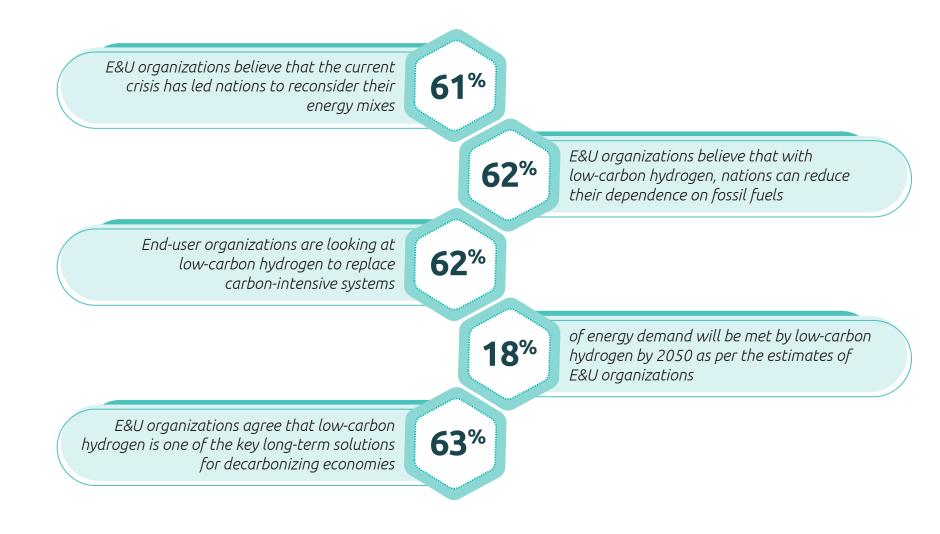
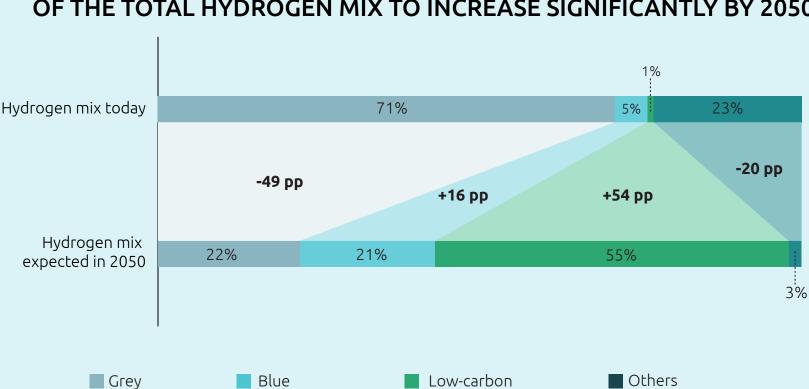
# **ORGANIZATIONS ARE OPTIMISTIC AND AMBITIOUS ABOUT LOW-CARBON HYDROGEN**



Source: Capgemini Research Institute, low-carbon hydrogen survey, November–December 2022; N=360 respondents from unique end-user organizations; N=500 respondents from unique energy and utilities organizations.

#### **E&U ORGANIZATIONS EXPECT LOW-CARBON HYDROGEN'S SHARE** OF THE TOTAL HYDROGEN MIX TO INCREASE SIGNIFICANTLY BY 2050

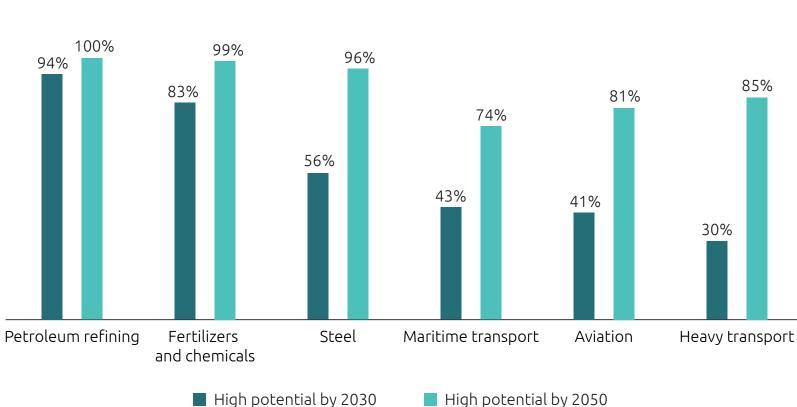


Note: This represent subjective organizational expectations for low-carbon hydrogen and is not based on present capabilities and investment levels. Source: IEA, Hydrogen Tracking Report, September 2022; Capgemini Research Institute, low-carbon hydrogen survey,

November–December 2022; N=500 respondents from unique energy and utilities organizations.

## INDUSTRIES SUCH AS REFINING, FERTILIZERS, AND CHEMICALS WILL WIDELY HARNESS LOW-CARBON HYDROGEN

% OF RESPONDENTS WHO SEE HIGH POTENTIAL FOR LOW-CARBON HYDROGEN IN THEIR RESPECTIVE INDUSTRIES



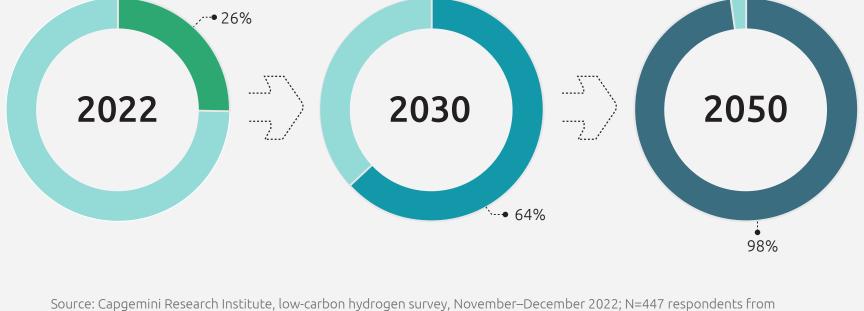
Note: Respondents from each sector answered about potential for their own industry only. Source: Capgemini Research Institute, low-carbon hydrogen survey, November–December 2022; N=360 respondents from unique end-user organizations.

# **INVESTMENT IN LOW-CARBON HYDROGEN** IS ON THE RISE

### LOW-CARBON HYDROGEN INITIATIVES % OF ORGANIZATIONS THAT ARE INVESTING/PLANNING TO INVEST IN

A MAJORITY OF E&U ORGANIZATIONS ARE PLANNING TO INVEST IN

LOW-CARBON HYDROGEN



**E&U ORGANIZATIONS ARE MAKING INVESTMENTS ACROSS THE** 

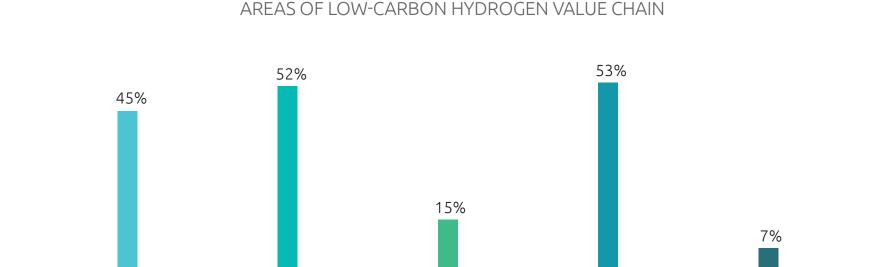
unique energy and utilities organizations.

unique energy and utilities organizations.

#### R&D and Transport and End-to-end **Production** Storage distribution innovation value chain

% OF ORGANIZATIONS INVESTING OR PLANNING TO INVEST IN DIFFERENT

LOW-CARBON HYDROGEN VALUE CHAIN



COST, ENGINEERING, AND SKILLS CHALLENGES

Source: Capgemini Research Institute, low-carbon hydrogen survey, November–December 2022; N=500 respondents from

#### **Engineering & Cost Challenges** Skills Challenges **Infrastructure Challenges**

**ARE YET TO BE ADDRESSED** 



- Tailor the business-case assessment to your organization • Establish governance models to support new business models • Establish hydrogen-competence centers for skills development
- **STRATEGIZE**
- Accelerate • Clearly articulate partnership strategy and scale and design appropriate trade-offs low-carbon • Harness the potential of while partnering with: hydrogen digital-twin technologies to - Primary energy producers reduce cost and operational risks
- Equipment suppliers - Storage-system developers - Infrastructure providers - End-users
- End-to-end value chain
- Develop robust data and COLLABORATE **ACTIVATE** technology foundations to
  - maximize agility and resilience in the supply chain

