

# US Energy Sector Trends

Presented by

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USAID Southeast Asia Smart Power Program



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# USAID SE Asia Smart Power Program

ERC FORUM

2023

# U.S. Support to the ASEAN Power Grid



In May 12-13, 2022, U.S.-ASEAN Special Summit in Washington, D.C. re-affirmed U.S. support across ASEAN’s institutions and programs.



USAID’s flagship regional energy program, Southeast Asia Smart Power Program (SPP), will be a key source of support.



*“We resolve to enhance energy transition and resilience in an inclusive and just manner through the facilitation of clean and renewable energy development, the promotion of public-private collaboration to address transition financing needs, including through blended finance, and the deployment of advanced and emerging low-carbon energy technologies in supporting increased access to energy services and energy security...”*

*-ASEAN-U.S. Special Summit 2022, Joint Vision Statement*

*“A \$40 million investment to mobilize \$2 billion in blended financing for clean energy infrastructure in Southeast Asia, thereby decarbonizing and strengthening the region’s power system, increasing regional energy trade, and accelerating the deployment of clean energy technologies.”*



# About the Smart Power Program

## Targets

The life of program targets SPP is driving to achieve include:



2,000 MW of advanced energy systems deployed



\$2 Billion finance mobilized



5% Increase in regional energy trade

## Strategy

SPP will focus on achieving the following technical and policy objectives:



Expand power trade



Deploy renewable energy



Assess regional air quality and prioritize clean energy technologies



Optimize natural gas use

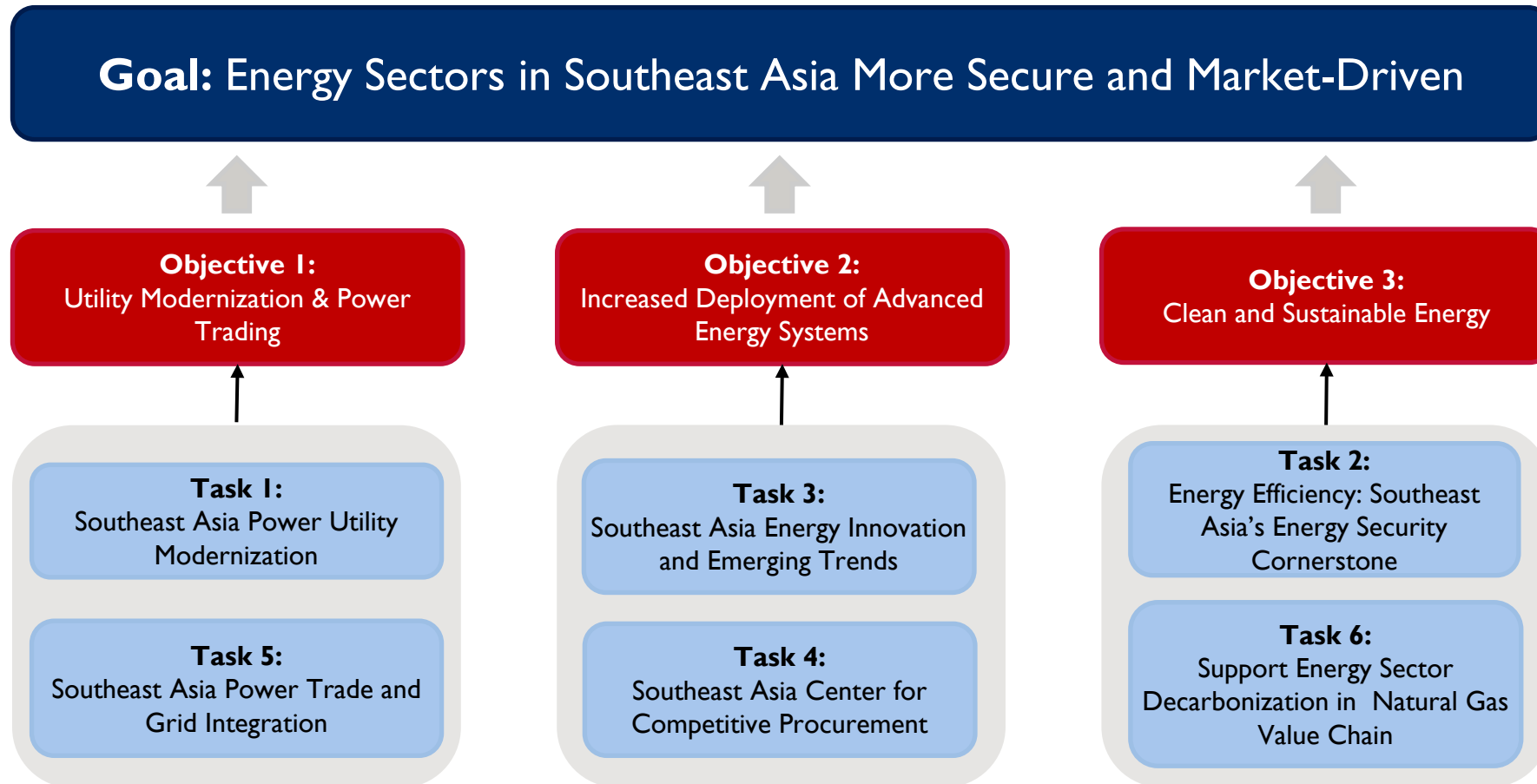
## Mandate



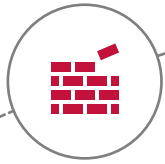
### SPP is:

A 5-year program targeting seven countries in SEA: Burma, Cambodia, Indonesia, Laos, the Philippines, Vietnam, and Thailand

# Organization and Tasks

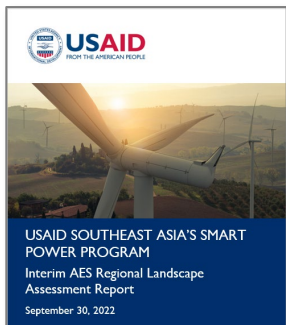


# Organization and Tasks



## Laying the Groundwork

- During its first year, SPP successfully built a strong foundation.
- The program **assembled a team** in the region while **establishing public and private sector partnerships** to advance a more secure, market-driven energy sector for the region.



*SPP spent its first year conducting assessments*



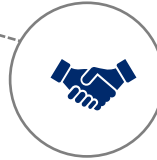
## Establishing Partnerships with ASEAN Leaders

- SPP has built relationships with **four regional and national government bodies**, including the ASEAN Centre for Energy (ACE).
- **SPP signed Grant under Contract with ACE in Jun 2023.**

## Establishing Partnerships with other Regional Programs

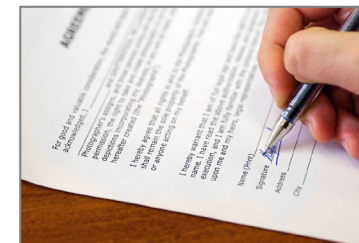


**JUMPP**



## Engaging with the Private Sector

- SPP signed Letters of Collaboration with **several companies** to help them
  - Integrate more clean energy into their operations
  - Develop new clean energy projects
  - Deploy advanced energy systems



*Signed Letters of Commitment with 5 companies*



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## Electricity Prices

Electricity prices continued to rise at 11% to 12.3 Us Cents/kWh in 2022

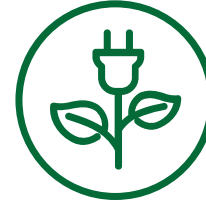
- High Natural Gas/Coal Prices
- RE Supply Chain Disruption



## Grid Operation

Focus on grid reliability and resilience to overcome weather challenges and higher reserves, leads to

- Energy Storage
- Micro Grids
- Strengthening flexibility
- Harden infrastructure



## Renewable Incentives

Renewable energy grows with support from the Inflation Reduction Act and the Infrastructure Investment and Jobs Act

- Generation increases to 23% in 2022
- 69% of new capacity added from solar /wind (Jan-Aug 2022)
- Utilities pushing DER participation in wholesale markets
- EV Sales up 6.3% in H1 2022



## Investment

Planned Spending in 2023

- 47 of the largest electricity and gas utilities have significant investment plans
- Estimated investment of \$169.4B





# Key Trends in the US



1

## Grid modernization

Utilities increasingly plan to roll out the next wave of Advanced Metering Infrastructure (AMI)

2

## ESG reporting

Environmental, social, and governance reporting continues to gain momentum

3

## Grid flexibility

Battery storage deployments set to accelerate despite supply chain snags

4

## Decarbonized fuels

Power and utility companies see opportunities to reap value from clean hydrogen

5

## Transportation electrification

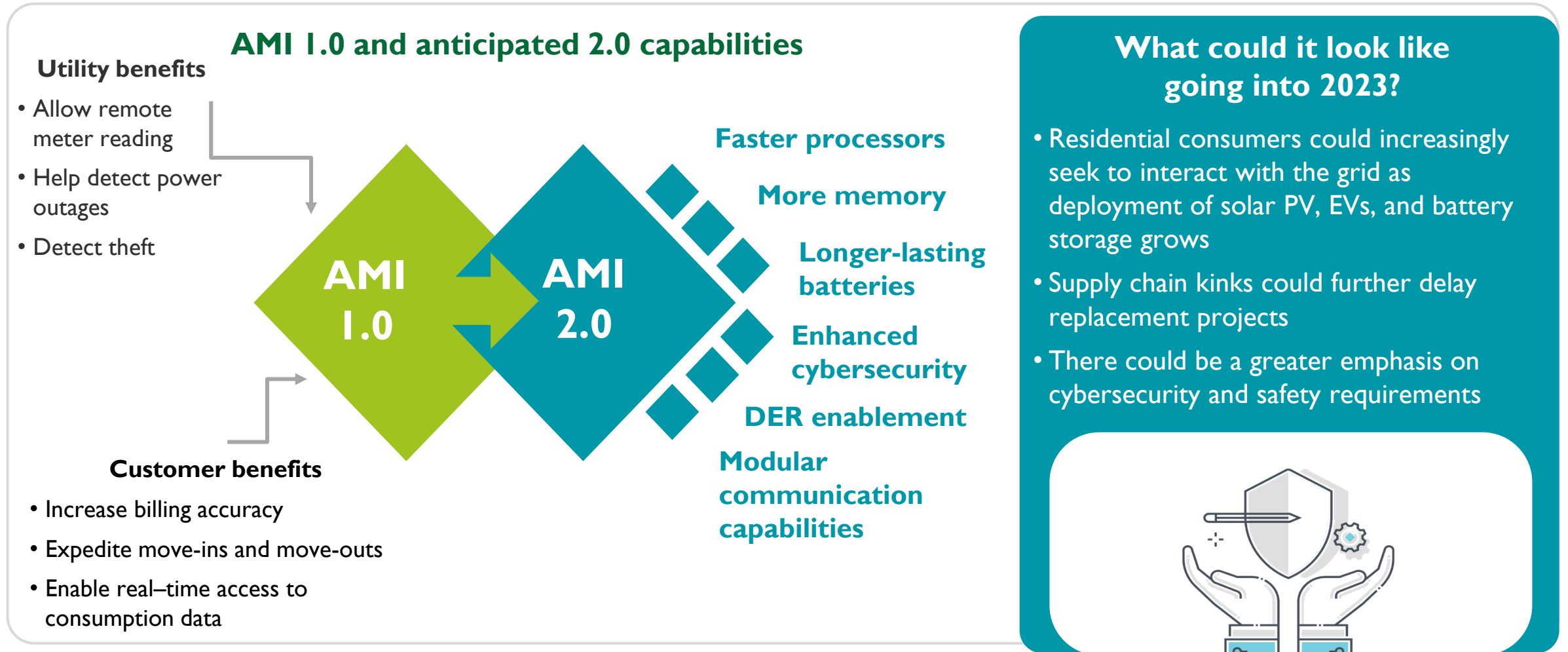
Utilities likely to sharpen focus on preparing for electric vehicle (EV) growth



# Utilities increasingly plan to roll out the next wave of Advanced Metering Infrastructure (AMI)



Just as first-wave AMI benefits helped pay for implementation, the benefits of next-gen AMI (or AMI 2.0) could also help justify the rollout expense



## What could it look like going into 2023?

- Residential consumers could increasingly seek to interact with the grid as deployment of solar PV, EVs, and battery storage grows
- Supply chain kinks could further delay replacement projects
- There could be a greater emphasis on cybersecurity and safety requirements



# Environmental, social, and governance reporting continues to gain momentum



Power and utility companies have been disclosing elements of ESG topics and enhancing them as needs and advocacy evolve. Proposed rules by the US Securities and Exchange Commission (SEC) could provide further momentum in 2023.<sup>2</sup>

## Key drivers for comprehensive ESG disclosure:



### Business requirements

*Growing need to identify rapidly changing environmental and societal disrupters and address them*



### Stakeholder pressure

*Stakeholders continue to urge more comprehensive, consistent, and standardized ESG reporting*

### Business benefits



### Evolving regulatory policies

*Increasing requirements for ESG disclosures. An SEC proposed rule would require annual disclosure of certain climate related information.*

### Reduce cost of capital

Favorable ESG ratings can boost companies' access to sustainability-linked financing, such as **green bonds**, and lower their **cost of capital**.<sup>3</sup>

### Build brand

A solid ESG proposition can **help** to **build brand image** and reputation

### Lower risk/penalties

Comprehensive ESG disclosures can help power companies avoid **risk** and **legal repercussions**

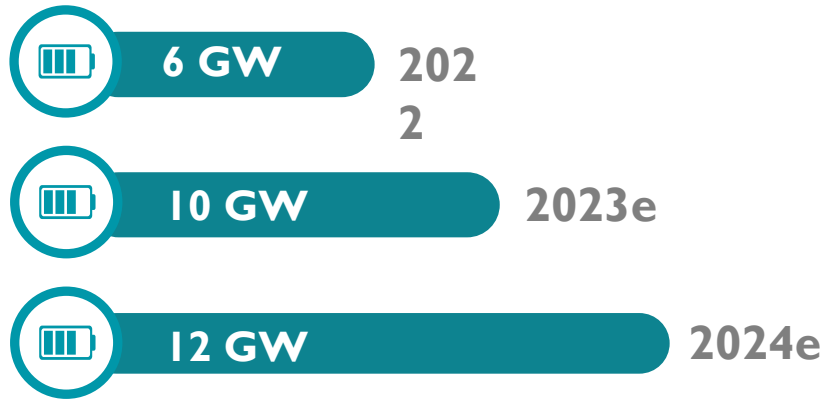


# Battery storage deployments set to accelerate despite supply chain snags



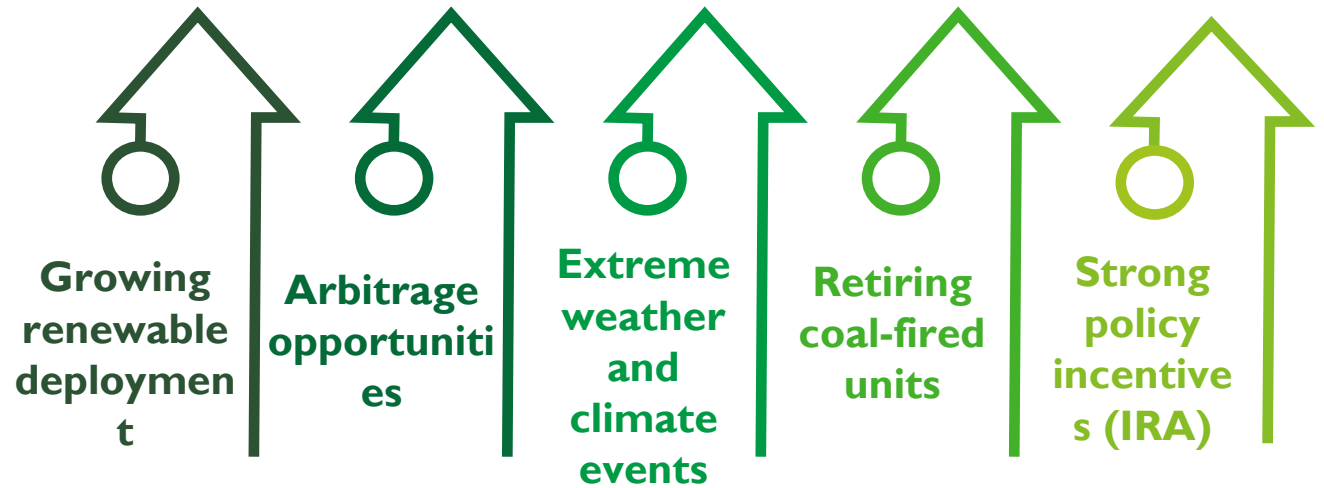
US battery storage is poised for faster growth in 2023, as renewables' share of generation rises, extreme weather events become more frequent, and new legislation continues to improve its value proposition

## Projected utility-scale storage capacity additions <sup>4</sup>



New storage capacity additions expected to DOUBLE by 2024<sup>5</sup>

## Growth drivers



## KEY CHALLENGES HEADING INTO 2023

Supply chain challenges could continue into 2023, largely due to the paucity of battery and critical mineral suppliers and concern about unethical labor practices, especially in cobalt mining.<sup>7</sup>



Cumulative US utility-scale battery storage capacity at end-2021<sup>6</sup>  
**4.6 GW**

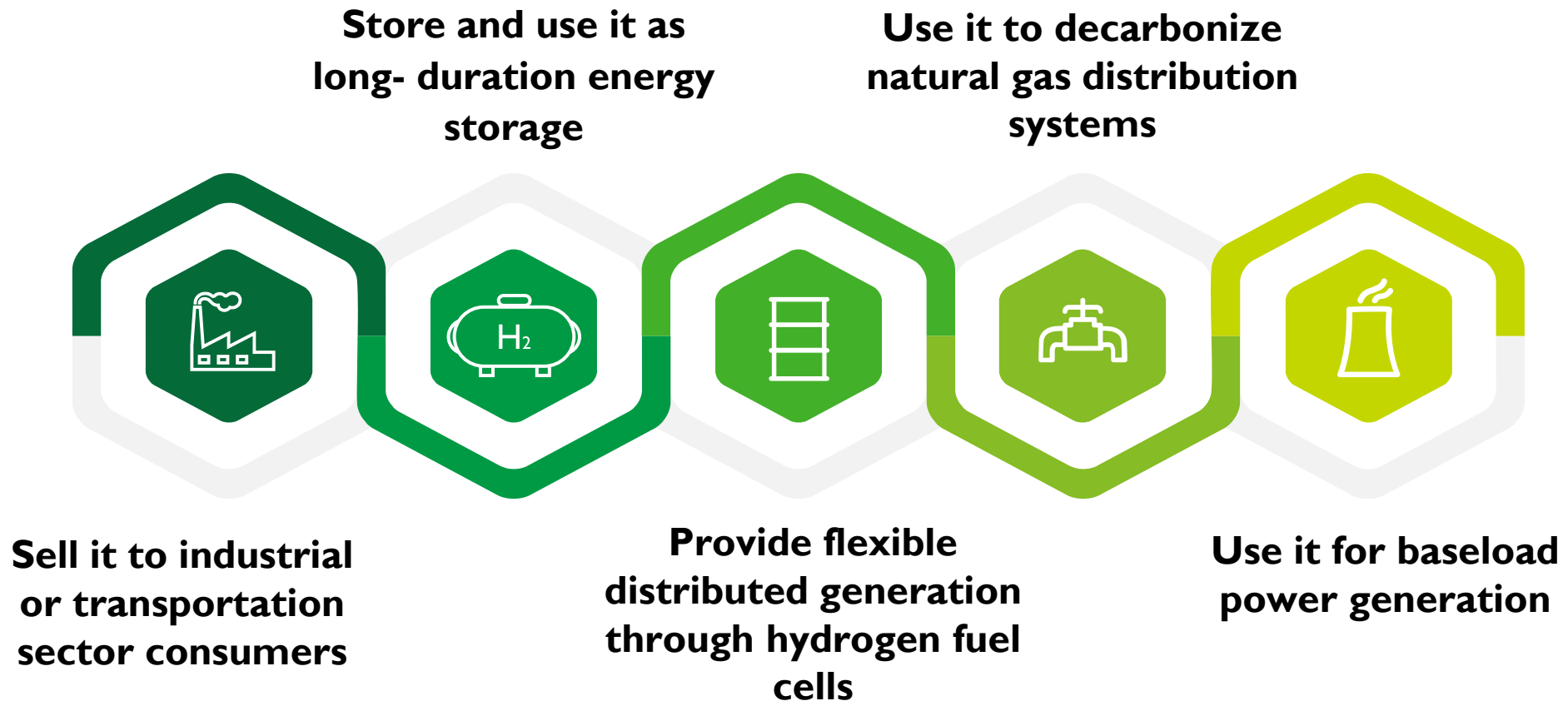


# Power and utility companies see opportunities to reap value from clean hydrogen



With IRA incentives, “clean” hydrogen prices are becoming competitive with conventional hydrogen in many US locations, opening new opportunities. But it still may not make economic sense for applications that require additional transportation, storage, or other infrastructure.

## Five ways to consider monetizing clean hydrogen’s value:

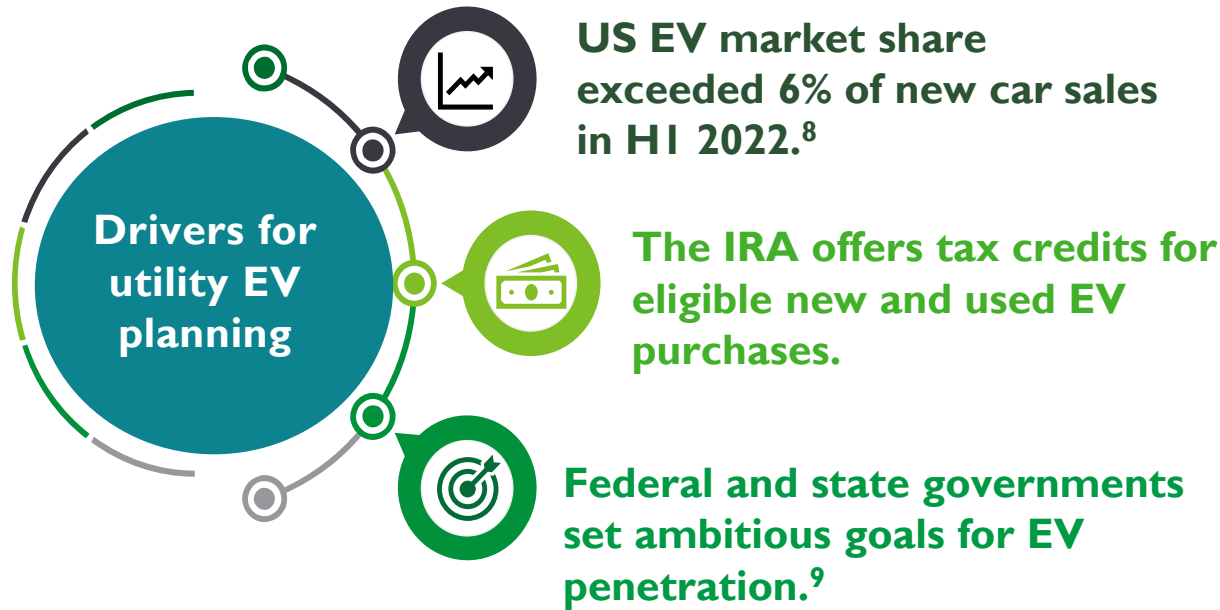




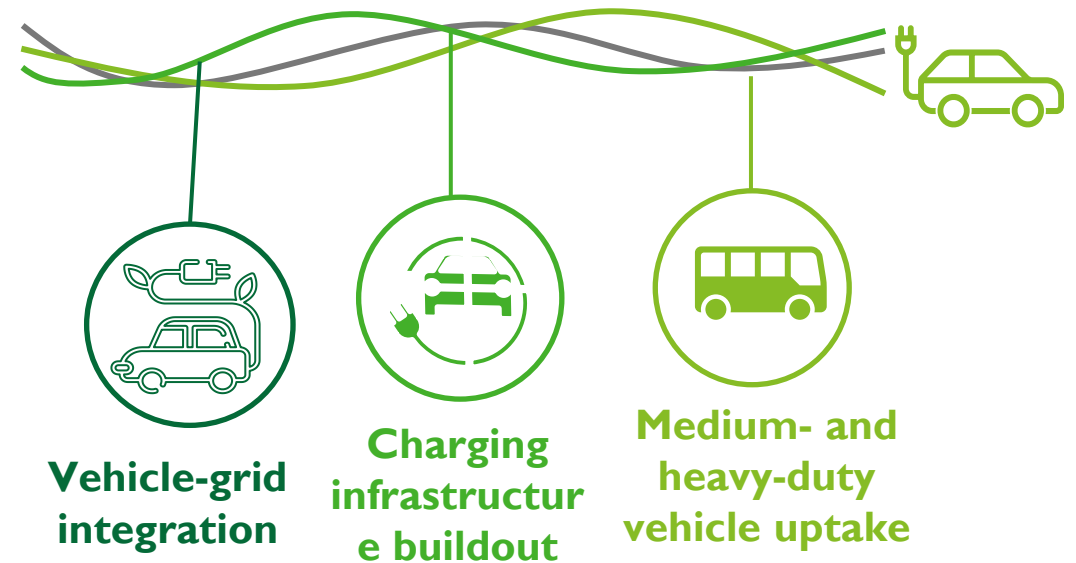
# Utilities likely to sharpen focus on preparing for electric vehicle growth



Utilities are expected to accelerate EV planning in 2023 as EV market share rises, incentives sweeten, and federal and state governments set ambitious goals for EV penetration.



## Utility focus areas for 2023 and beyond



# Key Takeaways for the Power and Utilities Industry in 2023



In 2023, supply chain snags, rising costs, and extreme weather are likely to continue plaguing the sector. Despite these challenges, new technologies and supportive policies could ripen opportunities and help the industry achieve its goals.



As the first generation of smart meters approaches retirement, utilities will increasingly focus on developing replacement plans— and benefits from AMI 2.0’s advanced capabilities could potentially help pay for the replacement program.



Comprehensive ESG reporting and decarbonization commitments will likely progress further in 2023, as companies and stakeholders see a growing need to identify rapidly changing environmental and societal disrupters and address them.



Power sector activity in clean hydrogen is likely to accelerate in 2023, partly due to new IRA incentives. Companies are evaluating the most economically feasible options, which may often be those that require less new infrastructure.



Utilities will likely accelerate their EV planning and programs in 2023 as EV market share increases and IRA incentives become effective – with likely focus on vehicle-grid integration, charging infrastructure buildout, and medium/heavy-duty vehicles.



Power and utility companies will likely lean further into evolving technologies and new business models. Technological advances and investment, aided by recent legislation, and cross-industry partnerships can help the sector fulfill its mission to provide increasingly secure, reliable, clean, and affordable electricity.

# Thank you!

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