Energy Digitalisation for a Smart and Sustainable World

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The global energy landscape is undergoing a rapid transformation driven by climate change imperatives and the need for sustainable growth

Global economies accelerating carbon neutrality

Paris Agreement

Limit the global average temperature rise to below 2°C

China

Carbon peak by 2030
Carbon neutrality by 2060

EU

Released the Green Deal
Carbon neutrality by 2050

US

Rejoined the *Paris Agreement*
Carbon neutrality by 2050

Japan

Released the Green Growth Strategy
Carbon Neutrality by 2050

India

Reduce emissions intensity of GDP by 45% by 2030
Carbon neutrality by 2070

Net zero pledges

150/198 countries

197 sovereign countries and the EU

956/2000 companies

Top 2000 listed companies

Global net zero coverage

Source: https://zerotracker.net/

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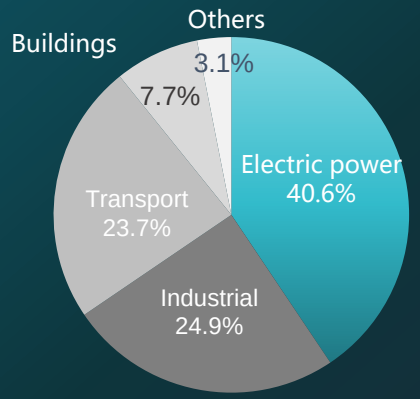
Low-carbon power generation, electric energy consumption, and digitalization empower Green transformation with huge potential

Low-carbon power generation and electric energy consumption

2022 global CO_2 emissions by sector



Low-carbon power generation

Share of clean energy in power generation

2020	2030	2050
28%	68%	91%

Electric energy consumption

Share of electricity in total energy consumption

2020	2030	2050
22%	29%	51%

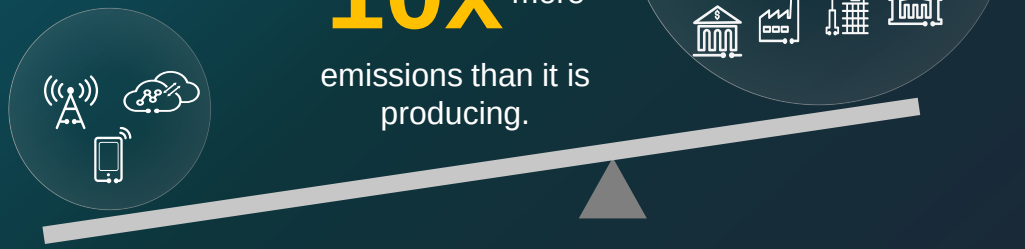
Source: IRENA Outlook 2023

Low carbon with digital technology

Digital technology can reduce global carbon emissions by **20%** by 2030.

ICT emissions will make up just **1.97%** of global emissions by 2030.

Digital technology is helping to reduce **10x** more emissions than it is producing.



Source: GeSI's SMARTer 2030 report

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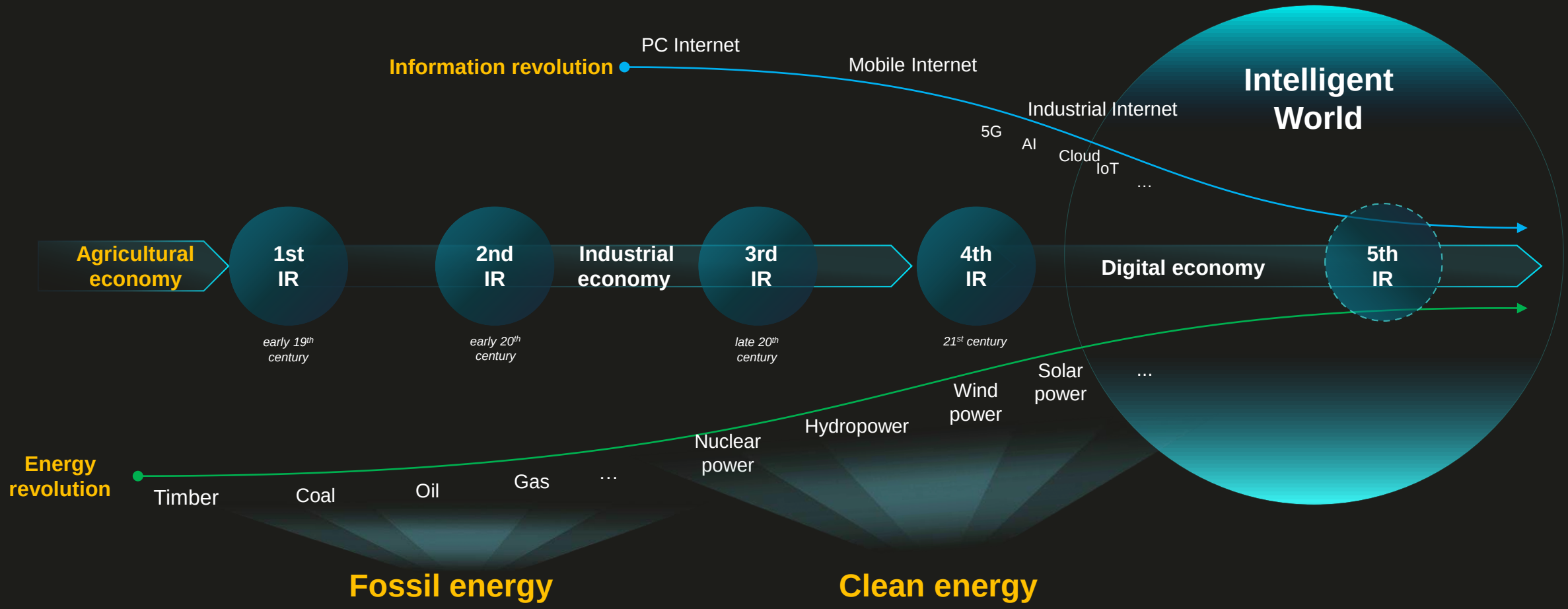
The 5th Industrial Revolution (IR) goes hand in hand with low-carbon, digital, and intelligent transformations, all of which bring us closer to an intelligent world



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The advancement of renewable energy technology provided us with greater opportunities to transition towards Green electrification

Low-carbon power generation

- **PV:** installed capacity 14% → 33%
- **Energy Storage:** 39 GWh/year → 500 GWh/year

Sources: IEA and CNESA, 2022 → 2030

PV & Energy Storage System (ESS) are developing into stable energy sources.

Grid forming technology is gaining momentum across all scenarios.

Mobility electrification

- **Electric Vehicles (EVs)** penetration rate 14% → 60%
- **Chargers:** 11 million → 128 million

Sources: IEA and Huawei Digital Power, 2022 → 2030

EVs are evolving toward high-voltage ultra-fast charging.

Comprehensive ultra-fast charging facilities are the future.

ICT green transformation

- **Data Centers**: cut carbon emissions by 53%
- **Communications Networks**: cut carbon emissions by 45%

Sources: ITU L.1470 & GSMA Setting Climate Targets, 2020 → 2030

Data centers are becoming more reliable, greener, simpler, and smarter.

Telecom operators/Tower vendors are transitioning from energy consumers to prosumers.

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Framework to integrate digital solutions and power electronics to deliver clean energy and advance energy digitalisation, driving the Green revolution

Evolving from high carbon to low carbon, and finally to net-zero carbon

Green home | Green building | Green factory | Green campus | Green village | Green city

DigiPower Management Platform

Professional PaaS & SaaS for energy

Green power generation	Energy Internet		Mobility electrification		Green ICT power infrastructure		Integrated smart energy	
PV/Wind/ESS	Micro-grid/Mine	High-voltage transmission	Smart distribution network	EV	Charging network	Site power facility	Data center facility	Campus	Building

New Power System

Energy flow

Data flow

Reliable Products

Open Ecosystem

Power electronics technology (Watt/Heat/Battery)

- Material (GaN/SiC)
- Component (IGBT/MOS)
- Heat management
- Energy storage management

Digital technology (Bit)

- Sensing (Digital/Visual)
- Connection (5G/IoT)
- Cloud (Data/Algorithm)
- AI (Chip/Algorithm)

The transition to renewable energy is no longer a choice; it is a necessity for a Sustainable Future

Digitalization and renewable energy technology are essential to driving the widespread adoption of green energy.

Implement robust policies and incentives to accelerate renewable energy adoption and support the transition to green electricity.

Foster public-private partnerships to expedite renewable energy projects and ensure a clean, prosperous future through the transformation of our energy systems.

Shenzhen International Low Carbon City