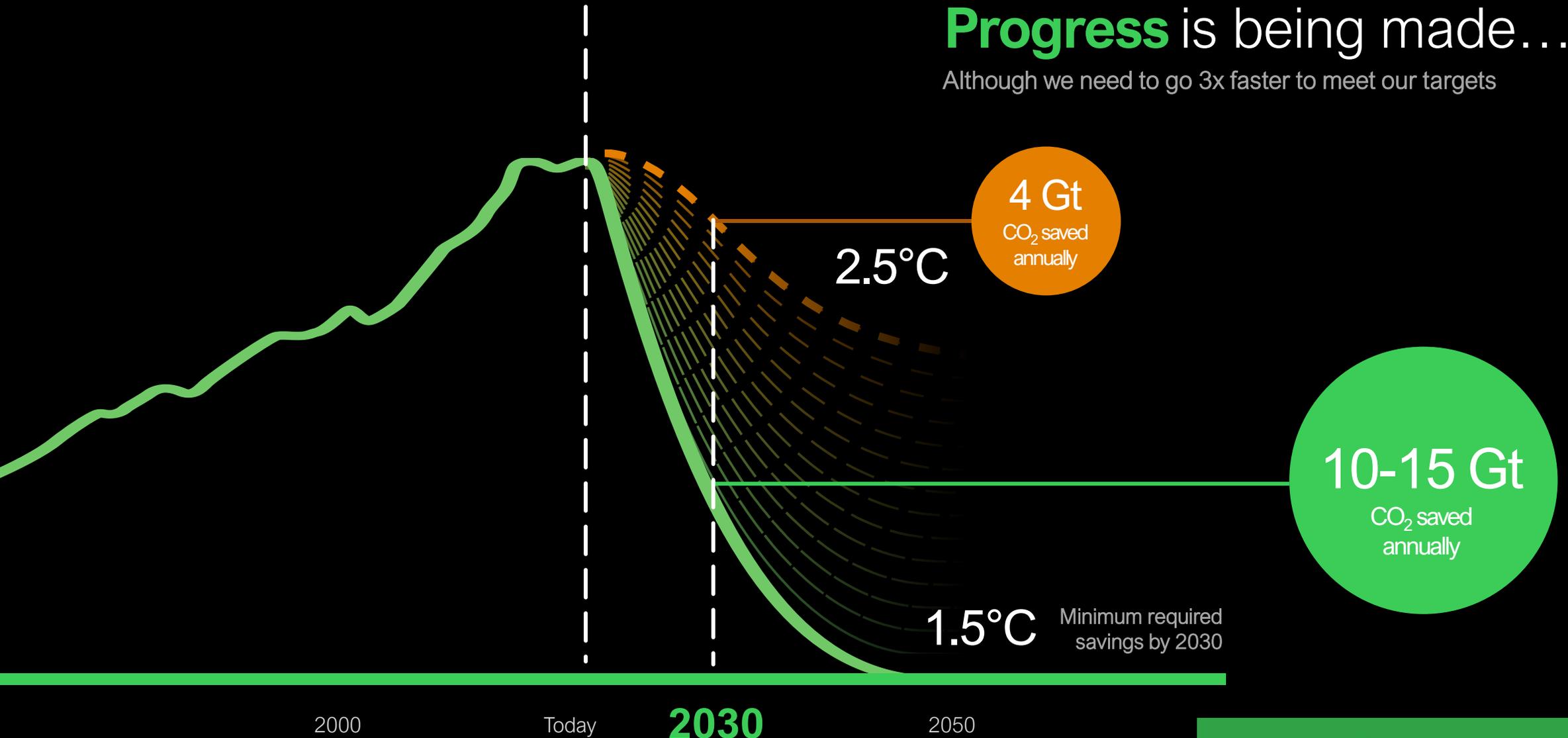
To tackle the climate crisis, we must **decarbonize**



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

Progress is being made...

Although we need to go 3x faster to meet our targets



Schneider Electric Research Institute (2021): Back to 2050



Short term

Energy Crisis

We are at an

Inflection point



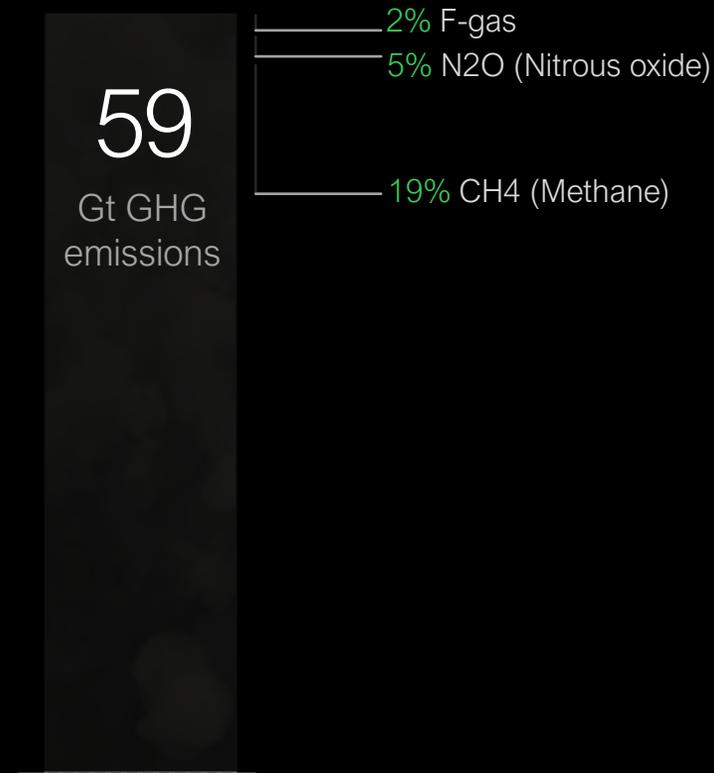
Long term

Climate Crisis

The solution for both is

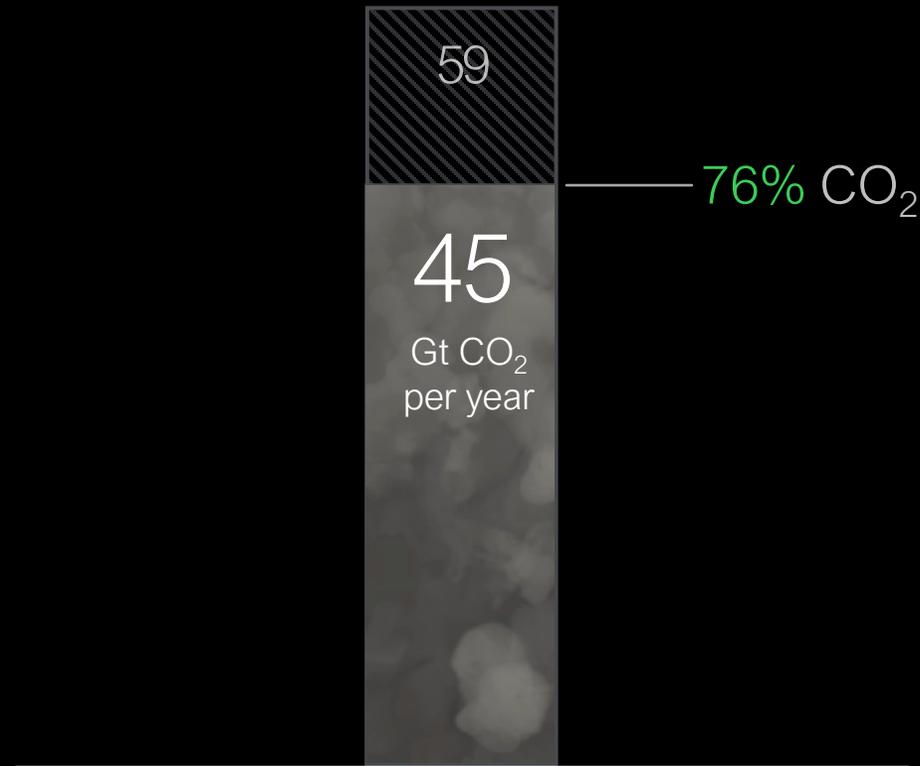
Energy

Let's start with the cause. Global **greenhouse gas** emissions.

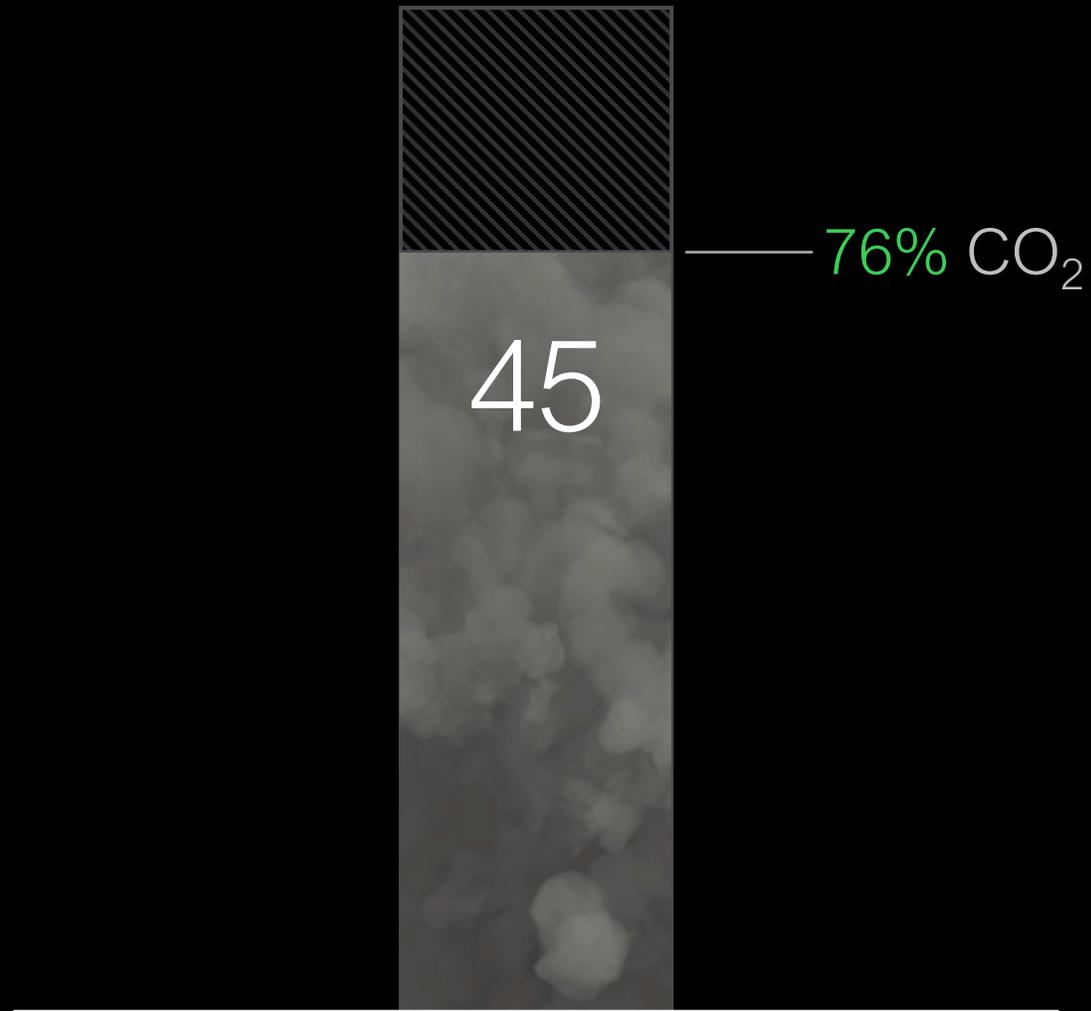


¹ Including CO2 coming from fossil fuel & industrial process (FFI), as well as Net CO2 from land use, land-use change, forestry (~6.6 Gt).
Source: IPCC 2022 (based on 2019 CO2 data)

Global **carbon dioxide** emissions

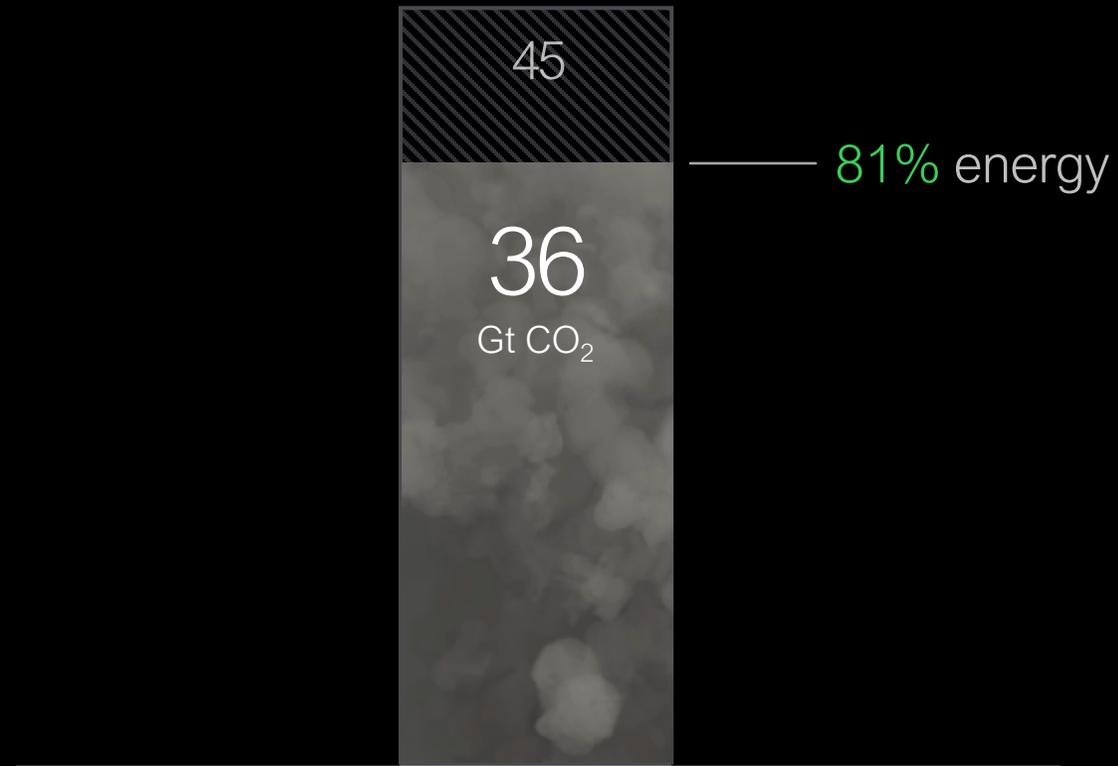


¹ Including CO₂ coming from fossil fuel & industrial process (FFI), as well as Net CO₂ from land use, land-use change, forestry (~6.6 Gt).
Source: IPCC 2022 (based on 2019 CO₂ data)



¹ Including CO₂ coming from fossil fuel & industrial process (FFI), as well as Net CO₂ from land use, land-use change, forestry (~6.6 Gt).
Source: IPCC 2022 (based on 2019 CO₂ data)

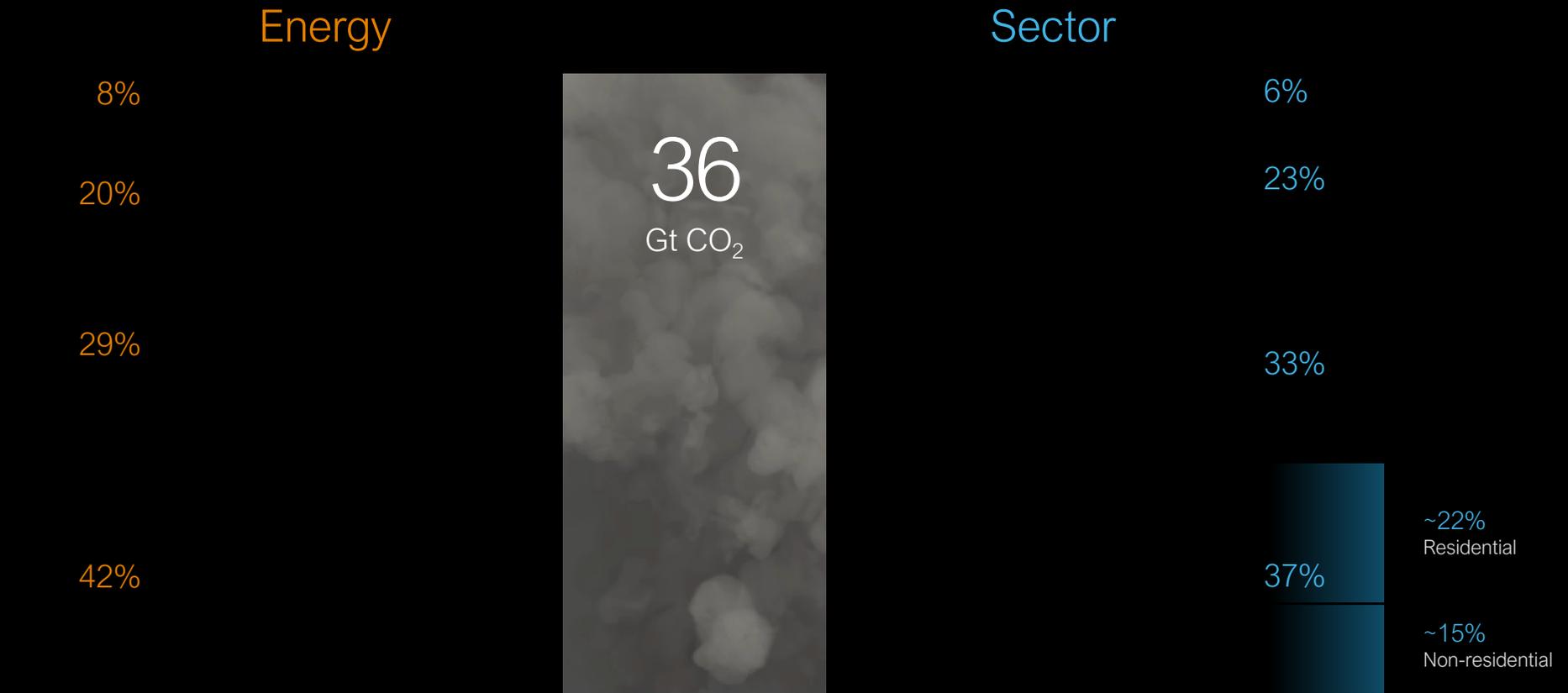
of which come from **energy**



¹ Biomass & Industrial Processes, ² Other industries

Source: IEA Global Energy Review: CO₂ Emissions, 2021

Now let's determine **the source**



Source: IEA Global Energy Review: CO2 Emissions, 2021

Electricity 4.0

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

Digital
For Efficiency

Electricity
4.0

Electric
For Decarbonization

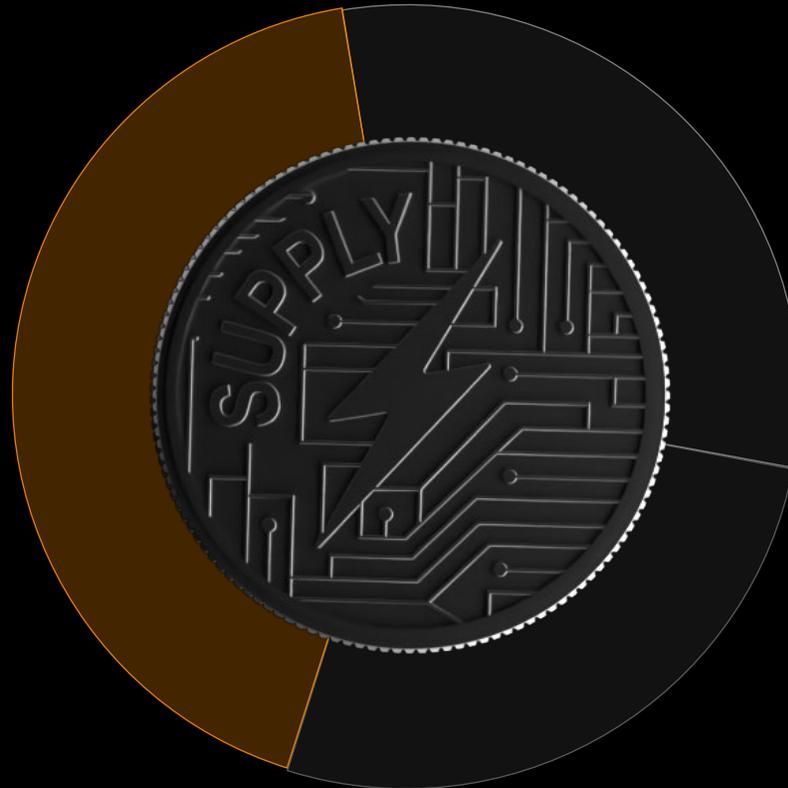
Digital + **Electric** = **Sustainable**
For Efficiency For Decarbonization Green and Smart Energy

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

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

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



Electrify 

processes

30%

Electrify Everywhere

From transport to heat to industrial processes...
Reduce fossil fuel demand by transitioning to electric

*Contribution to net-zero energy by 2050

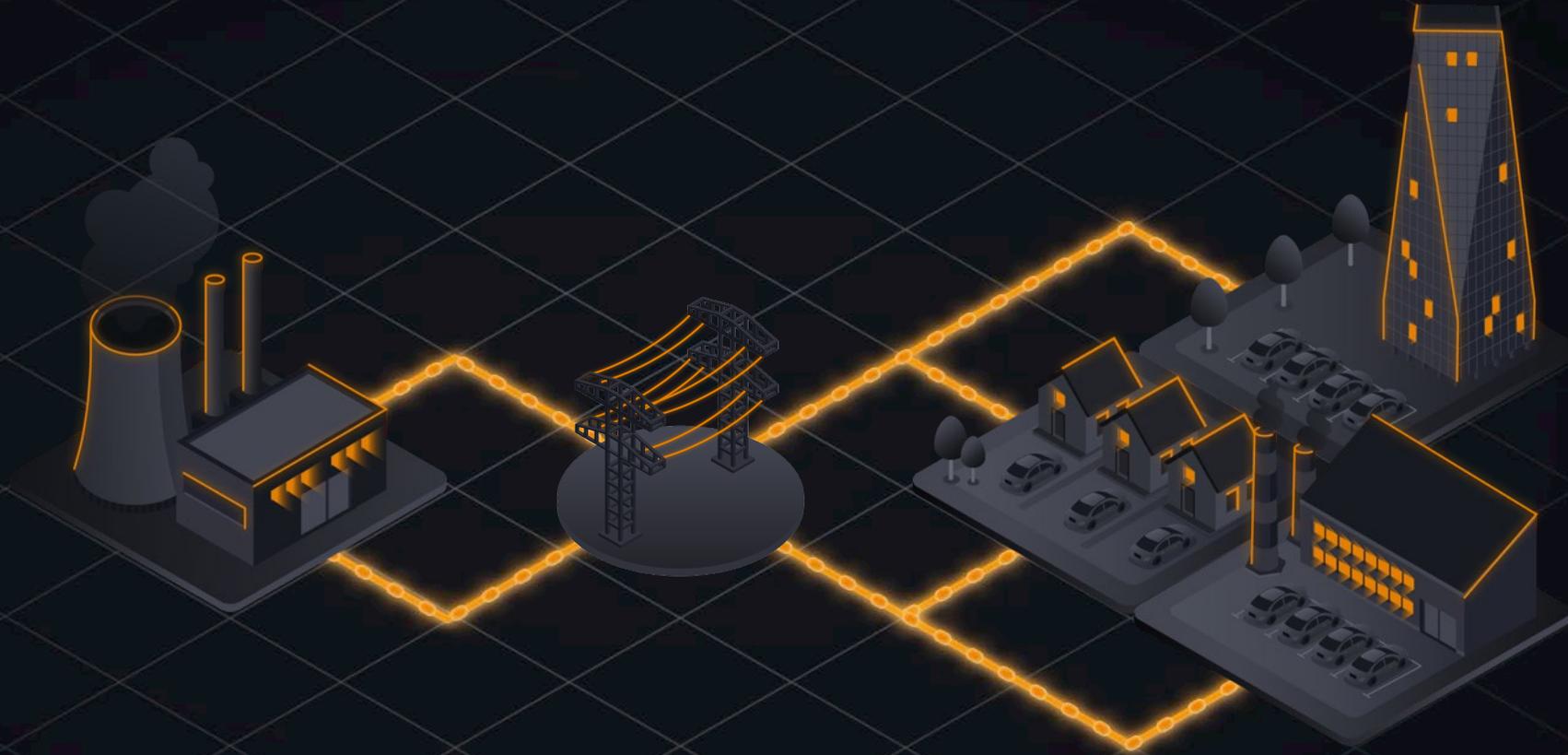
Technology

already exists

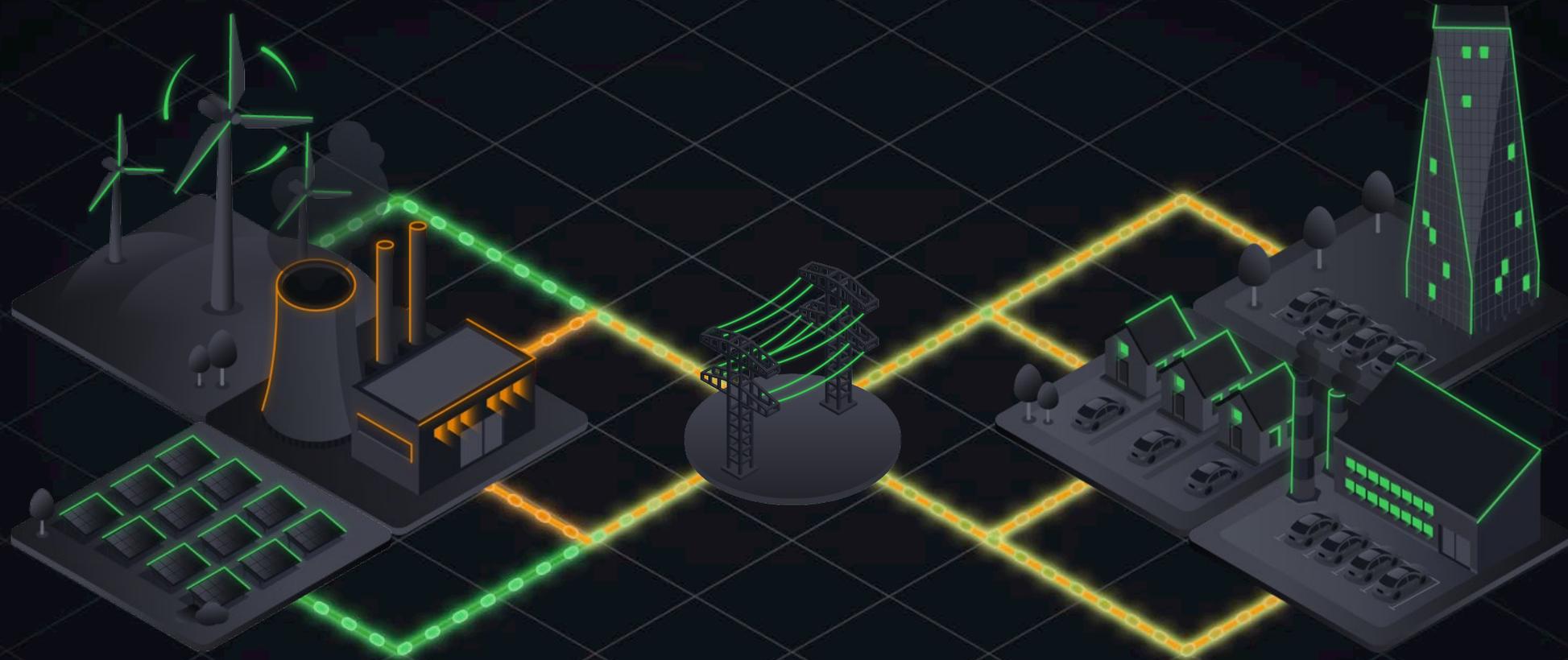


Electricity 4.0
is already transforming energy **supply and demand**

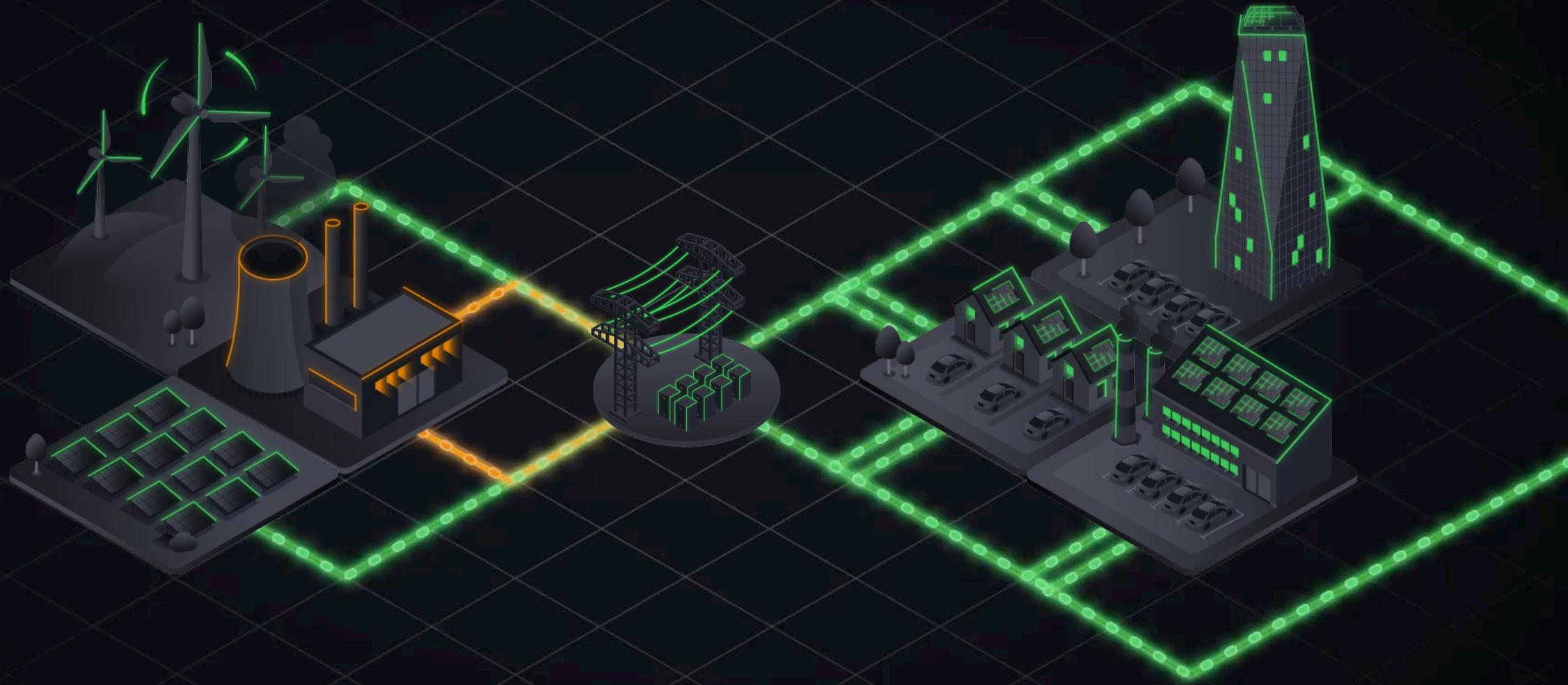
From linear fossil fuel supply and demand



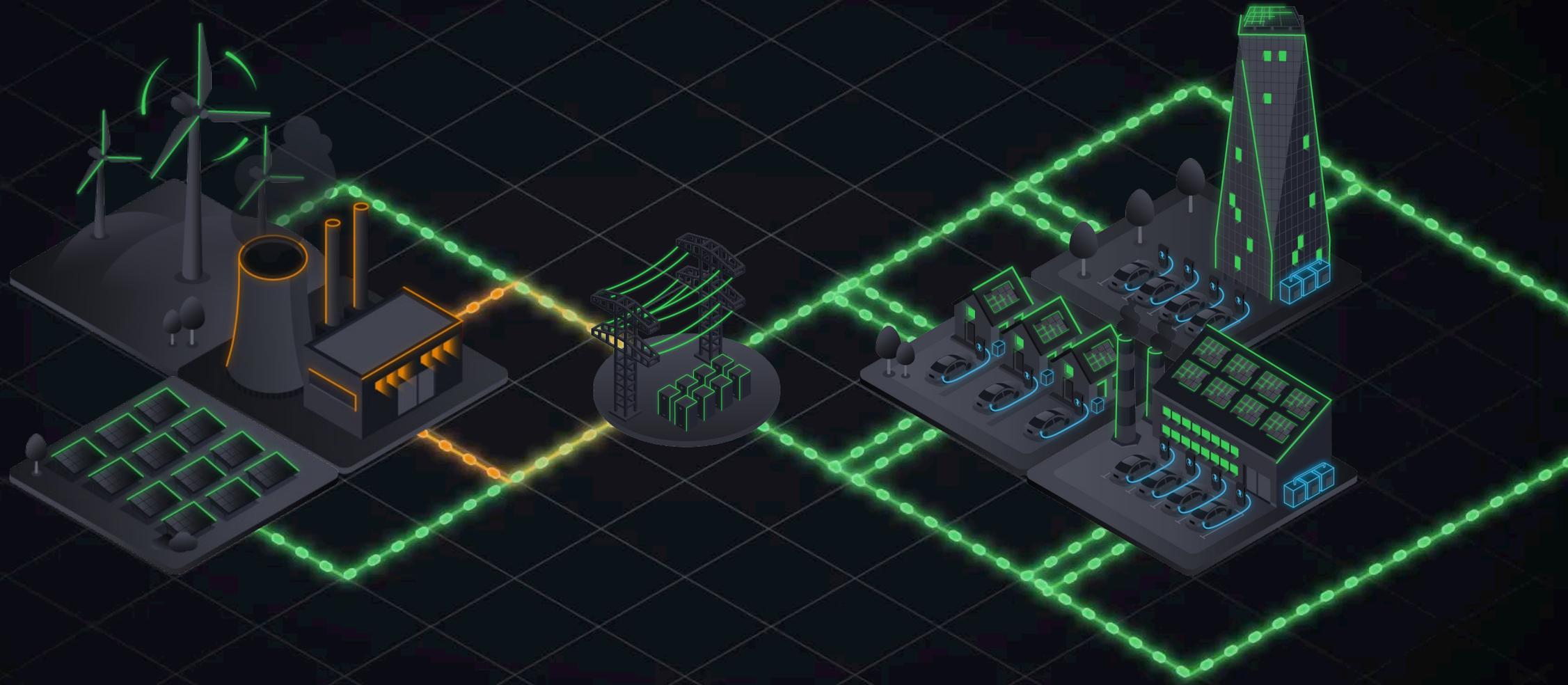
to a cleaner energy supply with increasing renewables...



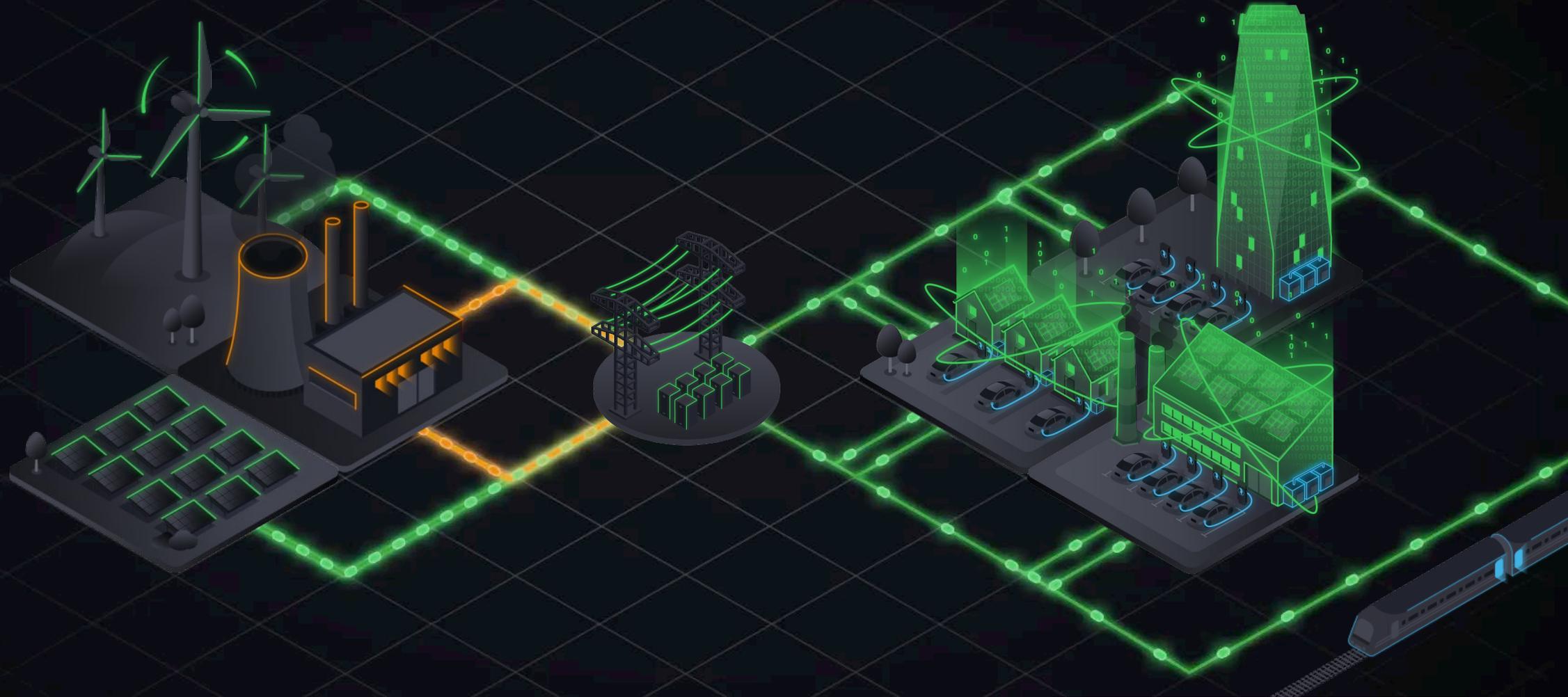
... and prosumers feeding a bi-directional, flexible grid.



Increasing Electrification is reducing dependency on fossil fuels



And digital technology is driving demand optimization



Electricity 4.0

is a technology shift and a call for innovation!

More **governments** are
making commitments

>90

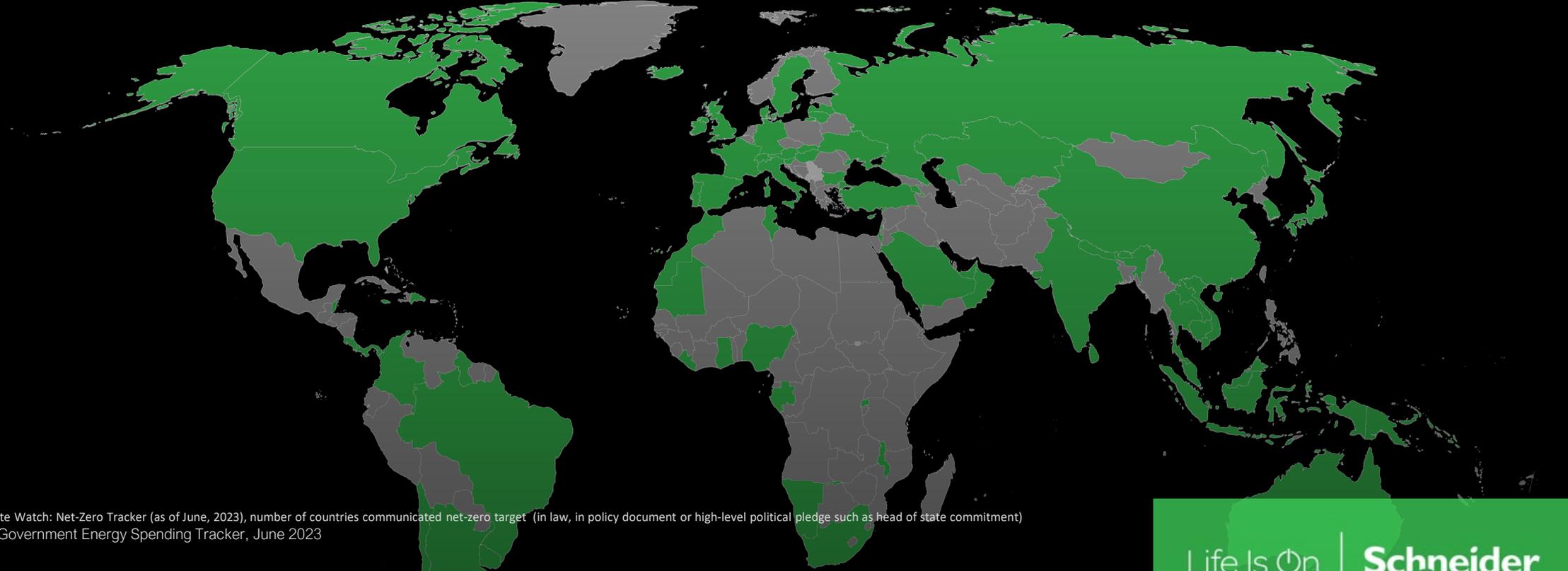
Countries with net-zero pledges¹

>90%

of global CO₂ emissions

\$1.3tn

Government clean energy investment since 2020



¹ Climate Watch: Net-Zero Tracker (as of June, 2023), number of countries communicated net-zero target (in law, in policy document or high-level political pledge such as head of state commitment)

² IEA Government Energy Spending Tracker, June 2023

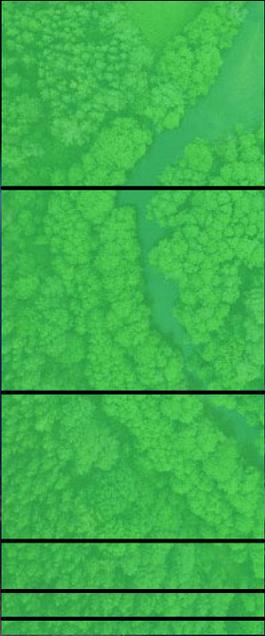
More **companies** are
making commitments

Number of companies committed to setting science-based targets¹



2x

Commitments to SBTi targets YoY¹



2023 ~ 5,300

¹ SBTi Progress: June 2023

The reality

12%

Few are delivering on their targets

Corporate Sustainability: Commitment, Investment, Action.
2022 C-Level Pulse Check



We surveyed **540 C-level** executives across the globe.
All companies with annual turnover of more \$1B

Corporate Sustainability: Commitment, Investment, Action

A 2022 C-LEVEL PULSE CHECK



Out of 539 respondents

Biggest implementation challenges



Stakeholder alignment



Data collection, reporting, transparency



Budget, financing



Technology, workforce skills



CO₂ Science understanding



Roadmap execution

What decarbonization activities are pursued most **today**?

What decarbonization activities are pursued most **today**?



Replace energy supply

Scope 1 & Scope 2

56%

Purchasing Renewables

54%

Sustainability messaging

51%

Define ambition / set targets

Based on CXO Data

Life Is On



What decarbonization activities are pursued most **today**?



Replace energy supply

Scope 1 & Scope 2

54%
Sustainability messaging

56%
Purchasing Renewables

51%
Define ambition / set targets



Reduce for efficiency & circularity

Scope 3

42%
Distributed energy resources

44%
Reducing consumption

40%
Drive circularity

42%
Supply chain decarbonization

What decarbonization activities are pursued most **today**?



Replace energy supply

Scope 1 & Scope 2

54%
Sustainability messaging

56%
Purchasing Renewables

51%
Define ambition / set targets



Reduce for efficiency & circularity

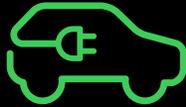
Scope 3

42%
Distributed energy resources

44%
Reducing consumption

40%
Drive circularity

42%
Supply chain decarbonization



Electrify processes

31%
Drive electrification

29%
Drive EVs / e-mobility

Leading companies follow an **integrated** approach

Strategize

- MEASURE enterprise baseline
- CREATE decarbonization roadmap
- STRUCTURE program & governance
- ENGAGE ecosystem
- COMMUNICATE commitment



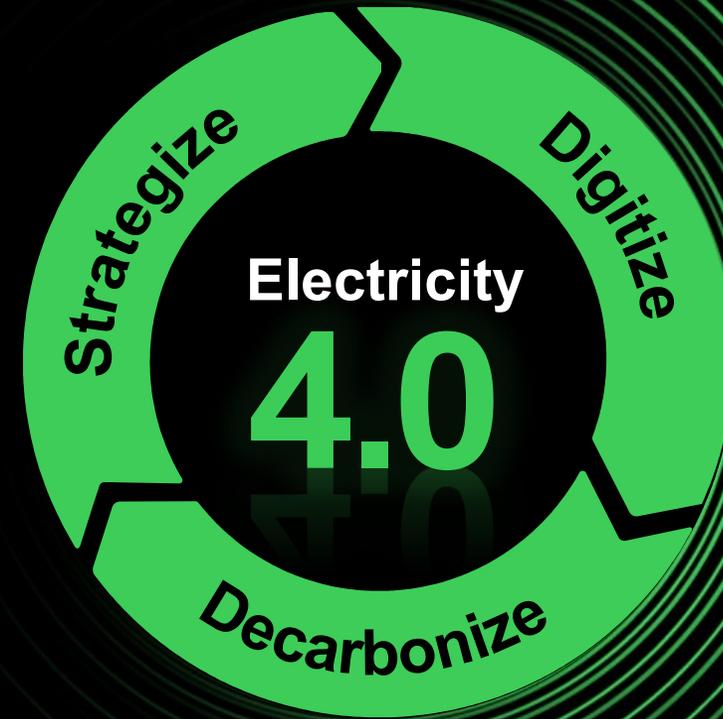
Digitize

- MONITOR resource usage & emissions
- IDENTIFY saving opportunities
- REPORT and benchmark progress

Decarbonize

- REPLACE energy source
- ELECTRIFY operations
- REDUCE energy use

Technology already exists
The moment is **now**



Life Is On

Schneider
Electric