

# REMODELING **THE FUTURE**

How energy transition is driving new models in energy and utilities

"New-energy models" refers to new products and services and new ways of operating existing business. Such models include energy services, energy platforms, energy-storage solutions, alternate fuels, mobility services, grid-management services, and clean-energy.



Onshore and offshore wind solar power, hybrid farms, CPPA, local generation, sustainable power plants, CCUS

Alternate fuels Fuel from bio waste and hydrogen, biogas

**Transmission and** distribution

Trading and energy platforms 患

Generation

Grid management services Smart grid management, microgrid-as-a-service, demand response, aggregator business model,

hydrogen transportation, heating networks, grids convergence



### Electrification: mobility services + electric heating

EV charging stations and services, flexible charging that enables G2V and V2G, hydrogen charging stations, electric heating and cooling

#### **Energy-storage solutions**

Energy generation and storage at home, Storage for renewables and networks (stationary), gigafactories (storage and electrolysers)

#### Energy-as-a-Service

Consumer: Smart homes, and other hybrid services, Commercial: EaaS for smart cities and buildings, smart industry, smart lighting

#### **Energy platforms**

Asset management platforms, wholesale energy trading services, micro-services-based IoT platforms, peer-to-peer energy exchange platforms

Hydrogen, the new energy carrier, carbon reduction and offsetting services

**Retail and services** 

#### Source: Capgemini Research Institute analysis.

THE ENERGY AND UTILITIES SECTOR IS ON THE CUSP OF TRANSITION DUE TO DECARBONIZATION, MASSIVE **ELECTRIFICATION, AND INCREASE IN ENERGY EFFICIENCY** 

**68%** say that mitigating the impact of climate change is driving their shift towards new-energy models, while **63%** cite investor demand as a driver of change.

**71%** of executives say that energy and utilities companies that do not implement new-energy models will be wiped out.

# Energy and Utility players that do not implement new-energy models will be wiped out



### Share of organizations that agree with the above statement

\*Australia, Singapore, and Japan. Source: Capgemini Research Institute, New-energy Models in the Energy and Utilities Sector survey, August–September 2021, N=530 organizations from the energy and utilities sector.

# Organizations cite strong customer demand and regulatory support for most models

### Percentage of respondents who rated each model "high" for customer demand and regulatory support



Source: Capgemini Research Institute, New-energy Models in the Energy and Utilities Sector survey, August–September 2021, <sup>1</sup>N=71, <sup>2</sup>N=35, <sup>3</sup>N=41, <sup>4</sup>N=30, <sup>5</sup>N=50, <sup>6</sup>N=57, <sup>7</sup>N=34, <sup>8</sup>N=39 organizations from the energy and utilities sector. 

### **ORGANIZATIONS THAT HAVE IMPLEMENTED NEW-ENERGY MODELS REPORT MULTIPLE BENEFITS**



Organizations have already achieved an increase of 6% in revenues due to new-energy models and expect an11% increase in the next three years.



Organizations which are implementing clean energy models have achieved a reduction of 4.6% in scope-3 emissions and expect a further reduction of 13% in the next three year

# **MULTIPLE CHALLENGES TO THE ADOPTION OF NEW-ENERGY MODELS**

Most organizations are yet to implement new-energy models

Only 25% are implementing energy platforms, 19% are implementing energy storage solutions, and only 16% are implementing grid-management services.

Alternate	16%	48%	37%
fuels Energy-storage	17%	64%	19%
30(0(0))3	21%	55%	24%
Clean-energy Energy	34%	42%	25%
platforms Mobility services/	38%	42%	20%
infrastructure	<ul><li>37%</li></ul>	46%	16%
services	42%	41%	18%

## Is your organization exploring the following new models?



- We do not plan to implement this new-energy model
- We are not implementing it currently, but we plan to in future
- We are implementing this model

Source: Capgemini Research Institute, New-energy Models in the Energy and Utilities Sector survey, August–September 2021, N=530 organizations from the energy and utilities sector.

## There are multiple challenges to the adoption of new-energy models



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Only 18% o organizations have a comprehensive, global business strategy for new-energy models with well-defined goals



68% of organizations lack in-house technology expertise and lack focus on new technologies.



62% of organizations do not have adequate skillsets to develop, sell, or manage services.



Only 33% of organizations operate an innovation function at scale to develop and test new models and industrialize the results

# WHAT DO COMPANIES NEED TO SCALE NEW-ENERGY MODELS?



Develop a robust data and technology foundation for new-energy models



Source: Capgemini Research Institute analysis. 



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