



# Transmission Development in California: What's the slowdown?

June 2023

Ambitious climate and clean energy laws in California, decreasing costs of clean energy technology, and the development of new decarbonized resources will require a robust transmission network.

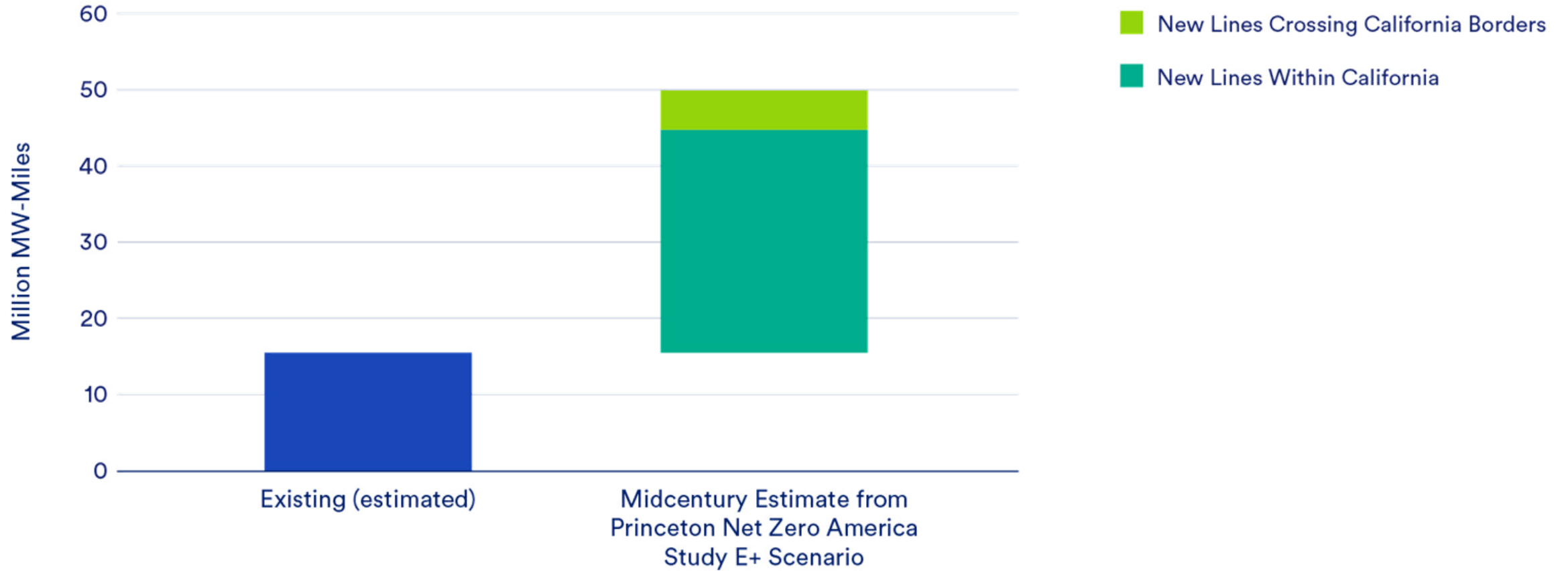
100%

of California's retail electricity needs to be supplied with renewable and zero-carbon resources by 2045

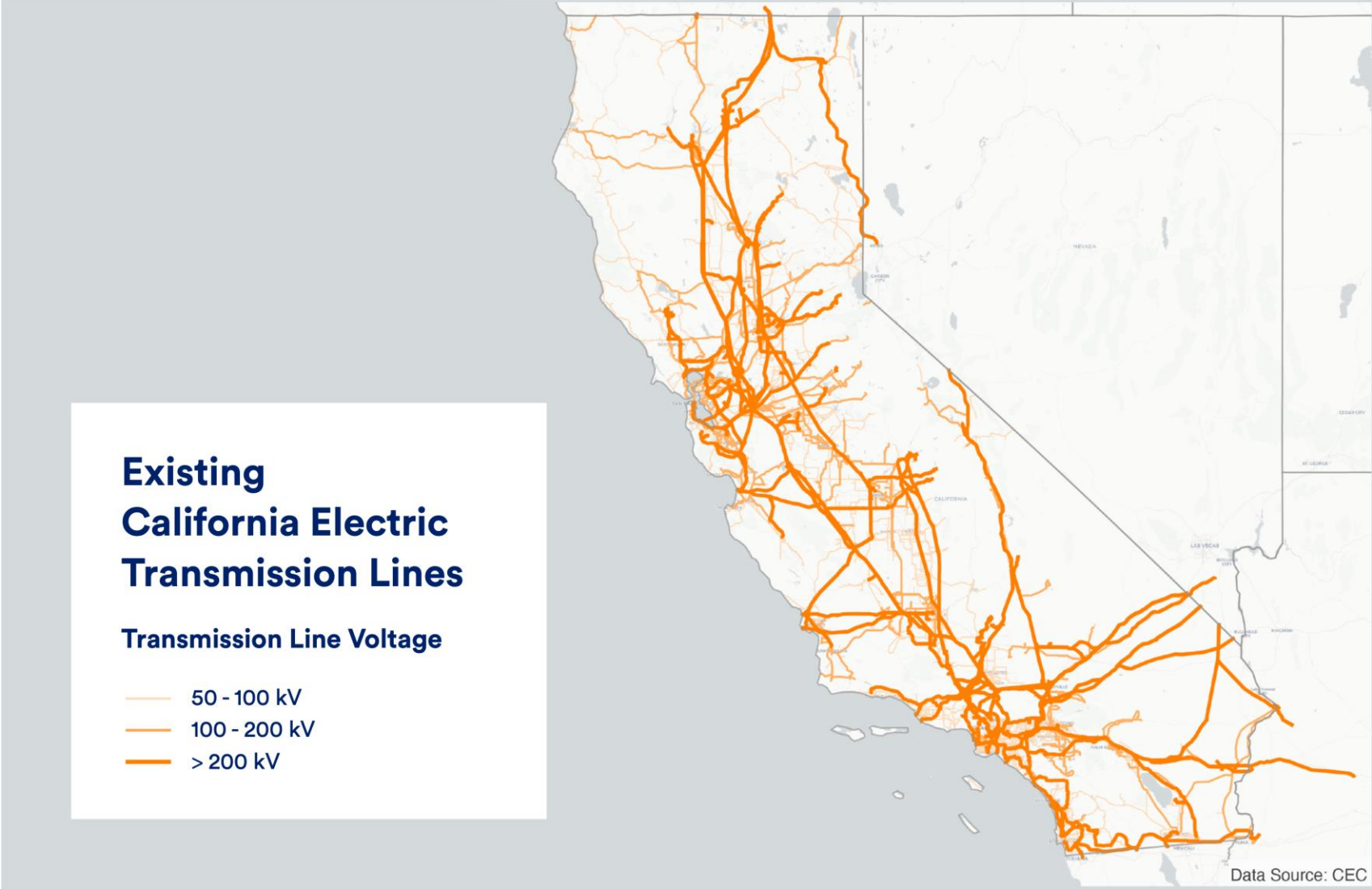
\$30B

In new transmission is needed over the next two decades to meet these targets

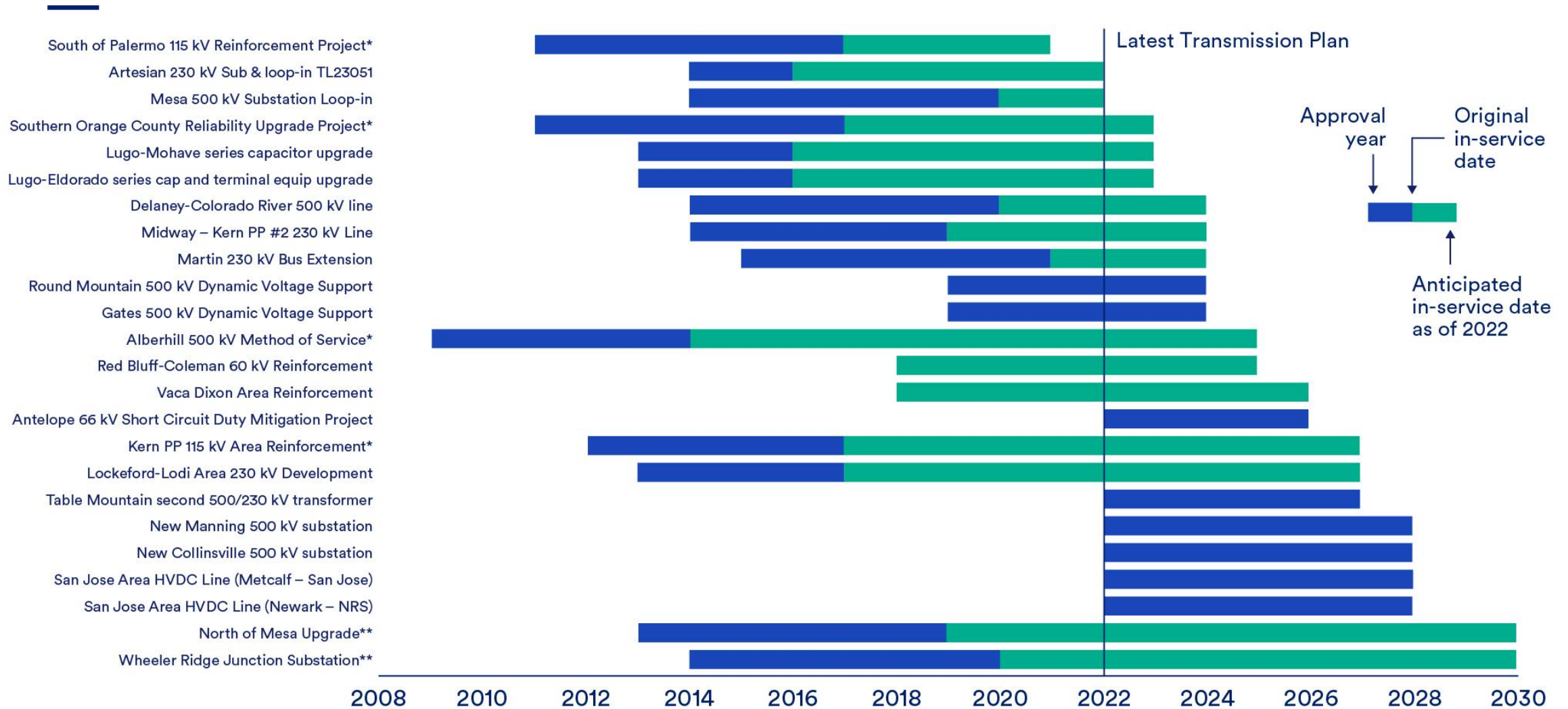
# Transmission capacity may need to triple



# California's Transmission System



# Transmission development often takes longer than anticipated



\* Approval years and Original in-service date for projects approved prior to 2012 were taken from the 2011-2012 Transmission Plan, the oldest available on the California ISO's website.

\*\* As of the 2021-2022 Transmission Plan, these projects were listed as "on hold" with no definite completion date.



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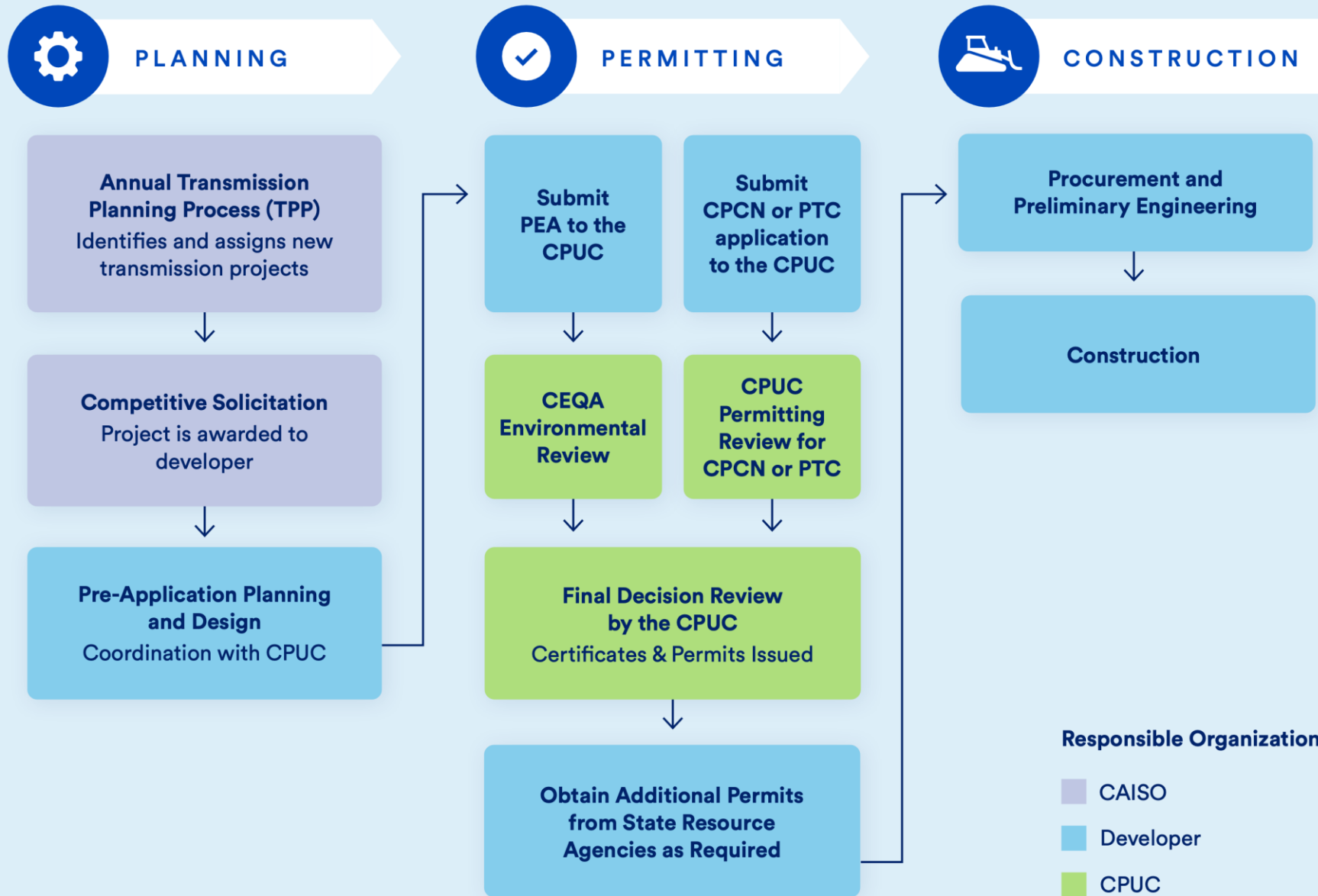
- Projects with costs exceeding \$50 million have accrued **an average delay of more than five years**
- Transmission projects frequently **require a decade or more** to plan, permit, and construct projects
- **Delays often double the original estimated project duration**

Without revisions to current planning and permitting processes, it will be **tremendously difficult** for California to connect new generation to the grid in time **to meet its clean energy and climate goals.**

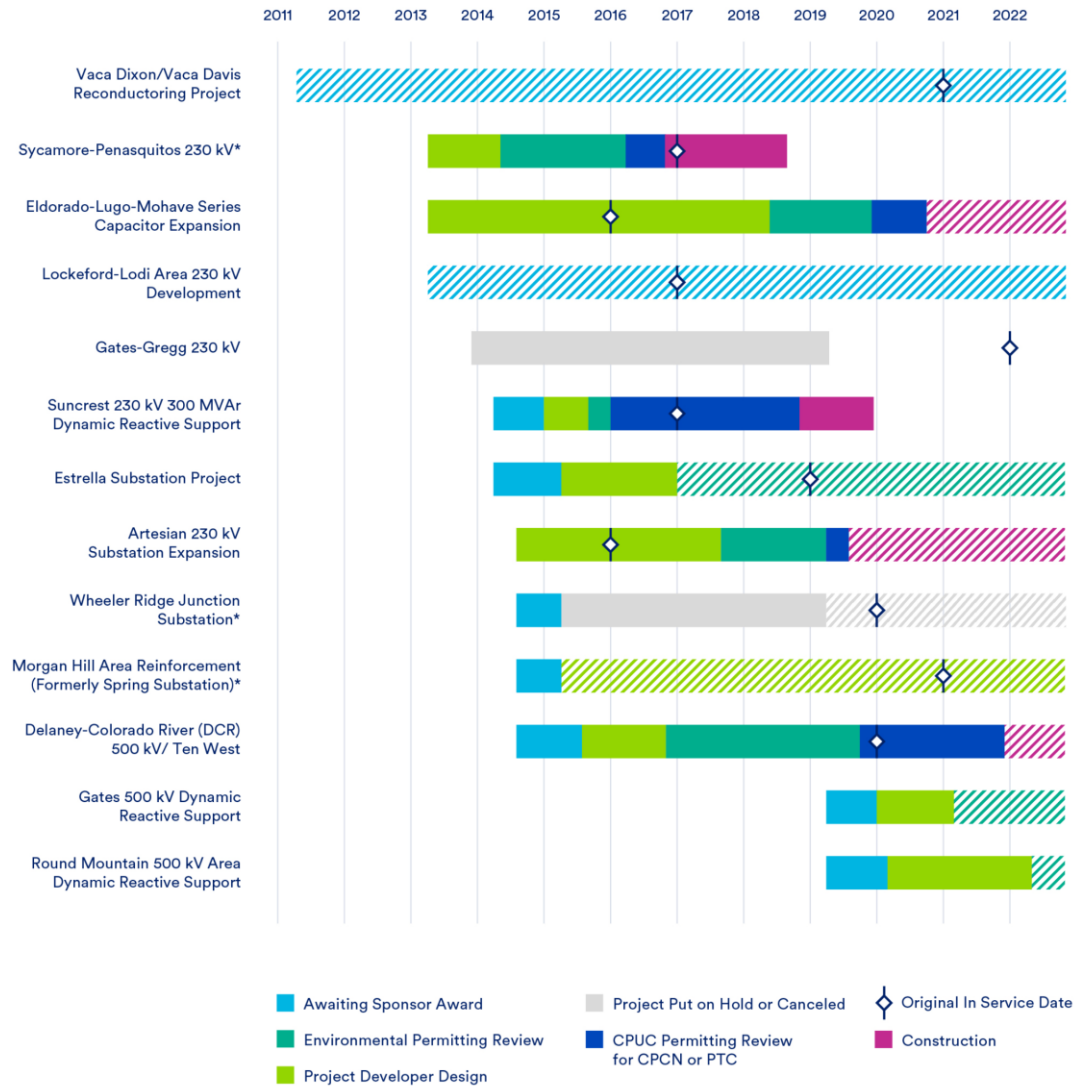
# From Concept to Completion – How Transmission is Built in California



# California's Transmission Development Process



## CAISO Approved Transmission Project Timelines



Timelines begin upon CAISO approval in the TPP. Bars represent time until each process was completed. Hashed bars represent ongoing process to date.  
\* Indicates a utility run project.

# Trends From Past and Ongoing Projects

- Projects frequently stretch beyond completion dates
- Competitive solicitation process is the only phase regularly completed in consistent time
- Delays are most acute during
  1. The time it takes to submit a project application to the CPUC
  2. The environmental review
- Multistate projects take longer to complete

# — Costs, Ratepayers, and Competitive Solicitation

## **Increasing Project Costs:**

- Costs are 33% higher on average than original costs submitted to the CPUC <sup>1</sup>

## **Increasing Revenue Requirements:**

- Transmission revenue requirements increased 38% between 2016 and 2021 <sup>2</sup>

## **Increasing Ratepayer Costs:**

- Electricity rates are forecasted to be 10% to 20% higher in real terms by 2030 <sup>2</sup>
- The Department of Energy recently recommended that transmission access to lower-cost generation is urgently needed to lower electricity prices in San Diego, Los Angeles, and the Mendocino areas <sup>3</sup>

## **Savings Through Competitive Solicitation:**

- Competitive solicitation of CAISO projects has resulted in an estimated 29% cost savings compared to the anticipated cost of the incumbent utility<sup>1</sup>

1. The Brattle Group, "[Cost Savings Offered by Competition in Electric Transmission](#)", April 2019, pg. 55.

2. California Public Utilities Commission (CPUC), "[Utility Cost and Affordability of the Grid of the Future Report](#)", May 2021, pg. 38. Forecasted electric rate range varies depending on the utility.

3. U.S. Department of Energy (DOE), "[National Transmission Needs Study](#)," Draft for Public Comment, February 2023, pg. vi-vii.

# Policy Challenges

## 1 Slow Transmission Permitting Process

- Delays are most acute during:
  - Submission of a project application to the CPUC
  - The CPUC-led environmental review

## 2 Rising Costs and Ratepayer Impacts

- Costs increase over the life of the project, especially for projects by incumbent utilities
- Rates in California are already high and face multiple sources of increase
- Cost data is extremely sparse

## 3 Transmission Planning Lag

- Policy goals can only be met through significant expansion of transmission infrastructure
- Transmission planning process fails to anticipate future system needs early enough

# Policy Options

## 1 Accelerate the Transmission Permitting Process

- CPUC should reconsider CPCN and PTC qualifications in anticipated General Order 131-D rewrite
- Consolidate needs assessment to one review between CAISO and CPUC
- Consider expanding opportunities for competitive solicitation
- Consider whether the AB205 model could be expanded to transmission

## 2 Manage Ratepayer Impacts of Transmission Buildout

- CPUC could require cost reporting for major transmission projects that is made publicly available
- Consider providing state financing of transmission projects required to meet policy objectives

## 3 Proactively Plan and Develop Transmission

- Identify and develop critical transmission projects so that they are available when and where new clean energy is built

# Thank you

Questions?

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CATF is working to identify and advance **paradigm-shifting policy, political, and business solutions** to overcome the barriers to infrastructure deployment that are preventing the pace, scale, and diversity of new projects needed to achieve climate goals.