

From Innovation to Real-World Products



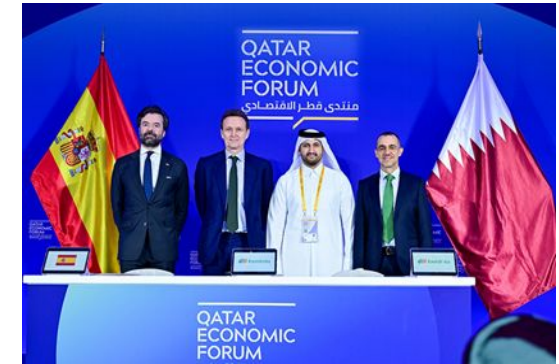
The AI & Energy Interplay



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AI and Energy – my personal and professional journey



2010s



2015s



2020s



2025s



2030s

Iberdrola
Smart
Grid
Deployment

Iberdrola
Innovation
ME
launched

Iberdrola
Innovation
ME
Growth

East-West
Digital
launched

Towards
National
Visions for AI &
Sustainability

How AI **impacts the use** of Energy?

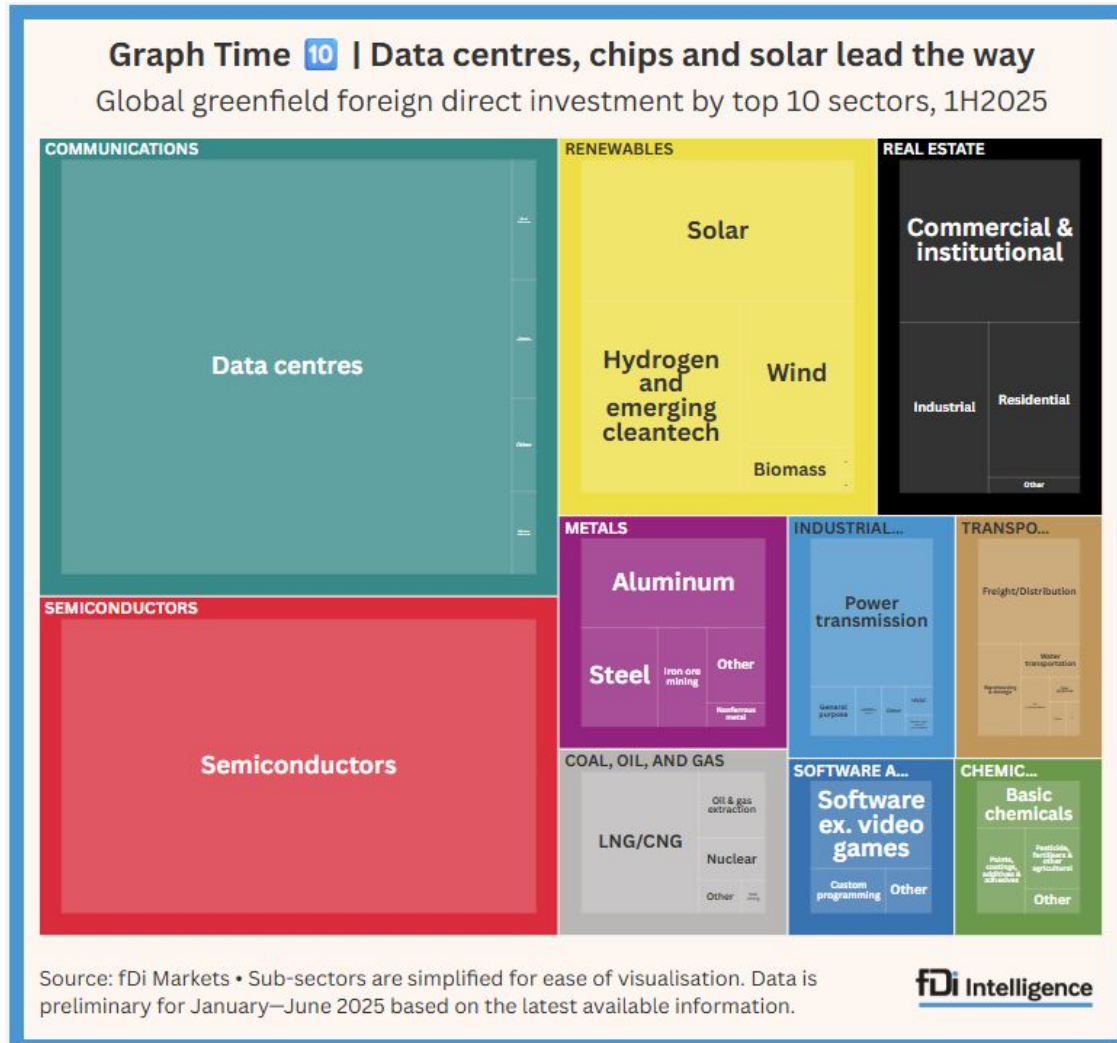
How AI **transforms the management** of Energy?

Innovation to Product ... how to get this transformation
right?

How AI **impacts the use** of Energy?

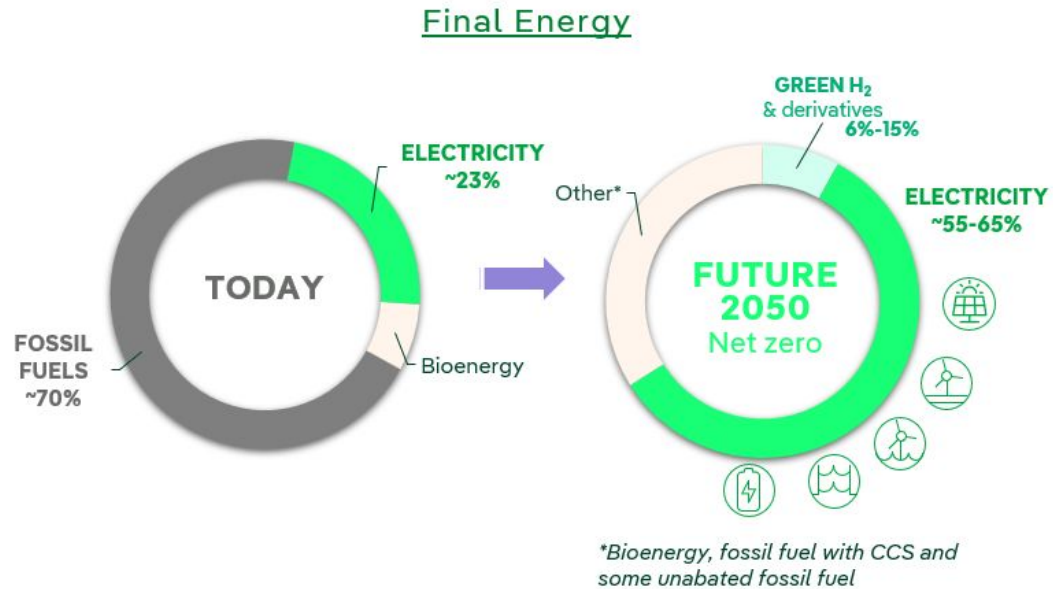
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Clean Energy + AI + Metals ~ 65-70% of Global FDI in 2024-25

Underlying trend the future is Electric ...



Source: IEA

Source: IEA and ETC

Electricity share of total energy demand to go from ~20% to ~
55%-65%

Key drivers are Transportation (EVs), Heating (heat pumps) & **Data Centers**



... and AI plays a large and critical part



Data Centers global demand today ~ 1.5% ... expected

~ 3% to 5% in 2030 ...

And ... what about **criticality and availability?**

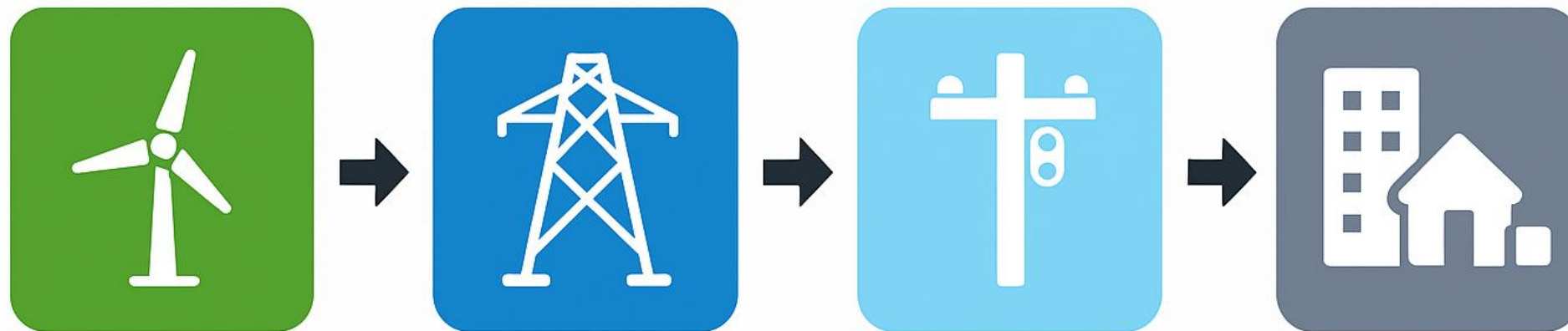
... but the impact in energy use is highly localized with “hot spots” representing today **more than 20%**

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Clean Electrification poses Challenges ... that AI is helping to solve ...



O&M

Stability watch:

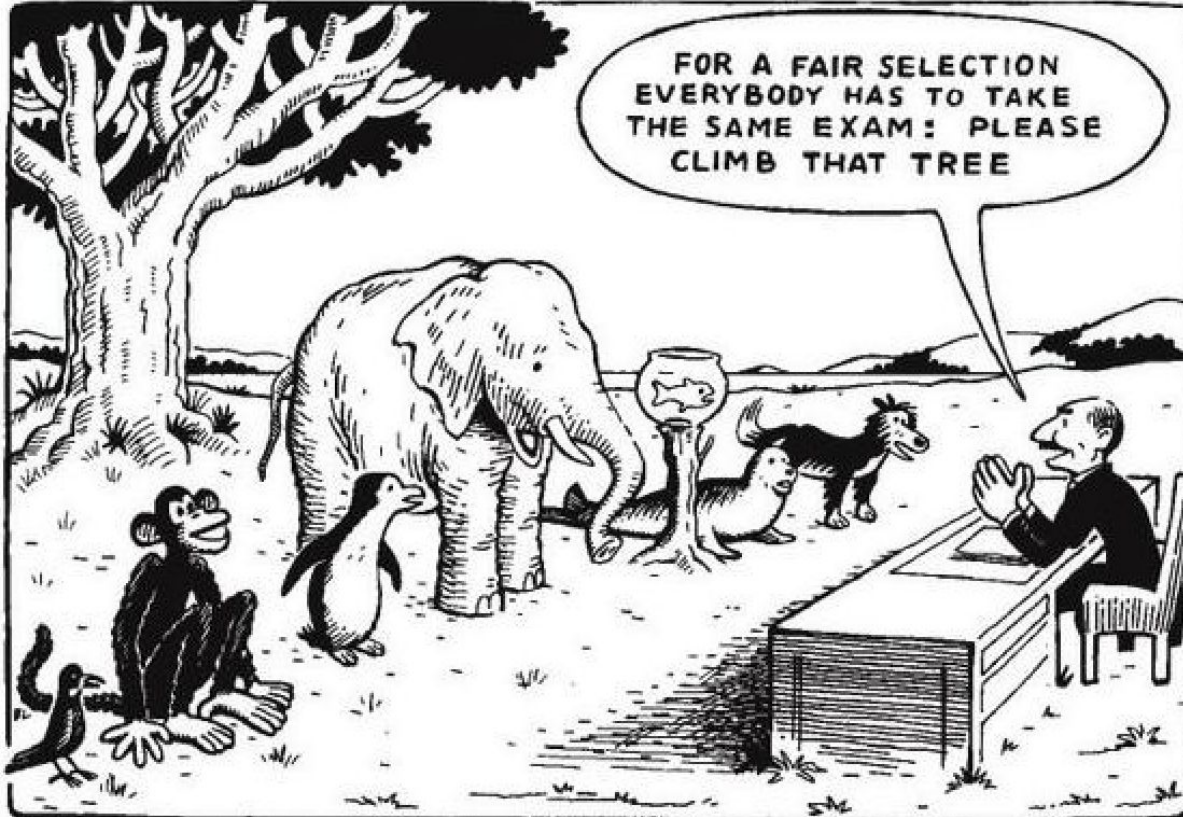
Investments
Planning under
the **largest**
uncertainty ever
known!

Optimization of
energy assets in
old-infrastructure
e and budget
constrained
world

Keeping a
constant
balance
between
generation and
demand

Managing
complexity for
energy users so
they play they
part too

... by using the right tool with the right approach



Deterministic Models

“Run faster our network simulation models”

Probabilistic Modelling

“Demand Prediction using ARIMA time series modelling”

ML - Classification and Prediction

“Failure prediction of wind turbine”

Generative AI

“Preliminary Engineering Design of Transformer Substations”

Agentic AI -> Our Current **Focus and Challenge**

Make decisions, Take Actions, Break Silos, **Connect Dots and Orchestrate!**

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The Challenge – being in the 5% that gets it right

- **MIT's Project NANDA** found that **95% of enterprise generative AI pilots fail to deliver any measurable financial return**, despite \$30–\$40 billion invested globally
- **Harvard Business Review** notes that “95% of AI projects fail” and argues the **problem is strategic**: companies adopt AI without rethinking business models or workflows
- **RAND** estimates over 80% of AI projects fail, often due to **misaligned objectives**, insufficient data, and lack of readiness
- **Forbes**: Many **Fortune 500 firms** spend millions on AI but see little ROI because they **treat AI as a novelty** rather than embedding it into workflows



#1. Target Business Process transformation, not “Use Cases”

Going **beyond technology** to integrate people & culture, addressing the silos in both data and organization dynamics

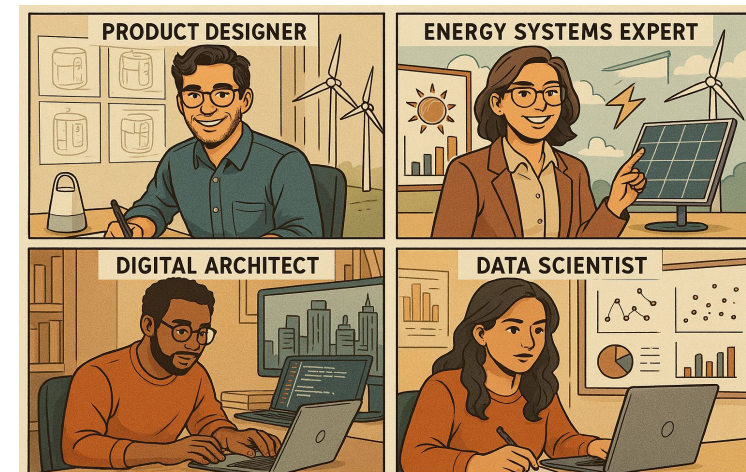
#2. Do the right thing: De-risking the Innovation to Product Journey

Implementing a **structured, decision-gates based, systematic approach** from need identification to product scale-up

#3. Do the thing right: the integrated Business-Product team approach

With a continuous engagement of the final user, the **integration of four team roles** under an Agile framework is essential to the success of the

process



- AI & Energy Interplay – the “**theme of our time**”
- **Energy for AI** – one of the key drivers of (unstoppable) electrification
- **AI for Energy I** – deeply impacting and orchestrating energy business process
- **AI for Energy II** – evolution towards Agentic Action and Connection of Sustainability dots
- Innovation-to-Product **Trio Formula for Success**: Business Process Transformation (breaking silos), structured Innovation-to-Product process ... and the right integrated team!

