accenture

Eurelectric Power Summit

Game Changers

for a 3-to-1 acceleration

Brussels
15-16 June 2022

The energy transition in Europe needs to enter a phase of unprecedented acceleration

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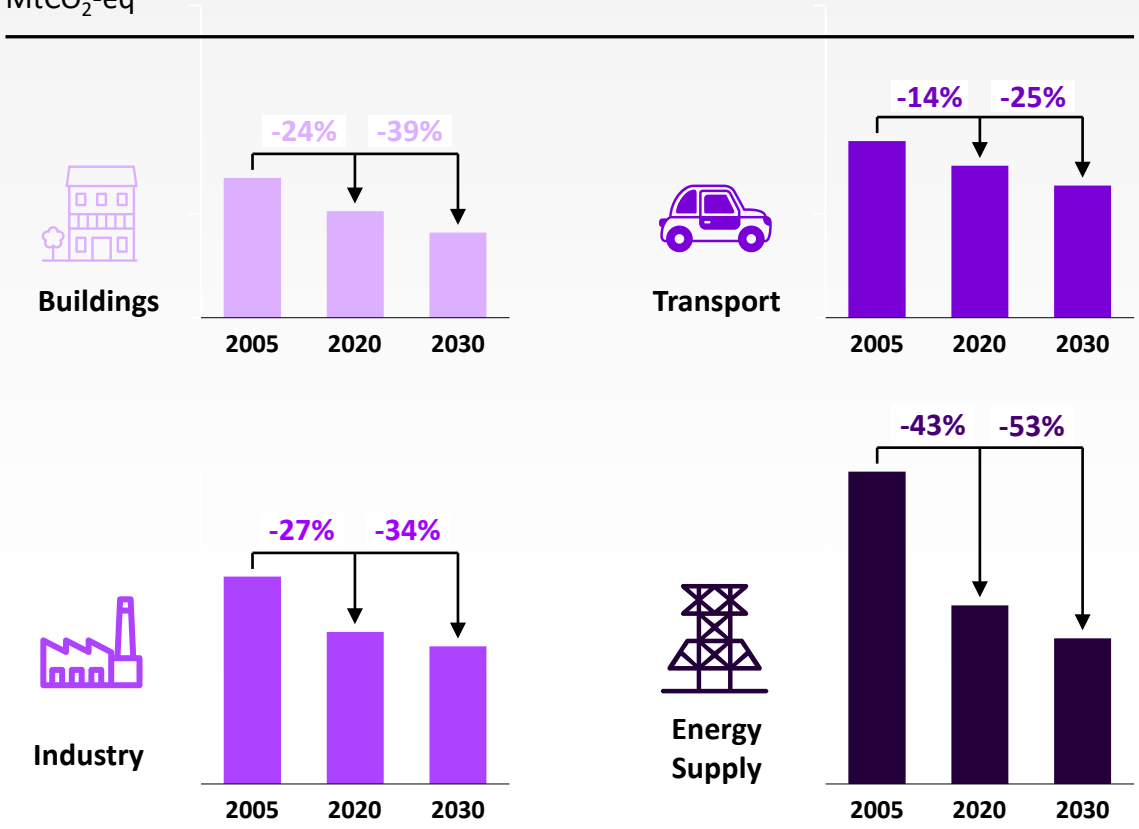
Twin Crises – the time to act was yesterday

Climate Crisis

Aggressive decarbonization required to limit warming

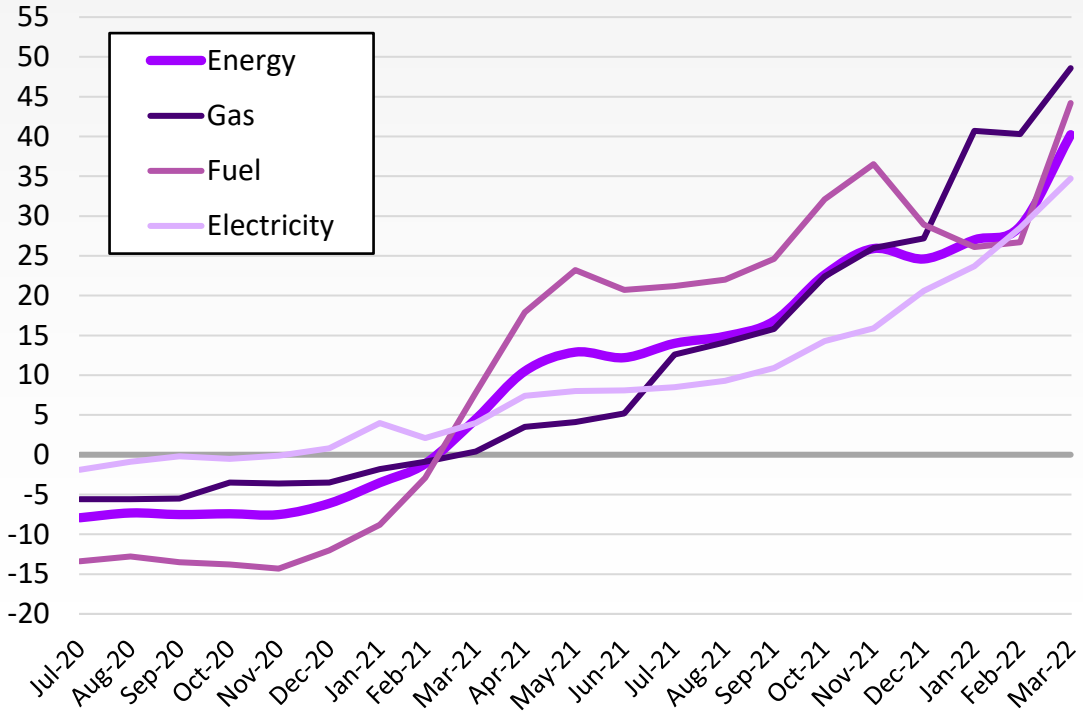
EUROPEAN UNION GHG EMISSIONS BY SECTOR[1]
$MtCO_2$-eq



Energy Crisis

Raising urgent energy security and affordability concerns

EVOLUTION OF ENERGY PRICES IN THE EUROPEAN UNION[2]
Annual rate of change



Source: [1] EEA Trends and Projections in Europe 2021, 2020 approx. inventory and 2030 projections; [2] Eurostat Data Browser: Harmonized Index of Consumer Prices, sub-components of energy include gas, fuel, and electricity

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REPowerEU makes clear that renewables and electrification are the solution

Increasing RE deployment and permitting reform

45%
2030 target for renewables share

Accelerating rollout of solar capacity

x2 solar PV capacity by 2025

58 TWh additional rooftop generation by 2025

Doubling deployment rate of heat pumps

10
million units over the next five years

Decarbonizing industry via electrification & hydrogen

Innovation Fund
to be brought forward to support the switch

Accelerating hydrogen production and imports

x2 domestic production by 2030 vs. Fit for 55

x4 total (incl. imports) by 2030 vs. Fit for 55*

Scaling up renewable generation for hydrogen

120 GW
electrolyzer capacity needed by 2030

Source: [3] REPowerEU Plan SWD (May 2022); * Includes scaling required to meet overall domestic hydrogen production (10 Mt) and imports (10 Mt) targets

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Five key game changers needed to accelerate action and address the twin crises

1. Raise the game on clean and renewable power and grids
2. Electrify everything that can be electrified
3. Strengthen grids, the backbone of the transition
4. Unlock the power of the demand side
5. Secure signals, secure investment

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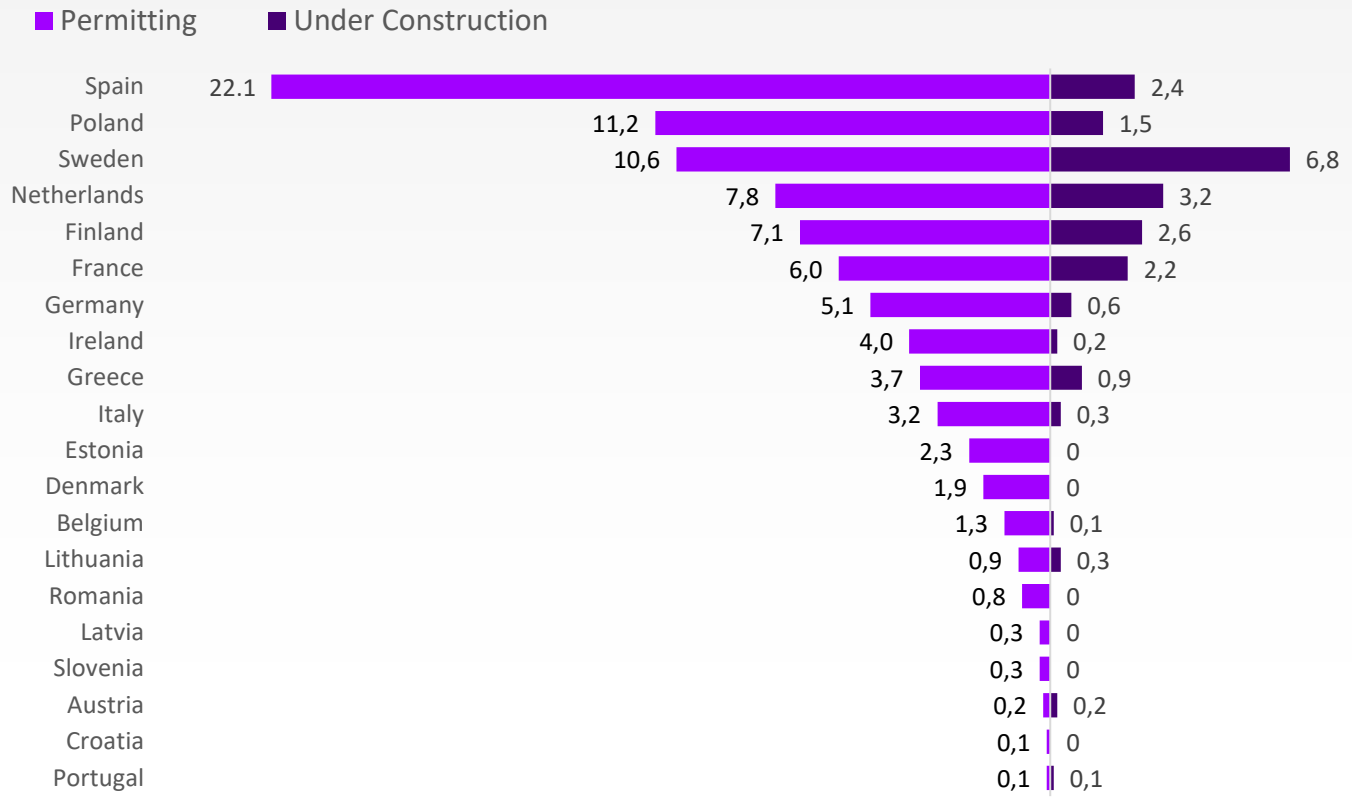
Raise the game on clean and renewable power and grids

The process for permitting, developing and building new renewable generation capacity and grid connection infrastructure must become much shorter to enable the addition of over 800 GW of renewable capacity by 2030

Top 20 EU countries by wind pipeline capacity[4]

Broken down by deployment stage (GW)



The EU has 4x more wind capacity in permitting than under construction, and supply chain bottlenecks and rising material prices are causing renewable power projects to be delayed or cancelled.

Source: [4] Energy Monitor - Global Data, only wind projects with more than 5MW of capacity represented

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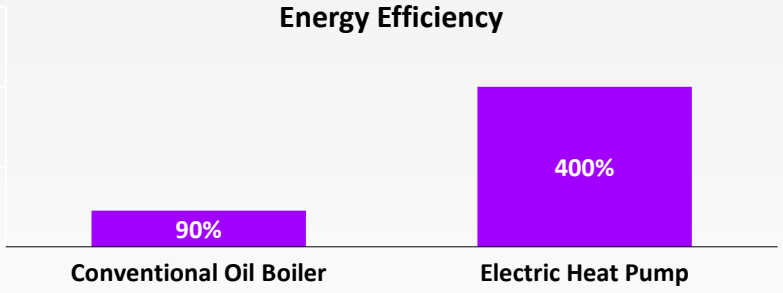
Electrify everything that can be electrified

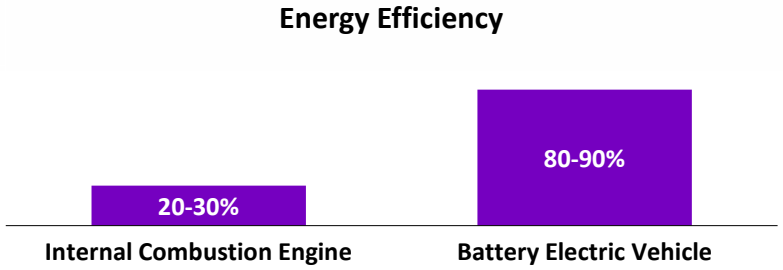
Electrification will tackle emissions and enhance energy security and efficiency. It will also critically contribute to a healthier society - air pollution continues to drive a significant public health burden in the EU linked to 350,000 premature deaths per annum[5]

01 **Electrification is crucial to reaching net zero by 2050 and creating a more livable world**

02 **Electric heating solutions save energy, reduce dependence on imported fossil fuels, and lower consumer bills[6]**



03 **Battery electric vehicles are more efficient, travel 3-4x the distance with the same amount of energy, and improve air quality[7]**



Source: [5] EEA, Health Impacts of Air Pollution in Europe: 2021; [6] Eurelectric, Power Barometer 2020; [7] Electrification Alliance Declaration

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Strengthen grids, the backbone of the transition

Timely and efficient integration of renewables requires a reversal of the decline in crucial infrastructure investment. Activating key integration levers[8] to create system flexibility will reduce overall need for capital build and unleash system value outcomes.

Utilizing key variable renewable integration levers can deliver on critical system value outcomes[9]

System Operation	Markets	Load	Flexible Generation	Networks	Storage

Variable **renewable generation** and **demand response** can be orchestrated to deliver security and resiliency outcomes by deploying **advanced forecasting, data visualization, analytics and decision support tools**. Grids must be modernized and digitized to support unlocking this opportunity.

Source: [8] National Renewable Energy Laboratory; [9] World Economic Forum: System Value Framework

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Unlock the power of the demand side

Deploying smart meters, smart grids and other technologies coupled with the right price signals and incentives can unlock demand side opportunities to maximize the potential for efficiency, flexibility, circularity and shared infrastructure synergy

Maximize the efficiency opportunity

Harness the potential for flexibility

Repurpose waste and unlock shared infrastructure synergies

Adoption of electric solutions

Share of consumers surveyed[10]

Electric Heating	Home Energy Generation	Electric Mobility
18%	9%	7%

Barriers to adoption

Cost

Awareness

Complexity Concerns

Source: [10] Eurelectric & Accenture. Pledge to the People

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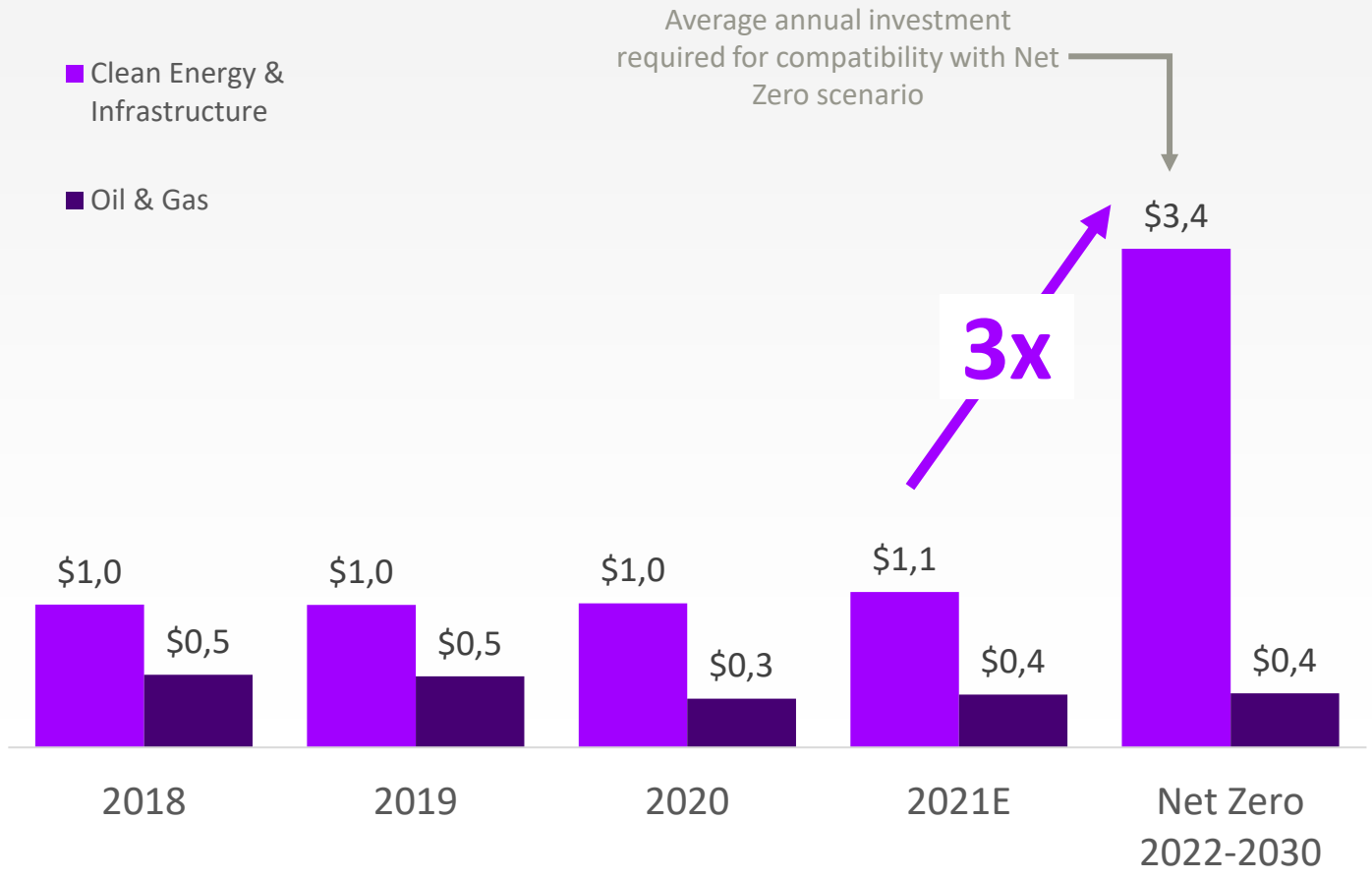
Secure signals, secure investment

Transition related spending is not ramping up fast enough for a Net-Zero pathway

ANNUAL GLOBAL INVESTMENT[11]

USD in trillions



Scaling up renewable generation, storage, power-to-X and demand-side flexibility on time to meet electrification coupled with green hydrogen production targets will require enhanced investor certainty to support final investment decision and unlock the project pipeline.

Source: [11] IEA: World Energy Investment 2021

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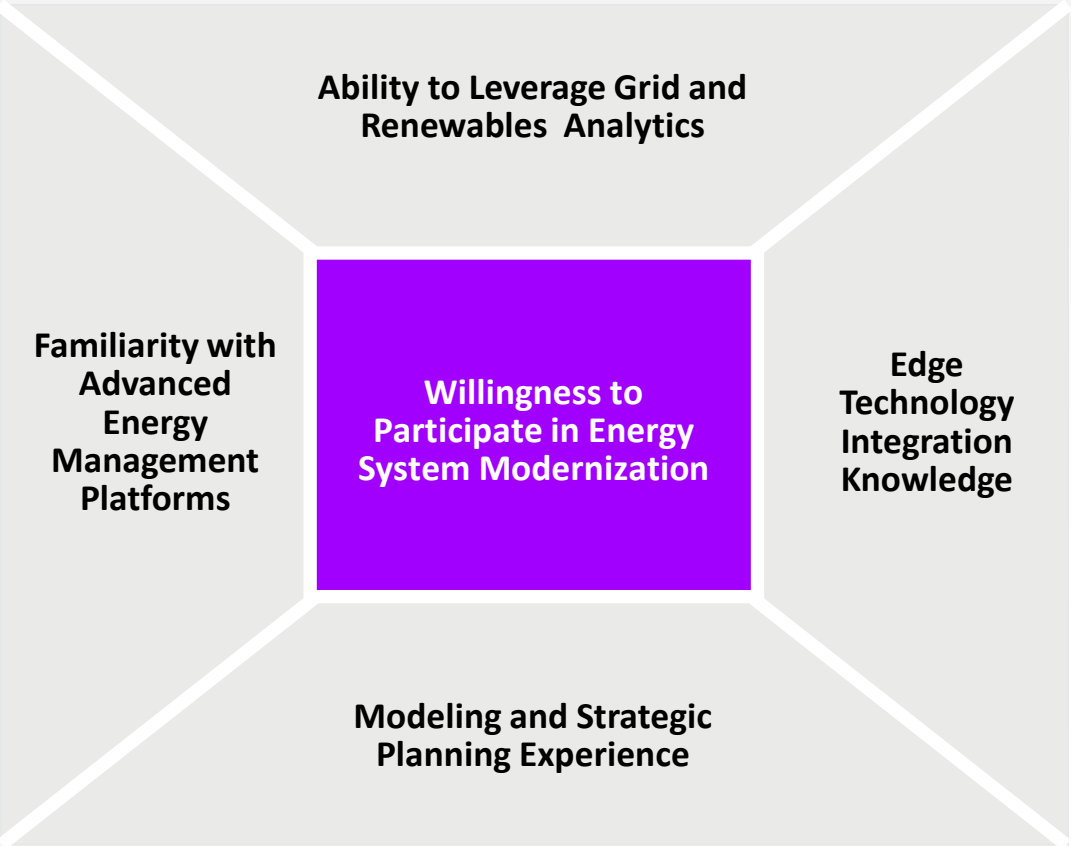
Address the skills gap

The workforce of the future will need to be data- and digital-fluent to fill the millions of European jobs that will be created by the clean energy transition and electrification

Job creation potential in growing industries[12]

7.4M	**Grids, networks, variable renewable energy and future power markets**
489K	**Efficiency and demand optimization**
340K	**Green hydrogen**
199K	**Electrification of transport**

Skills needed in the next 10 years[13]



Source: [12] EC Energy Efficiency Funding, Hydrogen Europe Report, AIE Report; [13] Forbes, April 2022

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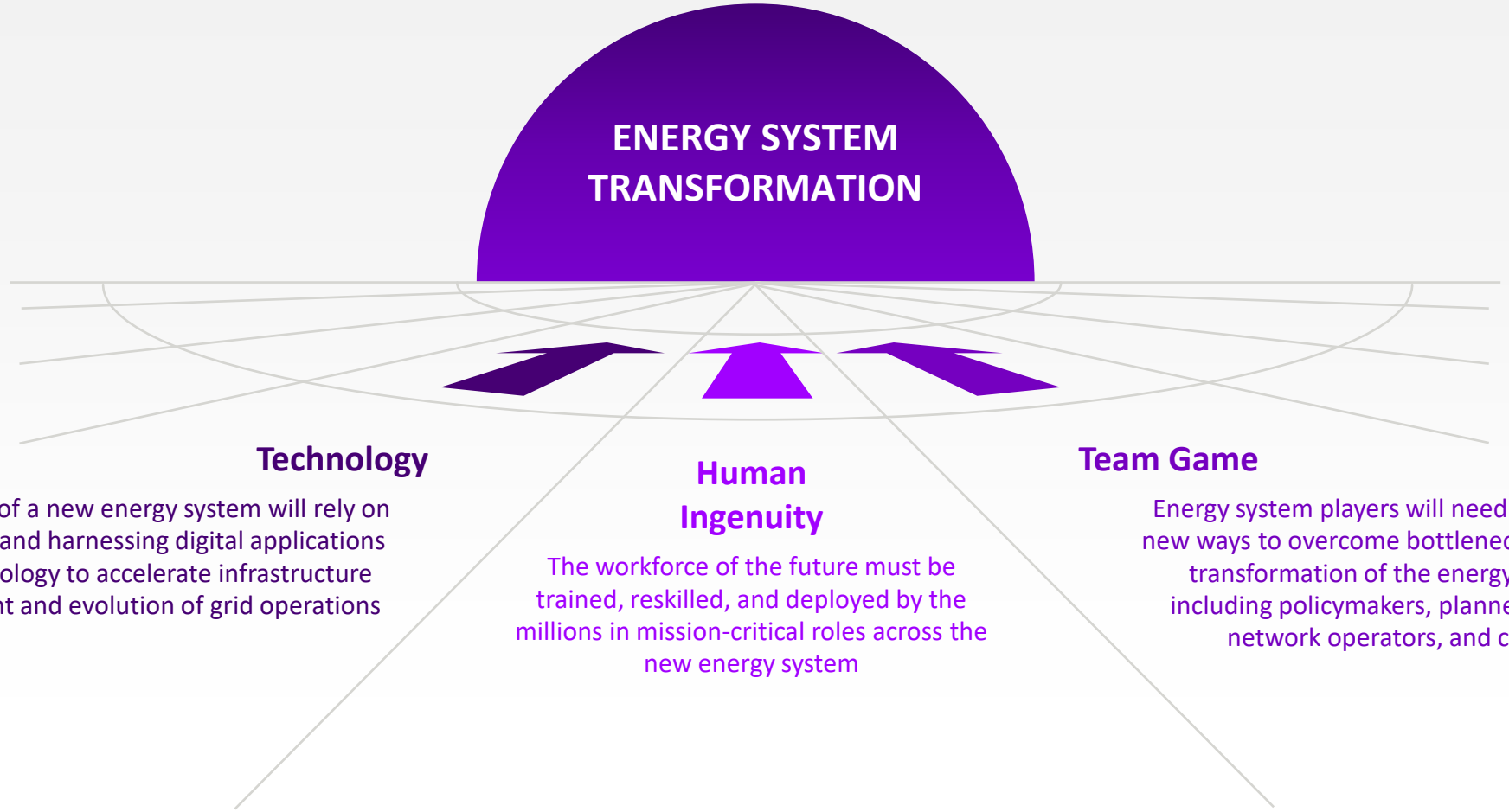
Technology, human ingenuity and a team game will transform the energy system



Technology

Realization of a new energy system will rely on innovation and harnessing digital applications and technology to accelerate infrastructure deployment and evolution of grid operations

Human Ingenuity

The workforce of the future must be trained, reskilled, and deployed by the millions in mission-critical roles across the new energy system

Team Game

Energy system players will need to collaborate in new ways to overcome bottlenecks and accelerate transformation of the energy system (e.g., including policymakers, planners, developers, network operators, and customers)

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About Eurelectric

Eurelectric is the federation for the European electricity industry. We represent the power sector in over 32 European countries, speaking for more than 3,500 companies in power generation, distribution and supply. We contribute to the competitiveness of our industry, provide effective representation in public affairs and promote the role electricity in addressing the challenges of sustainable development. We draw on more than 1000 industry experts to ensure that our policy positions and opinions reflect the most recent developments in the sector. This structure of expertise ensures that Eurelectric's publications are based on high-quality input with up-to-date information. We currently have over 34 full members, representing the electricity industry in 32 European countries. Visit us at www.Eurelectric.org

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