



Energy  
Storage  
Association

# Energy Storage Monitor: 2<sup>nd</sup> Quarter U.S. Energy Storage Review

**June 17, 2020**

[www.energystorage.org](http://www.energystorage.org)





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This webinar is being recorded. We will send the slides and recording to all registrants within two business days.

All lines will be muted during the webinar.

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# Today's Speakers



**Brett Simon**  
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Solar & Storage Market  
Analyst  
*Wood Mackenzie*  
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# U.S. energy storage monitor

Q2 2020 presentation



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Wood Mackenzie Power & Renewables/U.S. Energy Storage Association | June 17, 2020

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We provide commercial insight and access to our experts leveraging our integrated proprietary metals, energy and renewables research platform

Wood Mackenzie is ideally positioned to support consumers, producers and financiers of the new energy economy.

- Acquisition of MAKE and Greentech Media (GTM)
- Leaders in renewables, EV demand and grid-connected storage
- Over 500 sector-dedicated analysts and consultants globally, including 75 specifically to power and renewables
- Located close to clients and industry contacts



 Wood Mackenzie offices

 Wood Mackenzie Power & Renewables offices



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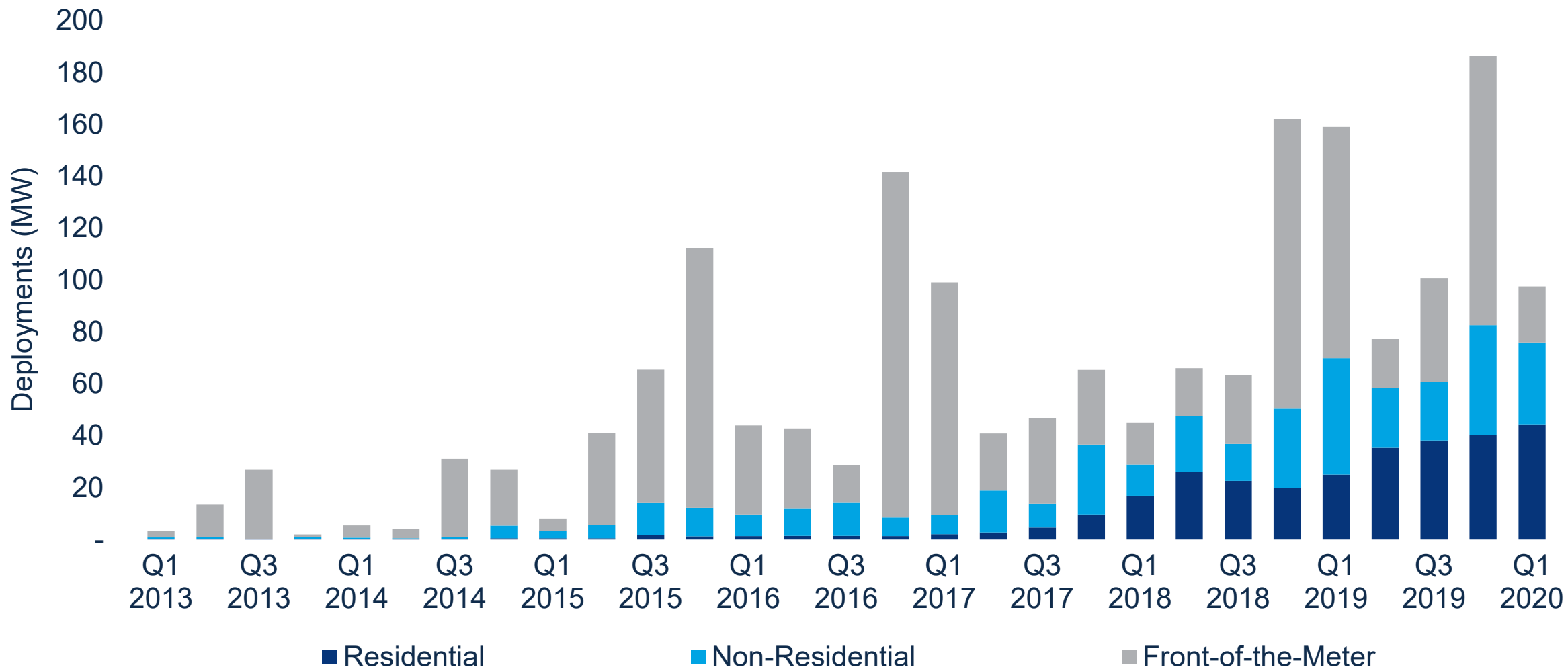
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# 1. Deployment trends

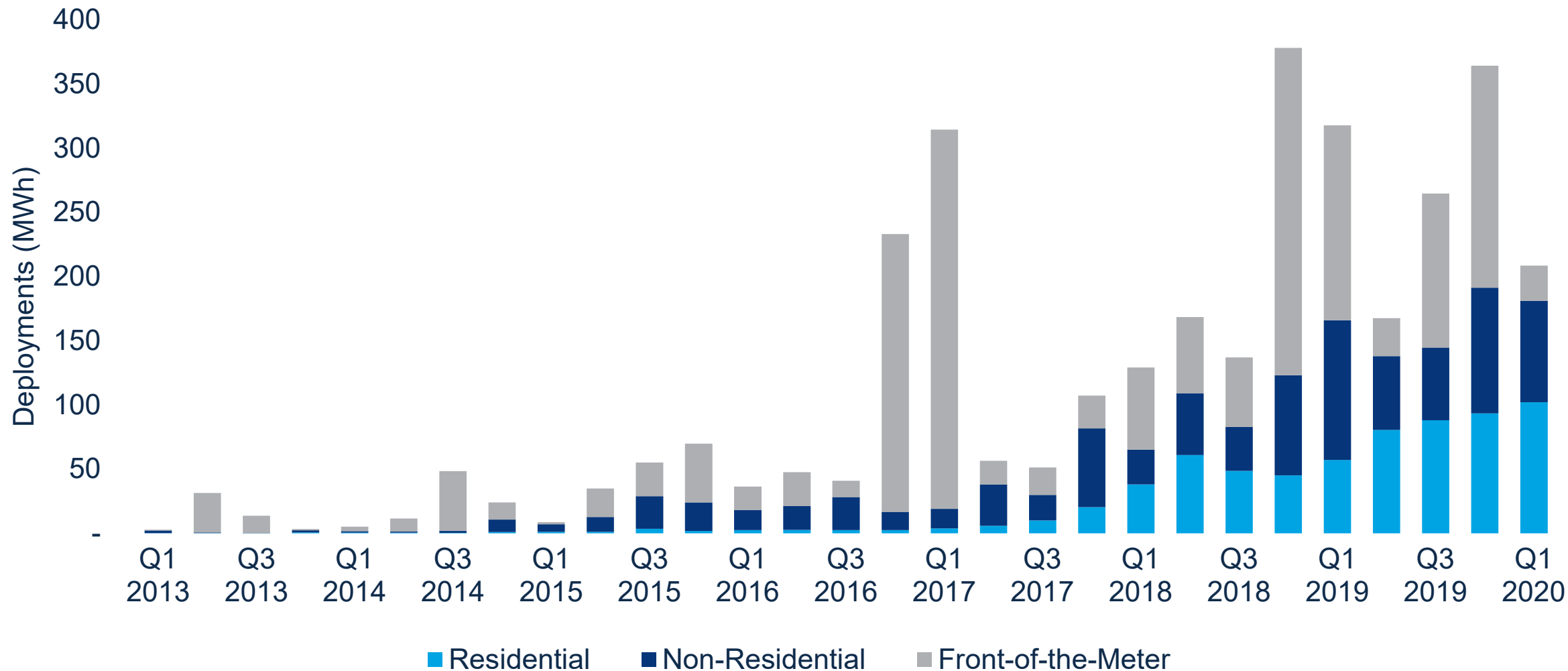
# U.S. Q1 2020 deployments reached 98 MW

A fairly strong Q1, though effects of COVID-19 began to hit the U.S. market in late March 2020



# U.S. market deployed 208 MWh in Q1 2020




A preponderance of short-duration front-of-the-meter systems led to a heavy QOQ decline



# Top energy storage states, Q1 2020

California remains the leader of the behind-the-meter storage market

## Top three markets by segment in Q1 2020 (energy capacity)

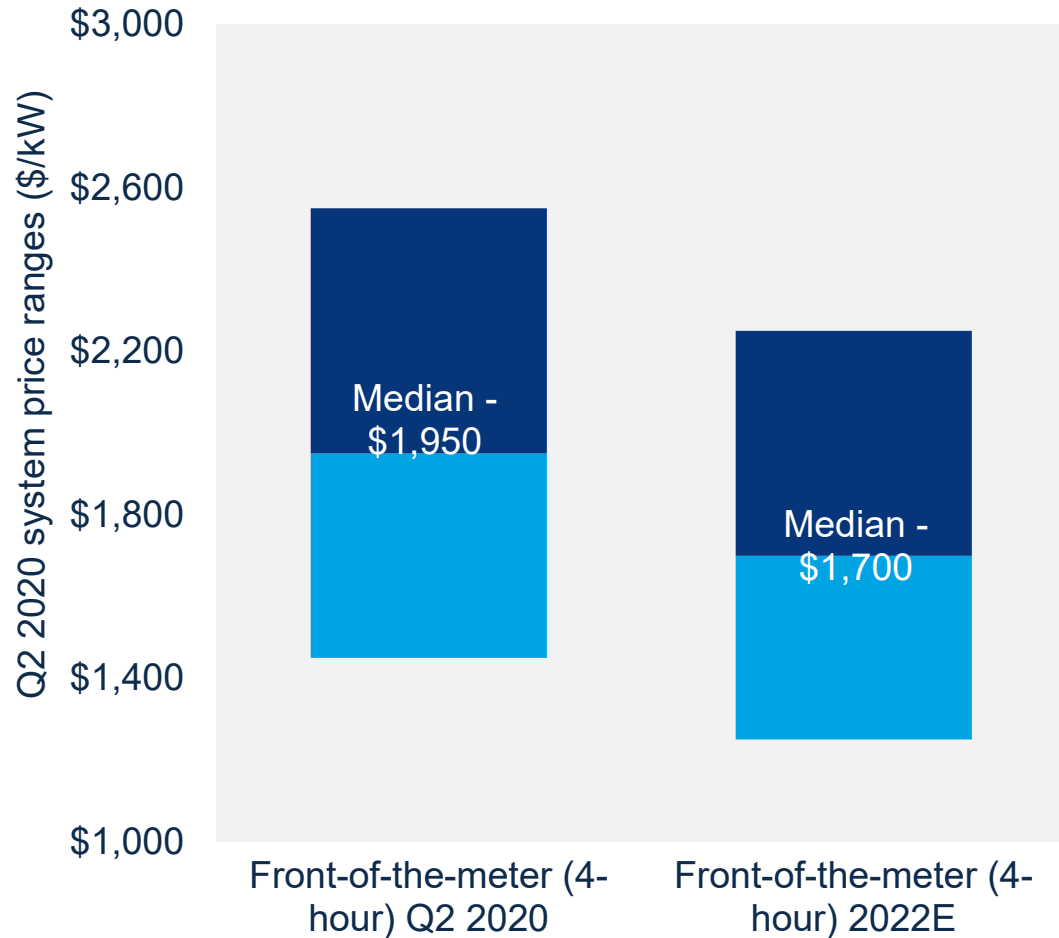
Rank		Residential	Non-residential	Front-of-the-meter
1		California	California	Texas
2		Hawaii	Massachusetts	Louisiana
3		Florida	New York	California

Source: Wood Mackenzie Power & Renewables

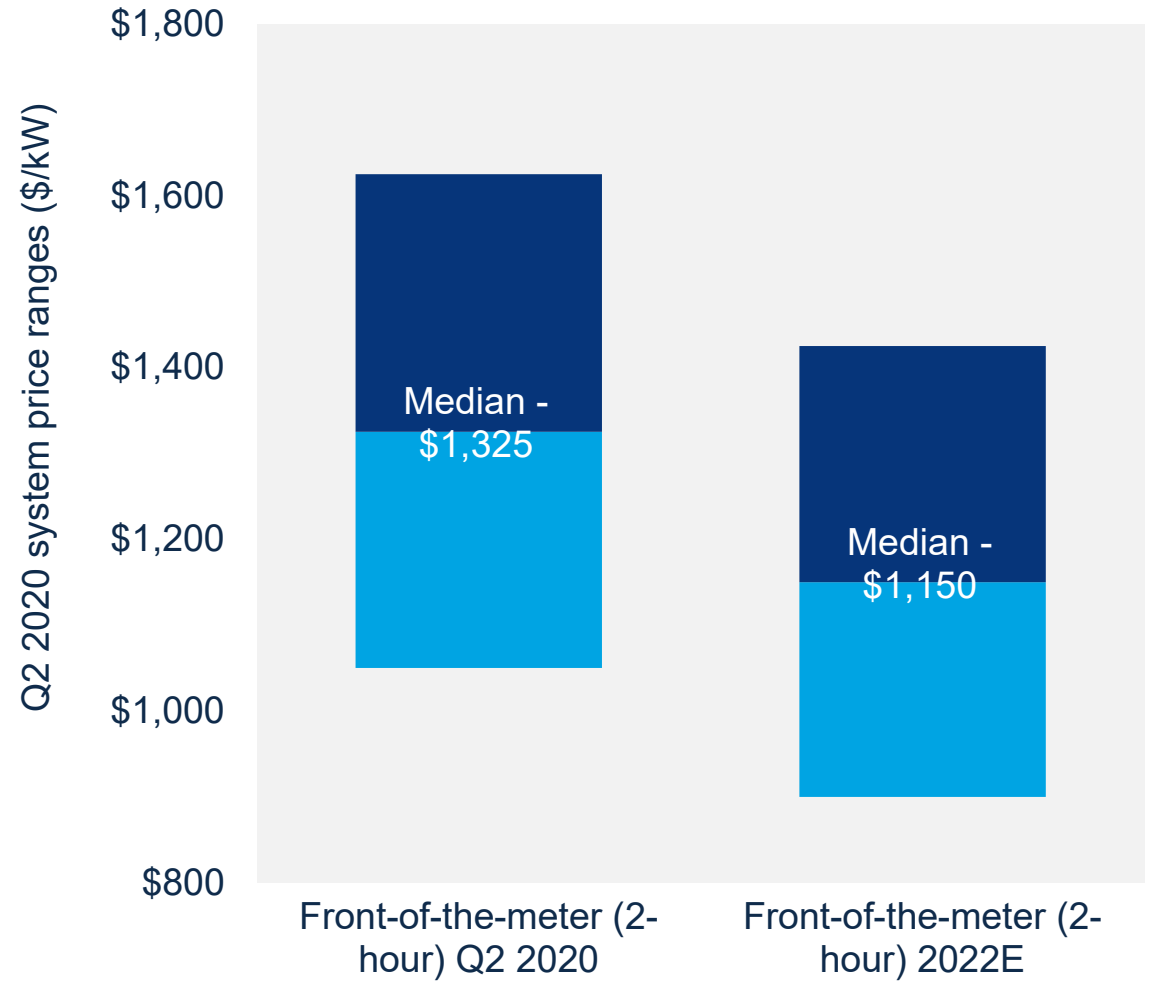
## **2. Technology and system price trends**

# Prices for FTM systems are expected to decline by more than 10% by 2022

Price trends for front-of-the-meter fully installed systems, Q2 2020 and 2022E, 4-hour (\$/kW)



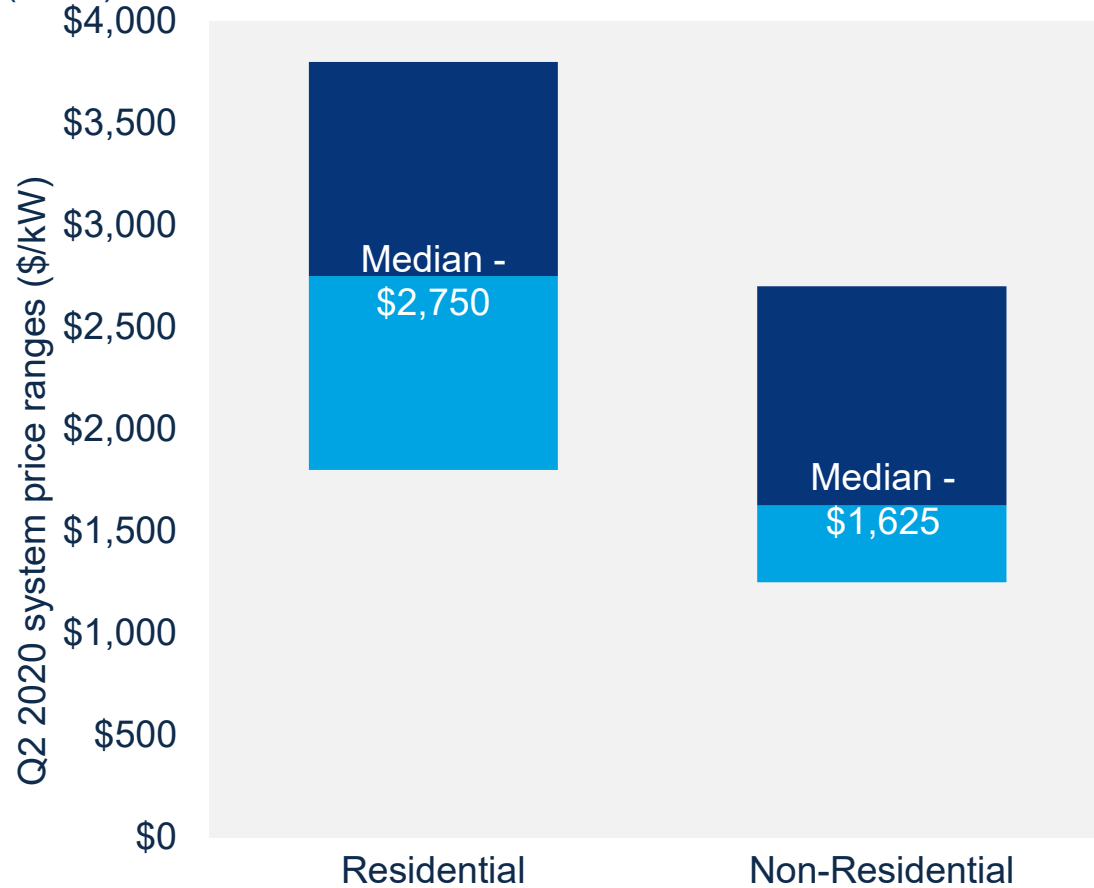
Price trends for front-of-the-meter fully installed systems, Q2 2020 and 2022E, 2-hour (\$/kW)



Note: The prices shown in charts are for fully installed systems including interconnection.  
 Source: Wood Mackenzie Power & Renewables

# Residential and non-residential BTM system prices continue to decline QOQ

Fully installed BTM system price trends, Q2 2020, 2-hour duration  
(\$/kW)



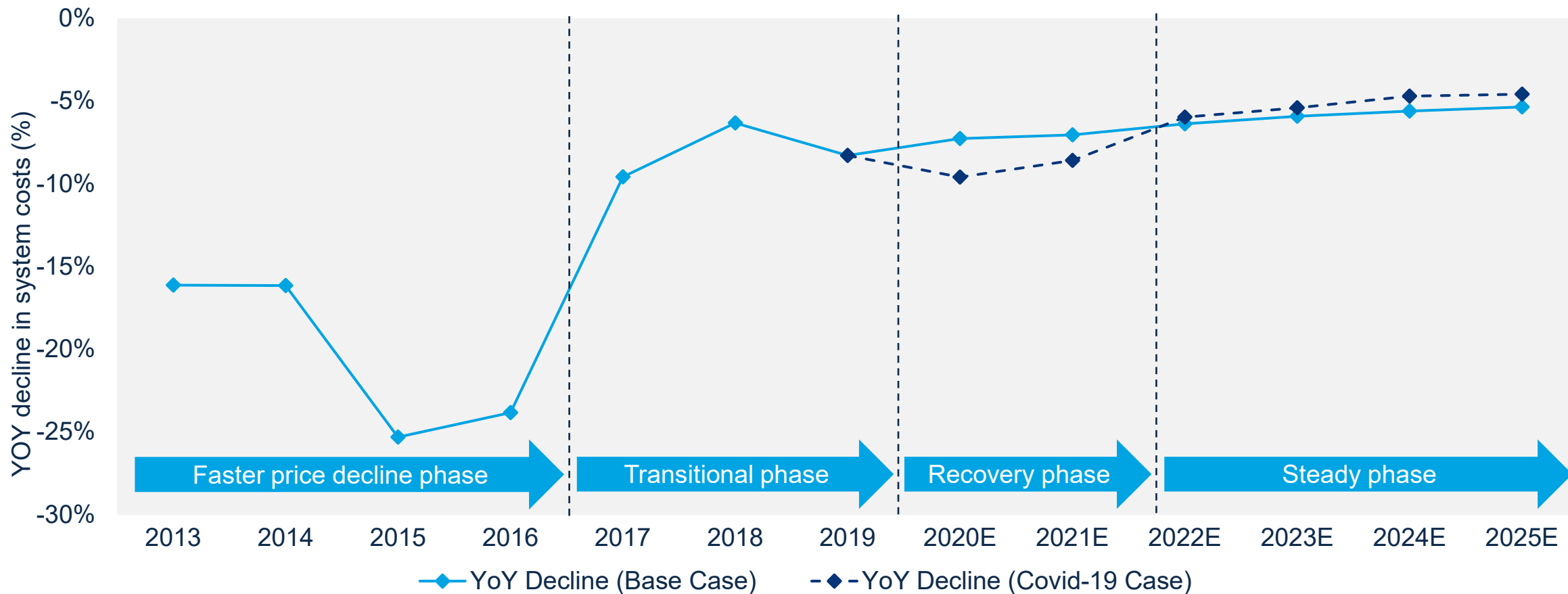
Note: The prices in the chart are for fully installed systems including interconnection.

Source: Wood Mackenzie Power & Renewables

# Coronavirus pandemic will have a profound impact on storage system costs

The downside in market demand will bring down system costs faster than previously expected

Forecasted base-case and coronavirus-case year-over-year decline in FTM storage system costs, 2012-2025E (%)





### **3. Market drivers and outlook**

# Behind-the-meter policy and market developments, Q2 2020

**California**

The state legislature introduced a bill to create a microgrid program to support resilience. The **California Public Utilities Commission** issued a proposed decision allowing medical baseline customers receiving Self-Generation Incentive Program compensation greater flexibility in terms of which time-of-use rate programs they can enroll in.



**Massachusetts**

The state's **Department of Energy Resources** issued emergency rulemaking for the SMART program, including requirements for all solar systems >500 kW in size to have attached storage and increasing greenfield subcontractors; issued final rulemaking regulations for the clean peak standard including several changes benefiting energy storage. **National Grid** published the latest results of its Affected System Operator study (also known as the Cluster Study)

**Connecticut**

The state's Public Utilities Regulatory Authority issued a draft RFP to design a BTM storage program.

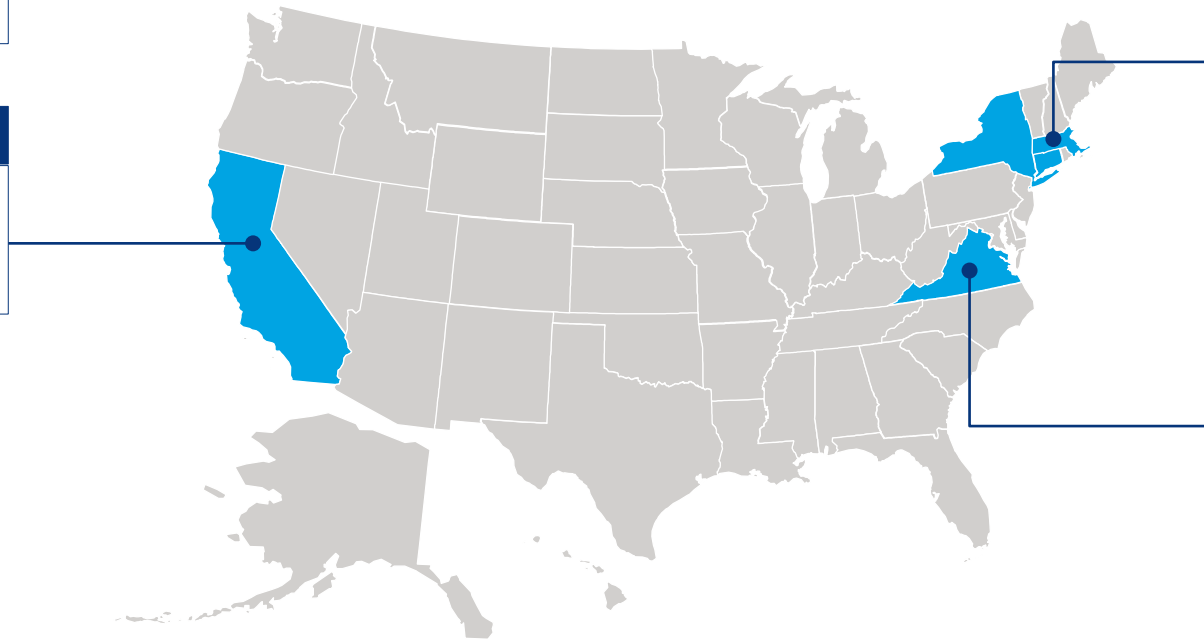
# Front-of-the-meter policy and market developments, Q2 2020

## Northwest

**PacifiCorp** issued a request for proposals for renewables and storage, following up on its 2019 resource plan.

## California

**Southern California Edison** announced it had contracted projects for 770 MW of primarily solar-paired energy storage to meet regional capacity shortfalls.



## Massachusetts

The state's **Department of Energy Resources** issued final rulemaking regulations for the Clean Peak Standard including several changes benefiting energy storage; it also issued an emergency rulemaking for the SMART program, including requirements for all solar systems >500 kW in size to have attached storage and increasing greenfield subcontractors.

## Virginia

**Dominion Energy's** 2020 integrated resource plan includes massive planned investments in renewables and energy storage.

# Timeline of coronavirus stay-at-home orders

Statewide orders proliferated across the U.S. in the last week of March





# Post-COVID scenarios – Wood Mackenzie analysis shows “what’s next” may vary

Subject matter experts across Wood Mackenzie collaborated in May to construct three scenarios for a post-covid recovery as a framework for discussing the new reality for the energy industry. The three scenarios include a “Full Recovery” of the global economy, a retreat from globalization as nations and states “Go it Alone”, and movement towards “Greener Growth” as climate-forward regions use the recovery to accelerate the energy transition. Individual countries and regions may experience any of these scenarios, or even a combination. Uncertainty prevails, so these are primarily illustrative to examine possible and likely outcomes.

## Full recovery

- A “V”-shaped recovery where GDP rapidly returns to pre-pandemic levels, which most closely resembles the base-case used for this report’s forecast.
- States and cities continue to expand renewable efforts after the “new normal” sets in.
- Minor disruption would be anticipated for FTM energy storage deployments, while BTM markets recover in 2021.
- Outlook for storage through 2025 remains relatively unchanged.

## Go it Alone

- Further retreat from globalization, supply chains under heavy tariffs, high persistent unemployment.
- Federal policy, rather than encouraging energy storage deployments, potentially becomes hostile to clean energy and international supply chains.
- States pull back on climate policy.
- Interest in project financing shrinks.
- High unemployment and longer recovery particularly affect BTM market interest.
- Potential significant effects on the storage market through 2022-2023

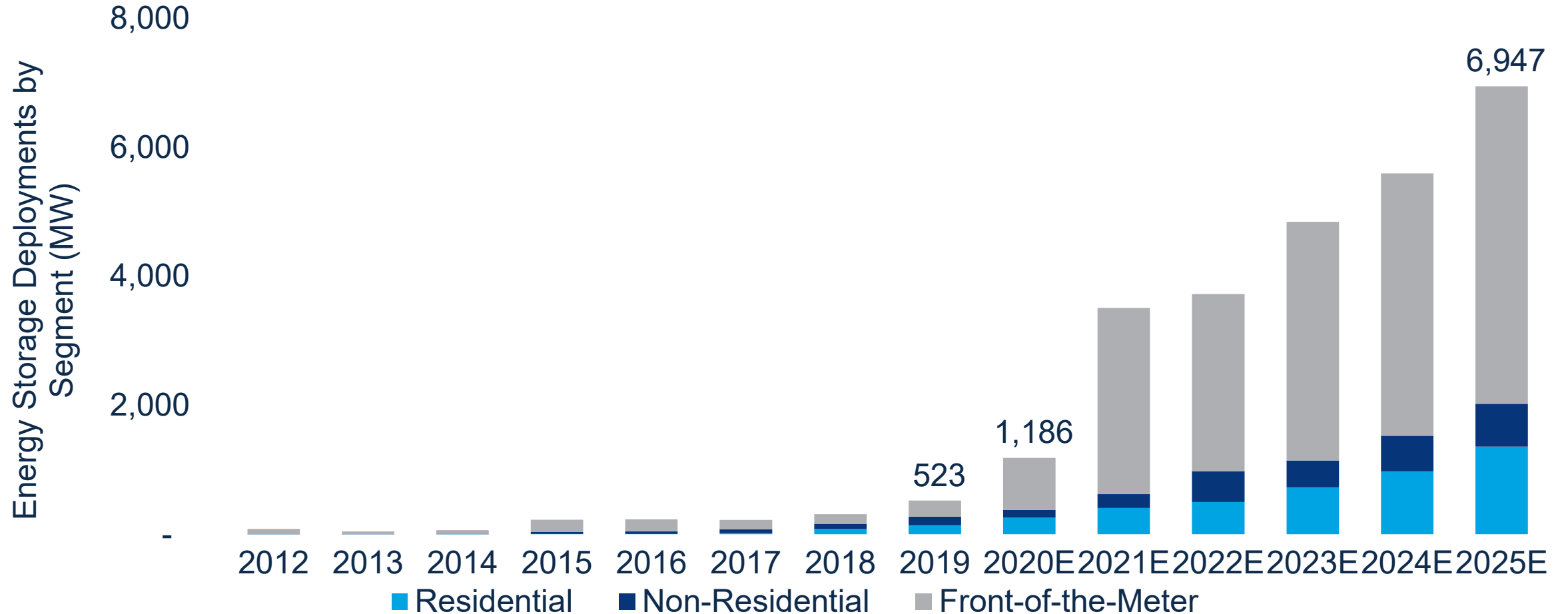
## Greener Growth

- Climate-forward policy at the state and federal level is pursued as an infrastructure and clean-tech based post-pandemic stimulus effort.
- Federal efforts dovetail with state and local plans launched through the 2010s to dramatically accelerate the transition to a green economy.
- Storage friendly policies at the state and federal level drive storage growth to higher levels, including incentives for customer-sited projects.
- Storage market scales up as incentives come online in 2021-2023.

# U.S. energy storage deployments will reach nearly 7 GW annually in 2025

COVID-19 creates near-term downside due to customer-acquisition issues, installation/interconnection delays

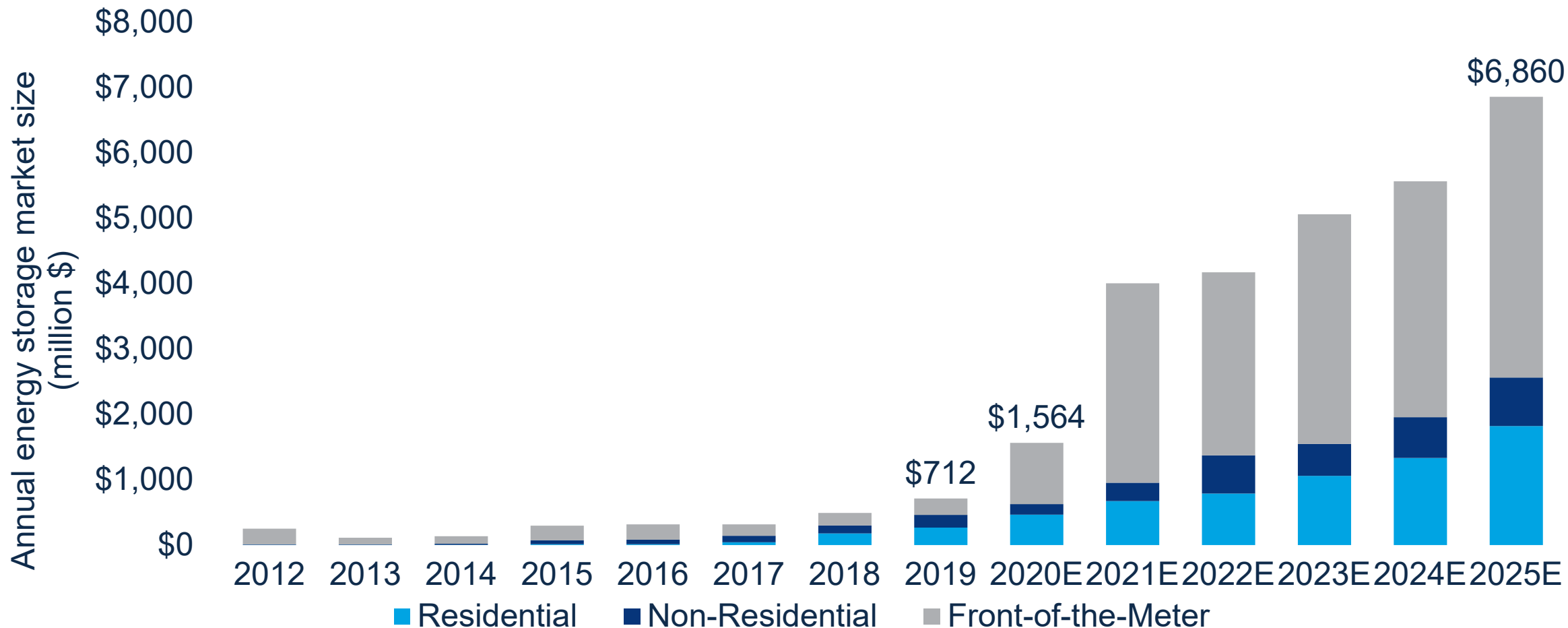
U.S. energy storage annual deployment forecast, 2012-2025E (MW)



# U.S. energy storage will be a \$6.9 billion annual market in 2025

Market crosses \$1 billion annual threshold in 2020 even taking into account COVID-19 impacts

U.S. annual energy storage market size, 2012-2025E (million \$)



Source: Wood Mackenzie Power & Renewables. Note: Market size is reported as energy storage system deployment revenue (product of deployments and installed system prices).



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