



Nevada New Energy Industry Task Force Technical Advisory Committee Presentation

May 2016

STORAGE SUPPORTS THE TASK FORCE'S GOALS

1. Encourage development of clean energy sources and integrate renewable technologies into Nevada's energy sector
2. Foster the creation of a modern, resilient, and cost-effective energy grid
3. Support distributed generation and storage, with a specific focus on rooftop solar and net metering

ENERGY STORAGE USES



PEAK SHAVING



CAPACITY FIRMING



LOAD SHIFTING

TRANSMISSION
& DISTRIBUTION SUPPORT

DEMAND RESPONSE



SELF CONSUMPTION



EMERGENCY BACKUP



MICROGRID



ANCILLARY SERVICES



RESIDENTAL INSTALLATION



3.3 kW / 6.4 kWh

COMMERCIAL BUILDING INSTALLATION



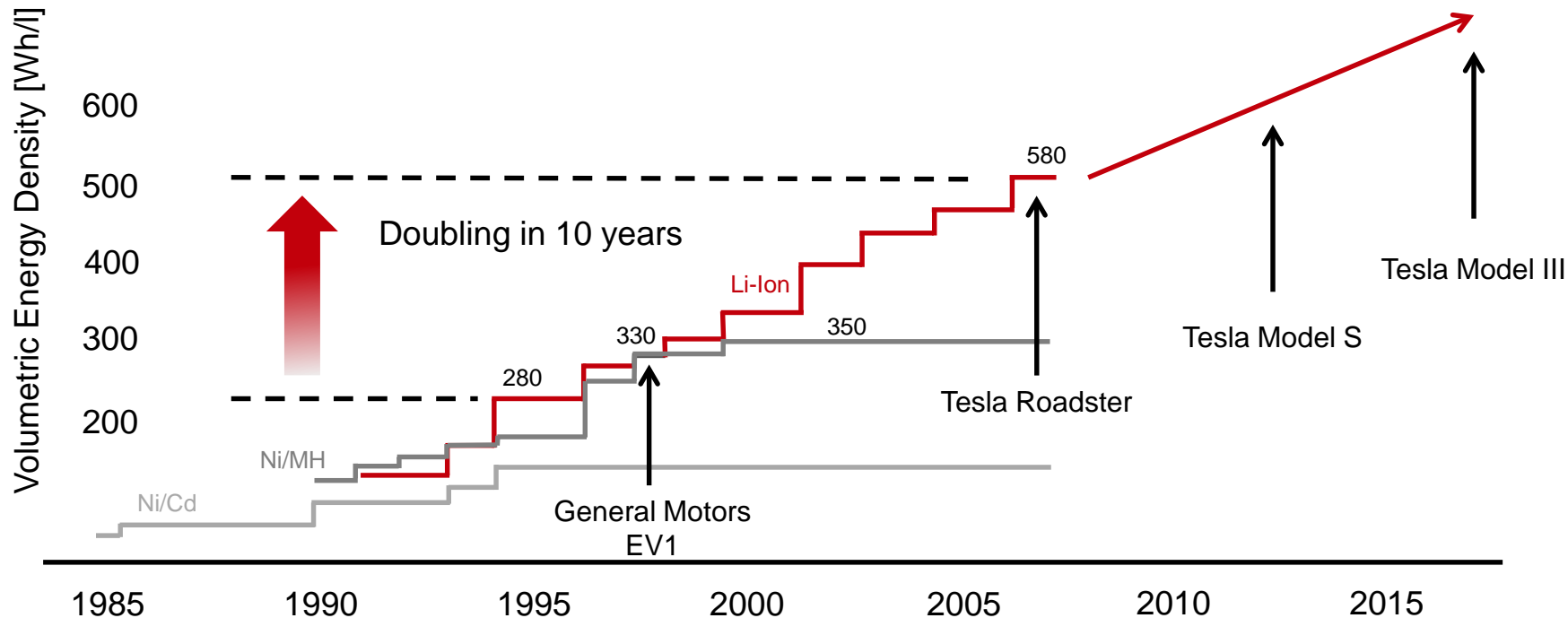
250 kW / 1 MWh

UTILITY-SCALE INSTALLATION

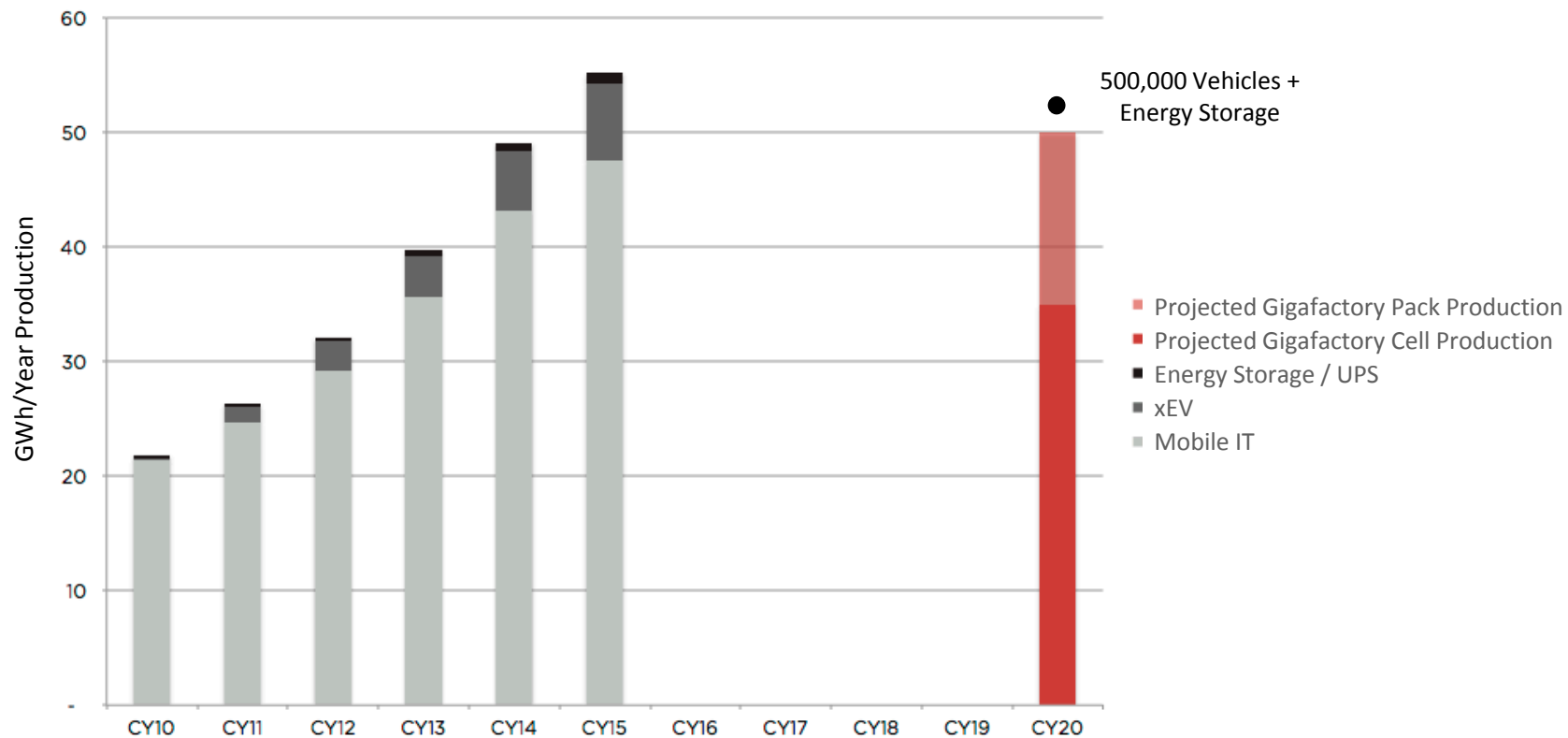


13 MW / 52 MWh

BATTERY CELL ENERGY DENSITY TREND



GLOBAL BATTERY CELL MARKET



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GIGAFACTORY

50 GWh in annual battery production by 2020*
Enough for 500,000 Tesla cars
Powered by renewable energy
Net zero energy factory



* Projected

BARRIERS TO STORAGE DEPLOYMENT

Many utility processes and tariffs must be updated to accommodate storage:

- Planning (Generation, Transmission, & Distribution)
- Valuation
- Procurement
- Operations
- Rate design
- Interconnection

The first energy storage projects in a region have higher development costs because significant utility learning is required

LEARN BY DOING

The best way to uncover which detailed processes and tariff language must be updated is to proactively deploy commercial energy storage projects at all points of the grid:

- Customer-connected
- Distribution-connected
- Transmission-connected



QUESTIONS / DISCUSSION

