

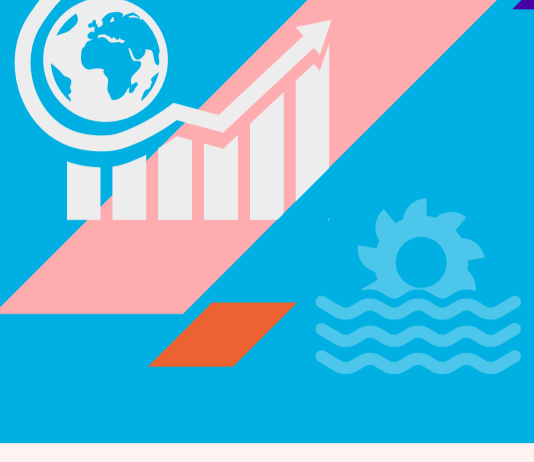
# WE MO 2019



## World Energy Markets Observatory: North America

Pockets of progress

Robust economic growth made 2018 the highest annual electricity output on record in North America. With consumption trends projected to remain steady through 2050 and a continued reliance on fossil fuels, the region is faced with a long and difficult road to reach climate-related targets.



### 1 At a Glance: Renewables & Environment



**Region: US**  
Population: 327,096,265  
GDP: US\$20,494,099 million



**Region: Canada**  
Population: 37,074,562  
GDP: US\$1,711,390 million

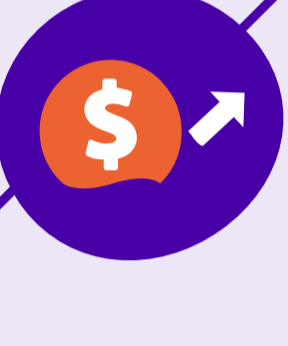
Share of renewables: **7.4%**  
Total clean energy investment: **\$64B**  
Total CO2 emissions: **5,268Mt**  
GHG emission growth: **+2.7% (US)**

Share of renewables: **28.4%**  
Total CO2 emissions: **555Mt**  
GHG emission growth: **+0.1% (CAN)**

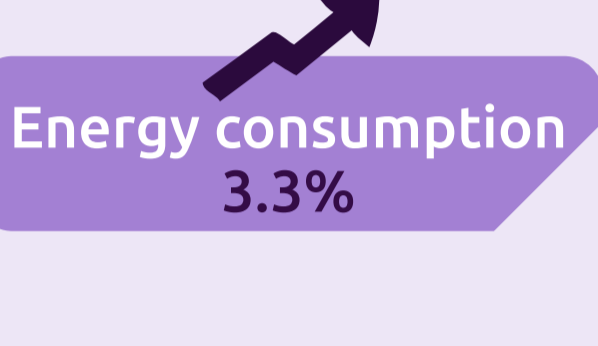
**"Primary energy consumption is rising in parallel with the US economy. However, energy intensity is decreasing year by year, thus raising the critical question of energy production in future."**

Randall Cozzens  
EVP, NA Sector Head of Energy & Utilities

### 2 2018 saw the highest annual electricity output on record in North America, as driven by robust economic growth



**U.S. economy**  
2.9%



**Energy consumption**  
3.3%

### 3 U.S. CO2 emissions surged, despite a significant drop in coal-fired generation, threatening climate change targets

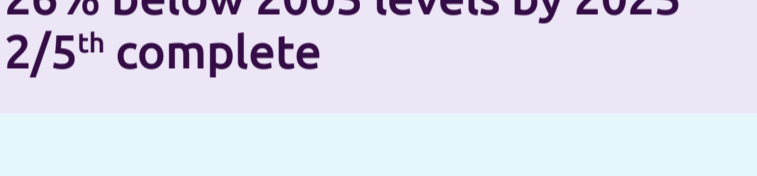


**2.7%**  
CO2 emissions in 2018

**10%**  
below 2005 levels  
Current GHG emissions

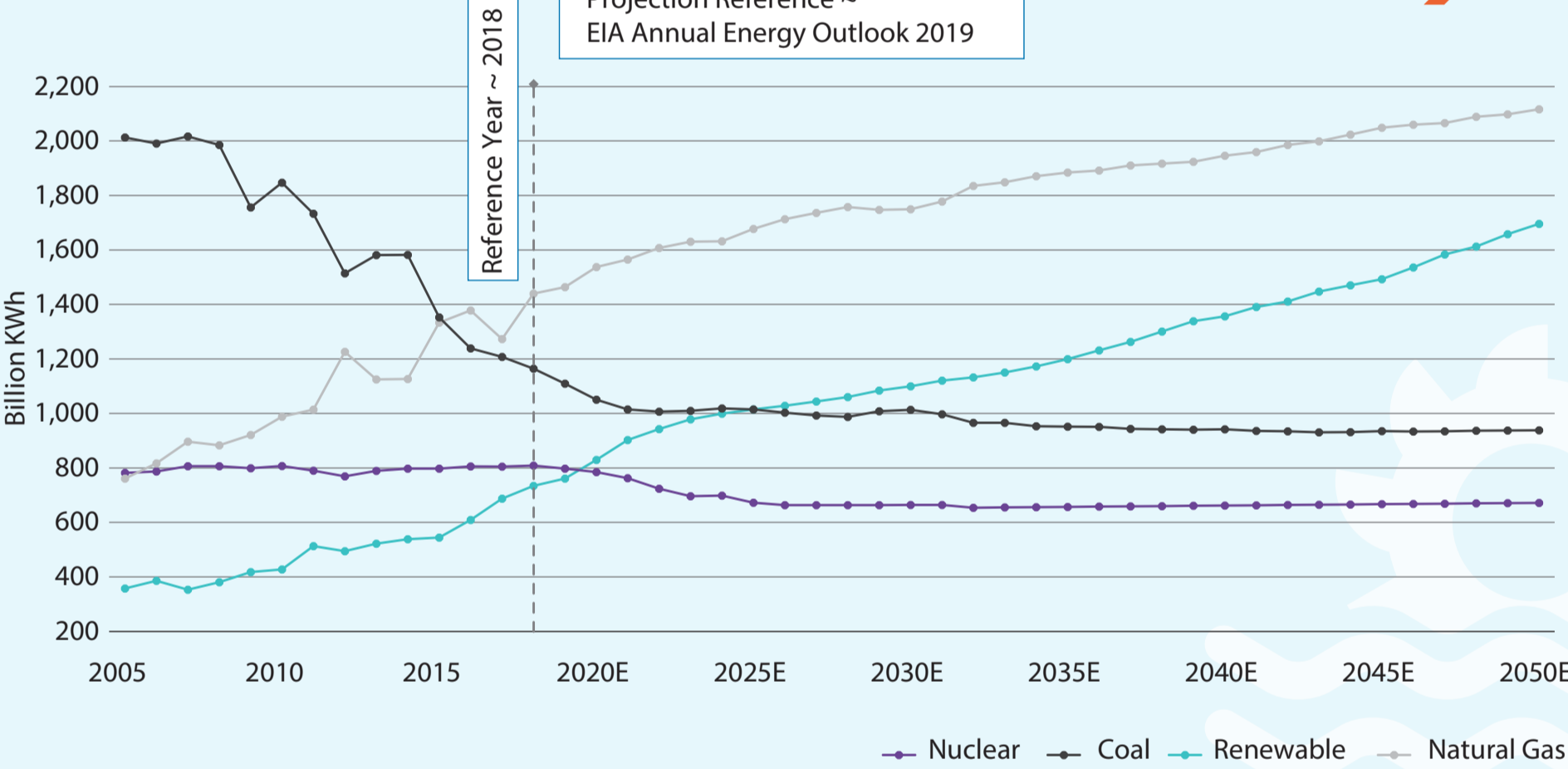
CO2 emissions  
**86%** of all U.S. GHG

Paris Agreement Target



### 4 In 2018, the U.S. was the second largest market for clean energy investment, at \$64B.

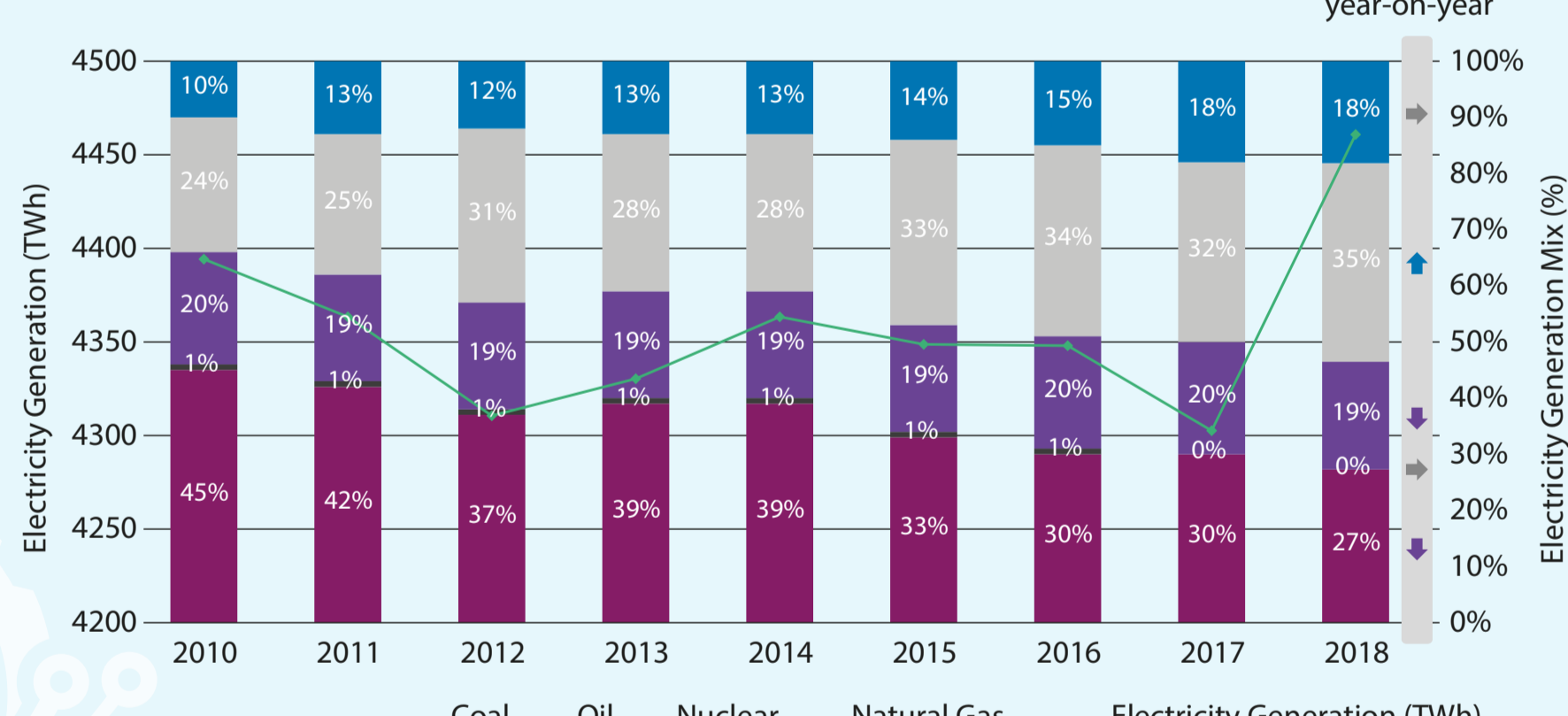
Low natural gas prices and the favorable cost of renewables have helped them evolve as primary sources for new capacity additions until 2050.



Source: US EIA, Rhodium Estimates (May 2019), US EIA Short-Term Energy Outlook (June 2019)

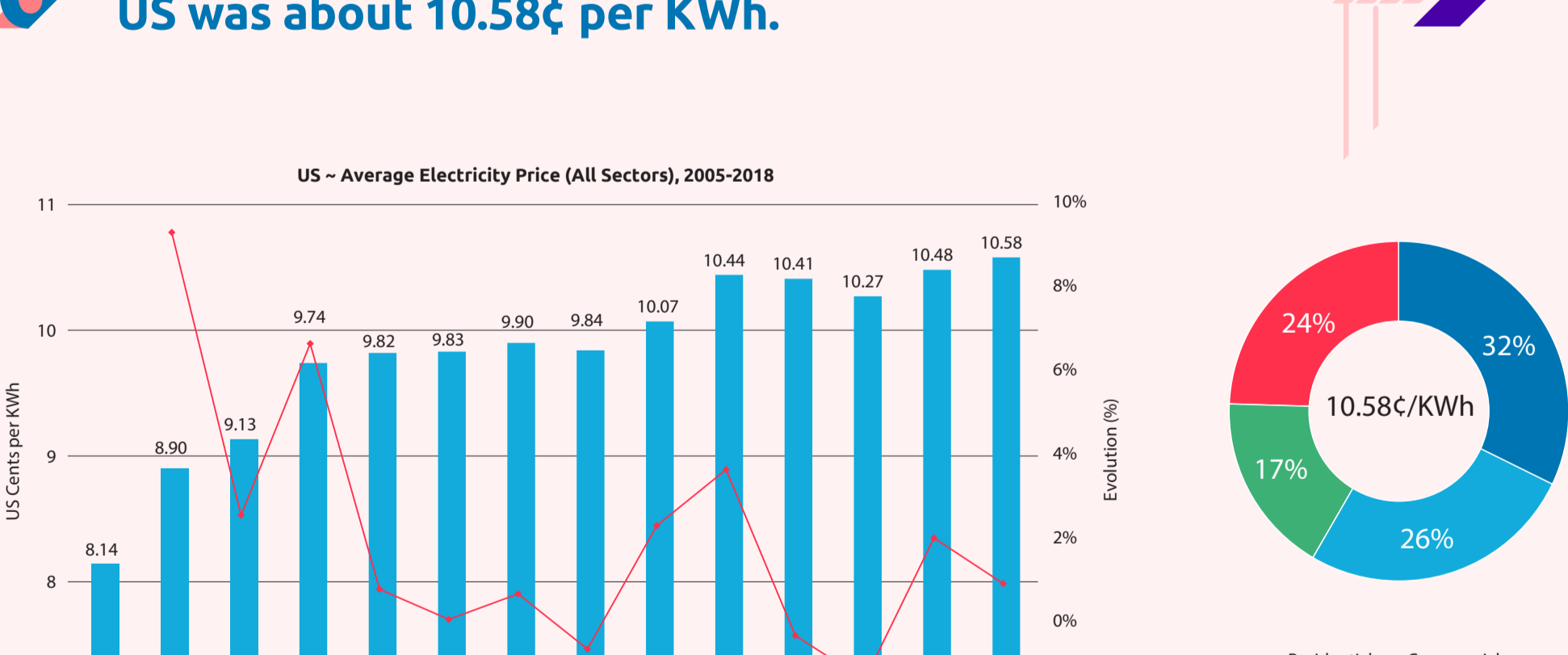
### 5 U.S. output of renewable energy sources increased 79% since 2009, though coal still dominates the energy mix

US - Historical Electricity Generation Mix - Evolution, 2010-2018 (%)



Source: BNEF - Sustainable Energy in America Factbook, 2019 ; BP Statistical Review of World Energy, 2019

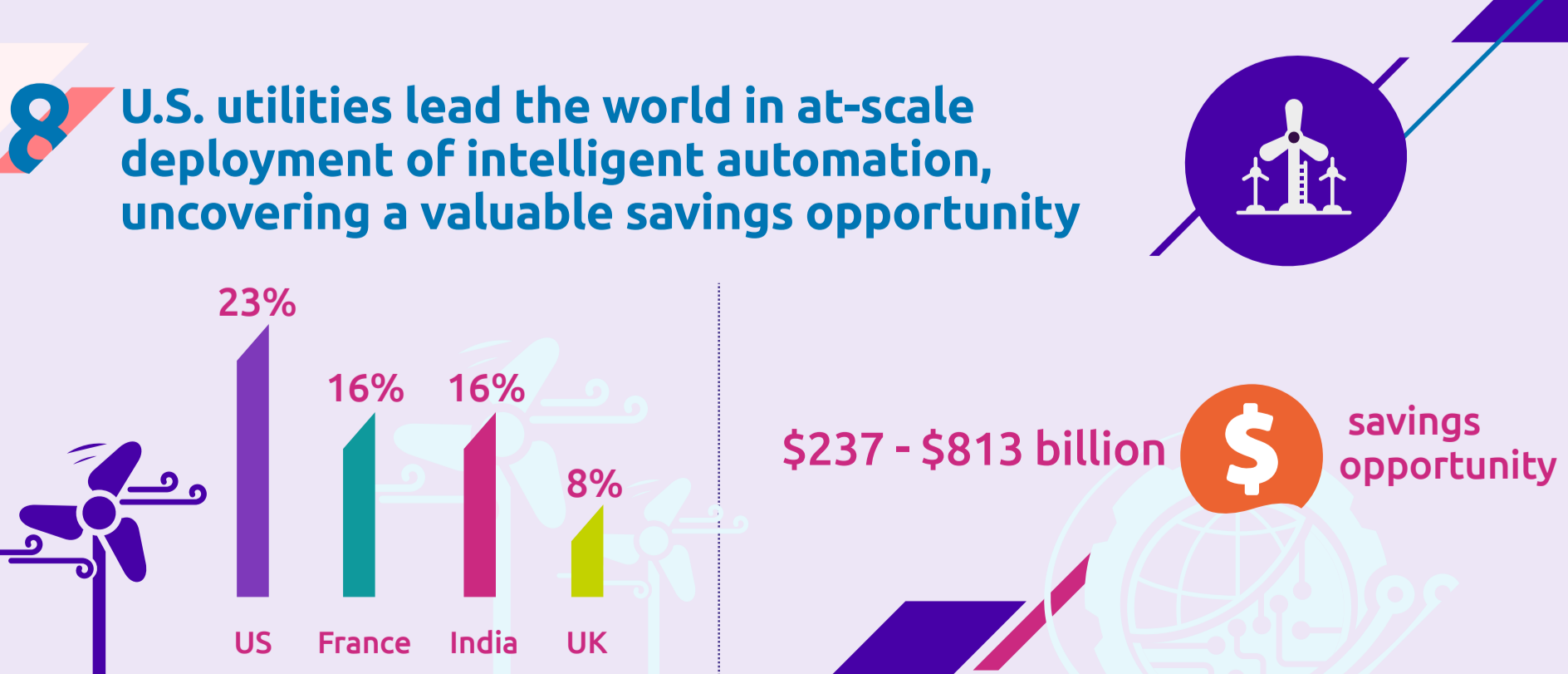
### 6 In 2018, the annual average price of electricity in the US was about 10.58¢ per KWh.



Source: US EIA (June 2019)

### 7 Most of the US utilities reported EBITDA margin with the range 30%-40%.

### 8 U.S. utilities lead the world in at-scale deployment of intelligent automation, uncovering a valuable savings opportunity



#### About WEMO

The World Energy Markets Observatory (WEMO) is Capgemini's annual thought leadership and research report that tracks the development and transformation of electricity and gas markets in Europe, North America, Australia, Southeast Asia, India and China. Now in its 21st year, WEMO examines the following topics: climate change & regulatory policies; energy transition; infrastructure & adequacy of supply; supply & final customer; transformation; and financials.