

**DOCKETED**

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# Planning Energy Transitions

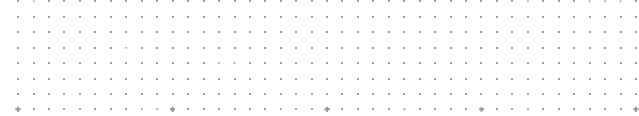
SB 100 workshop

Logan Goldie-Scot

September 02, 2020

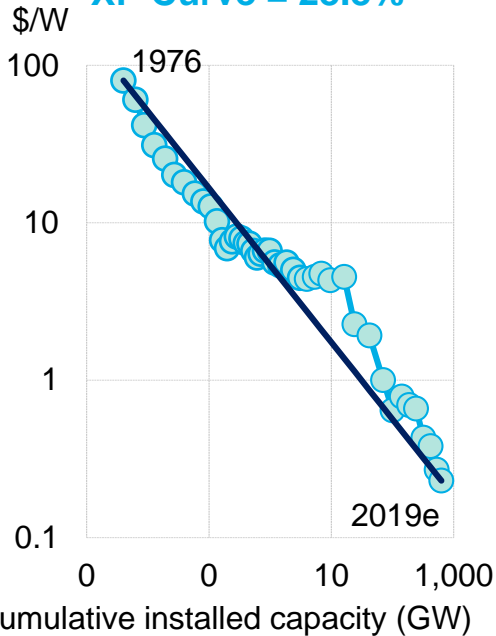


# Falling technology costs are key to the decarbonization of power and transport



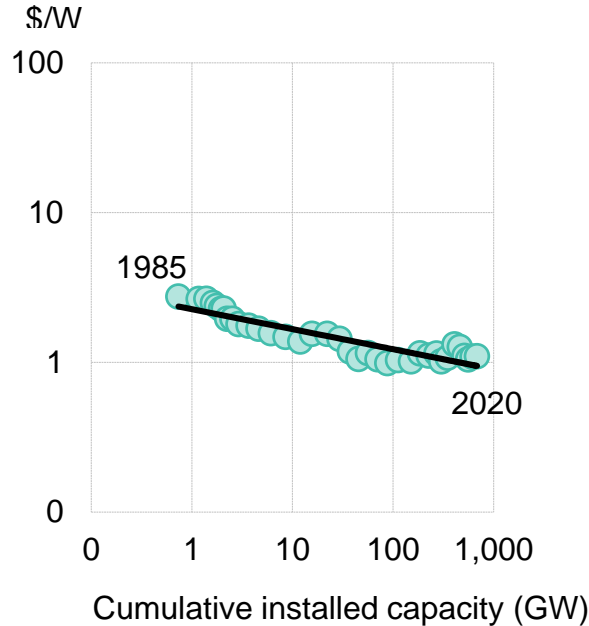
### Solar module price (\$/W)

XP Curve = 28.8%



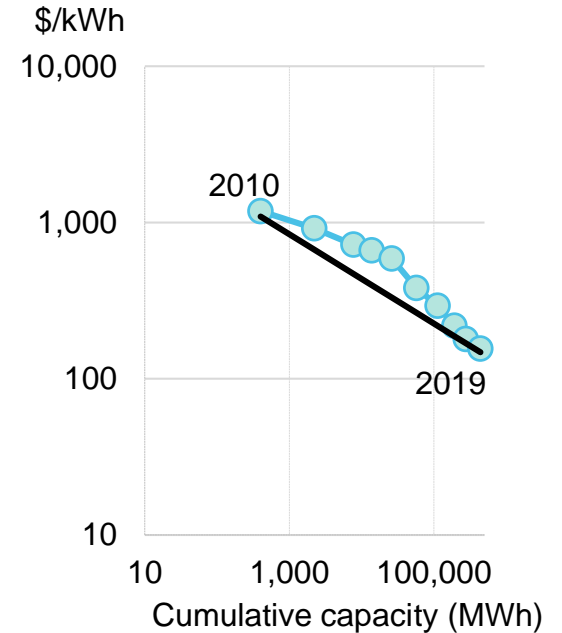
### Wind turbine price (\$/W)

XP Curve = 7.1%



### Batteries pack price (\$/kWh)

YP Curve = 19%



Source: BloombergNEF

# Solar photovoltaic module costs fell 91% in the past decade

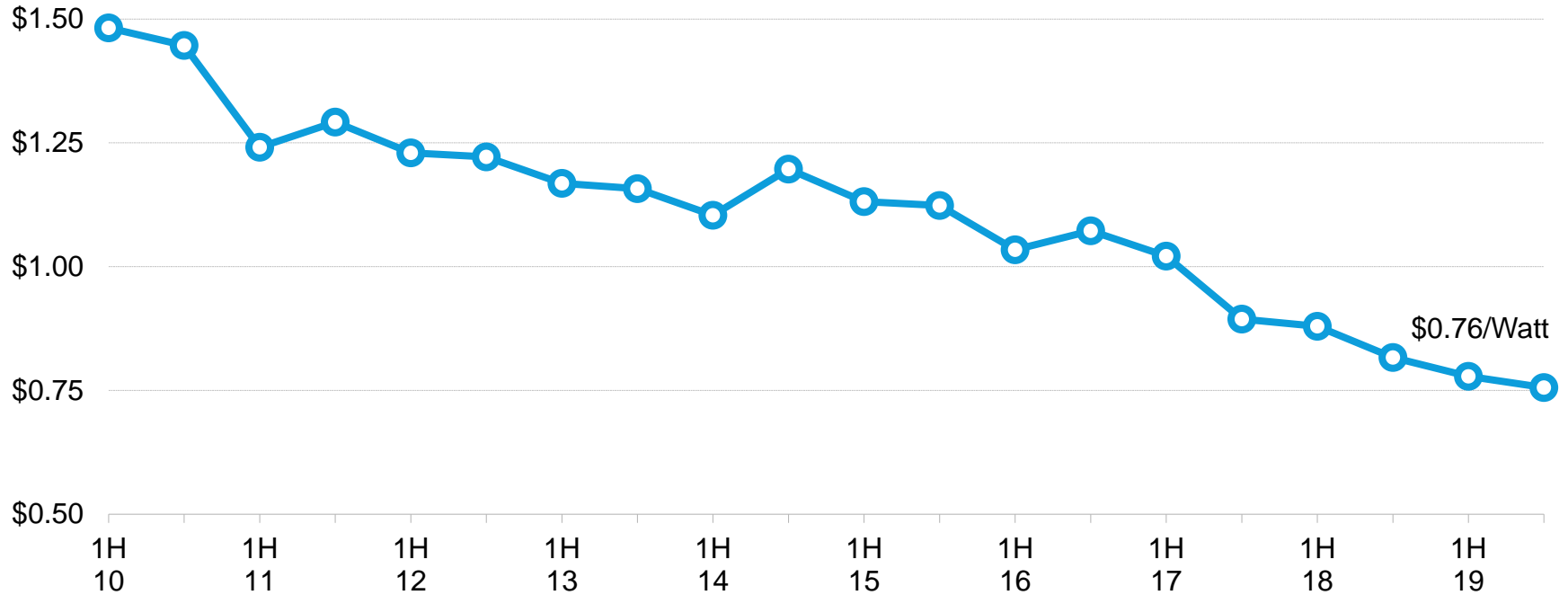
Spot price of multicrystalline silicon PV modules (\$/Watt)



Source: BloombergNEF

# Wind turbine costs fell 49% in the past decade

Wind turbine price index by turbine delivery date

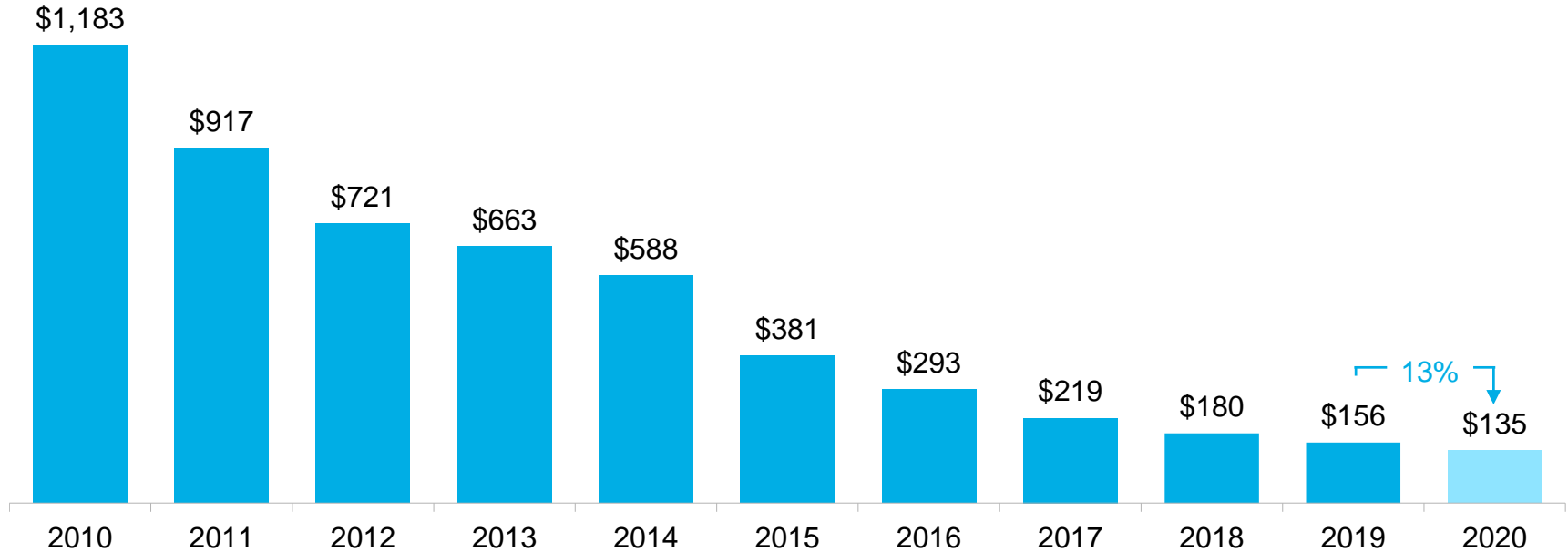


Source: BloombergNEF

# Lithium-ion battery costs fell 87% in the past decade

Lithium-ion battery price survey results (volume-weighted average)

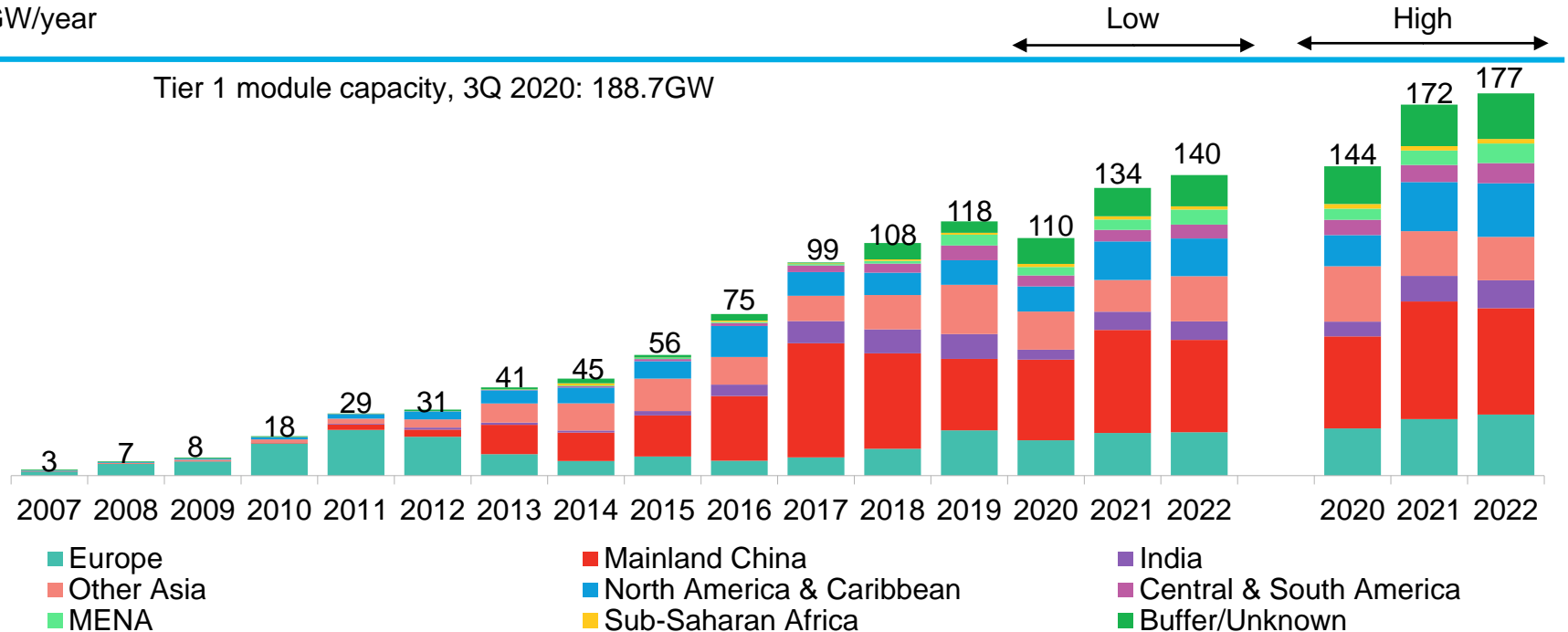
real 2019 \$/kWh



Source: BloombergNEF

# The near-term outlook for global PV remains healthy, despite Covid-19

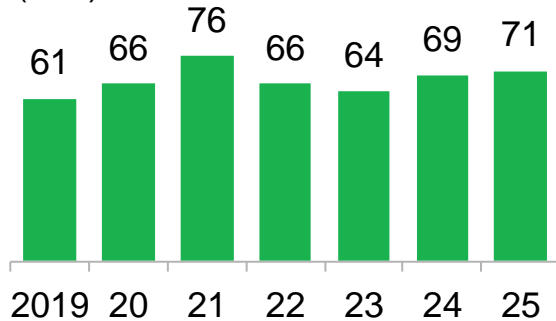
GW/year



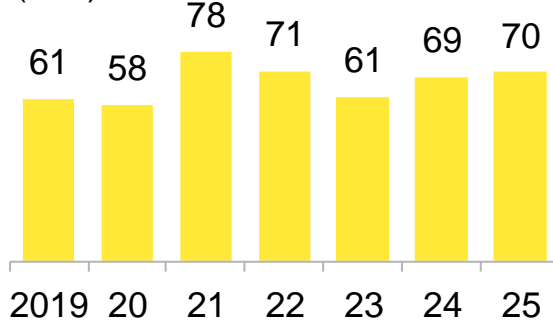
Source: BloombergNEF

# Delays, rather than cancellations, mean 2021 is likely to be a record year for wind

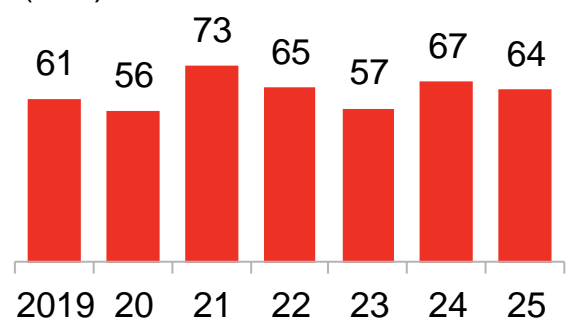
**Single-wave pandemic**  
(GW)



**Multiple-wave pandemic**  
(GW)



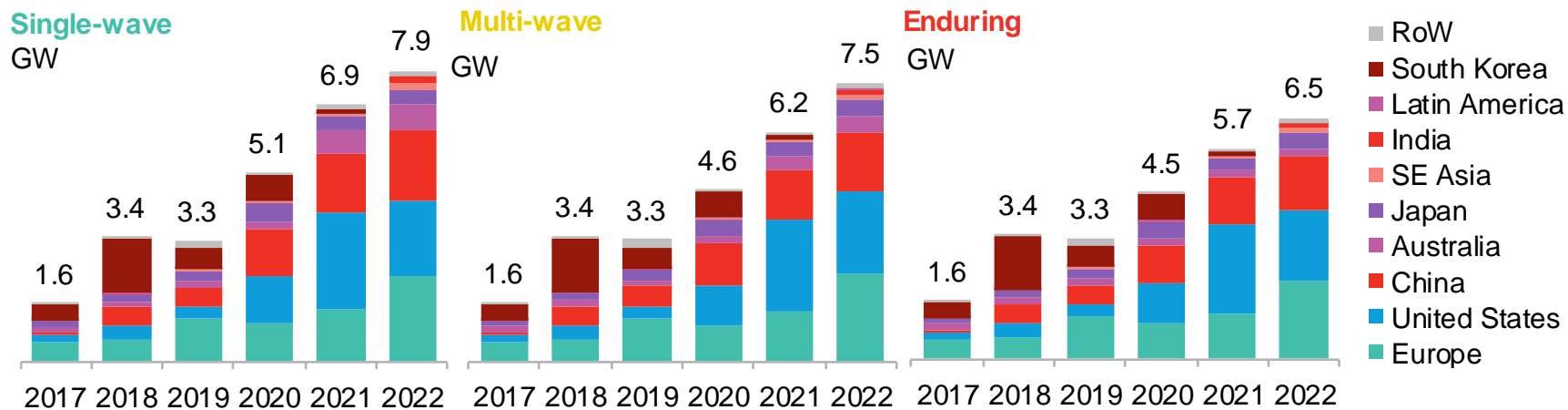
**Enduring pandemic**  
(GW)



Source: BloombergNEF. Note: Horizontal axis denotes commissioning year.



# Energy storage uptake in the U.S. is on the up, as the Korean market falls off



Source: BloombergNEF. Note: For Scenarios detail, see report.

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Logan Goldie-Scot

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