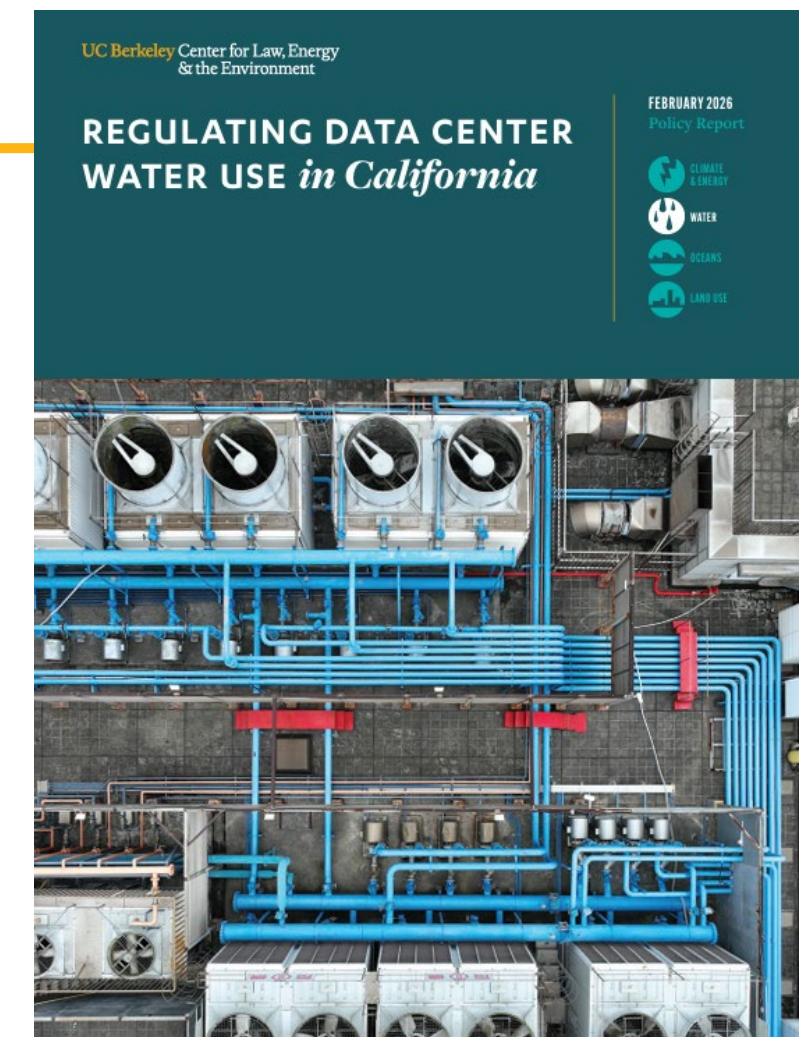

Regulating Data Center Water Use in California

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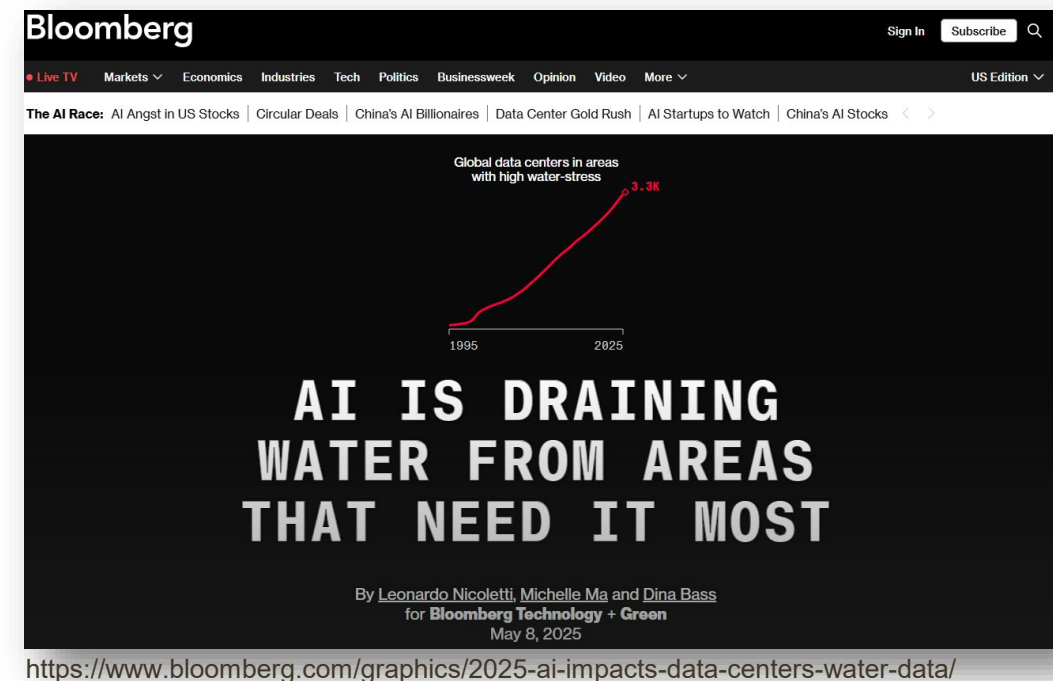
Data center boom

- Generative AI is driving a boom in data centers

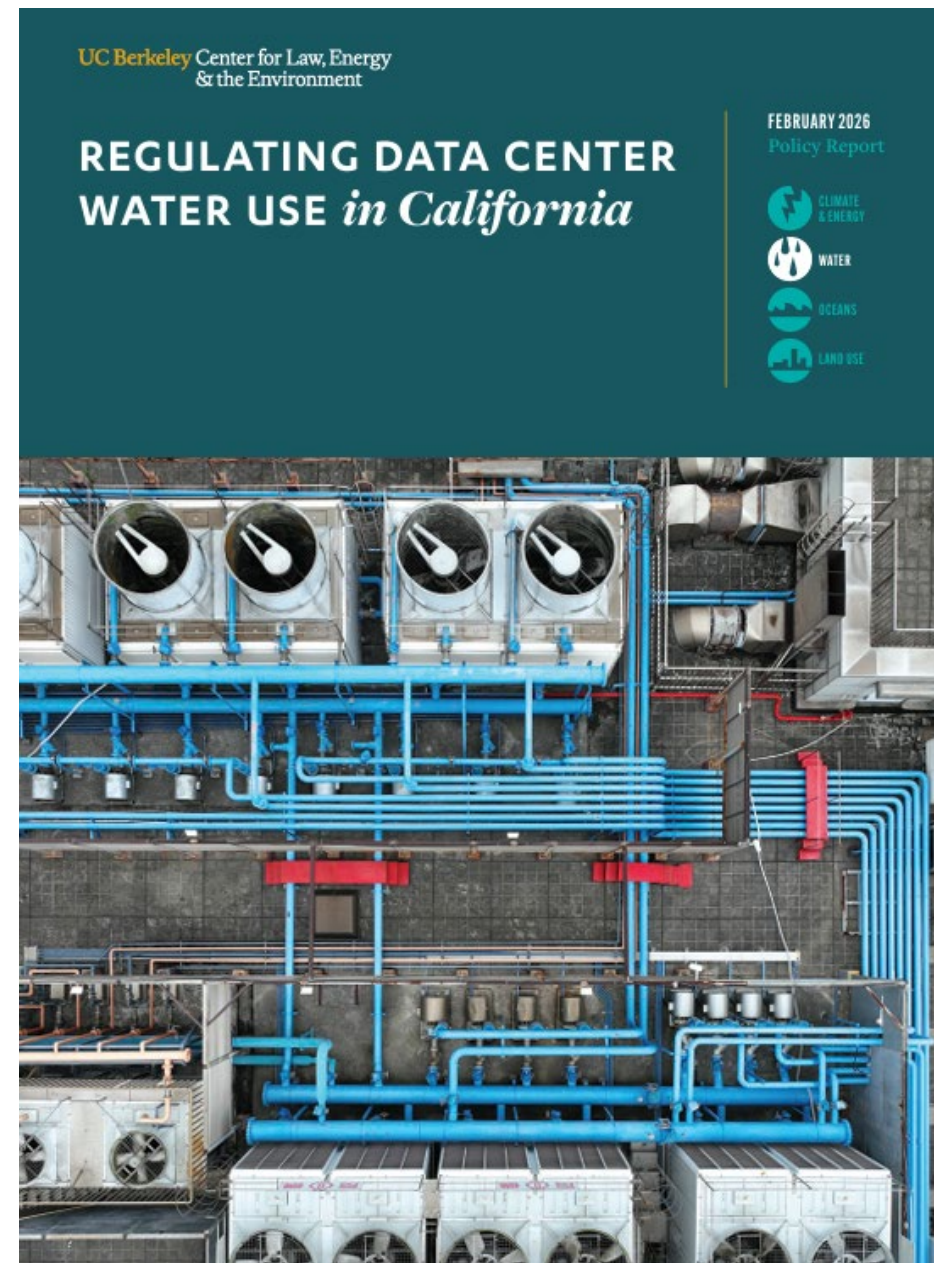


Concern over data center water use

- Data centers often use water to cool servers
- Expansion includes water-scarce regions
- Concern over water use is growing, but research is limited



Meeting the moment



<https://www.law.berkeley.edu/data-center-water-use>

- **Regulating Data Center Water Use in California**
 - Synthesis of knowledge on data center water use
 - Map of policies and regulations in California & how they apply to data centers' direct on-site water use
 - Challenges, gaps, and recommendations

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Data center water use

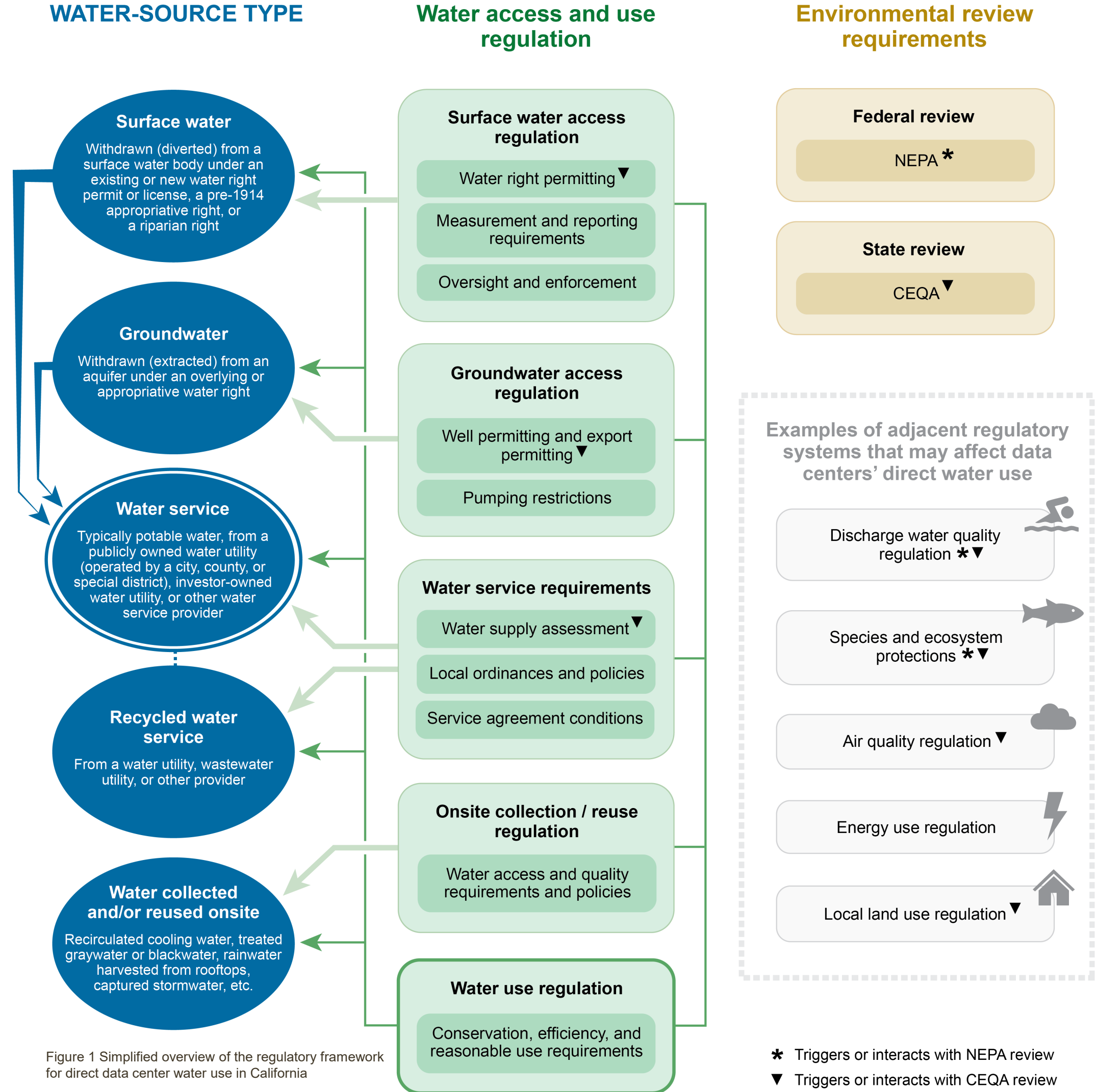
- Estimates suggest a significant water footprint.
- Water use and impacts depend on facility and local conditions.
- Lacking site-specific information.

Options for reducing water use & impacts:

- Siting new centers in areas with low water stress;
- Using recycled water;
- Selecting less water-intensive cooling systems.

Policy & Regulation

- There's a patchwork of policies & regulations...
- ...that are not designed specifically for data centers...
- ... and have gaps and inconsistencies



Policy & Regulation: Examples

- Environmental review (and Water Supply Assessment)
- Water access and use requirements depend on water source.
- Reporting & tracking: Service water metering, reporting of surface water diversions annually, ...

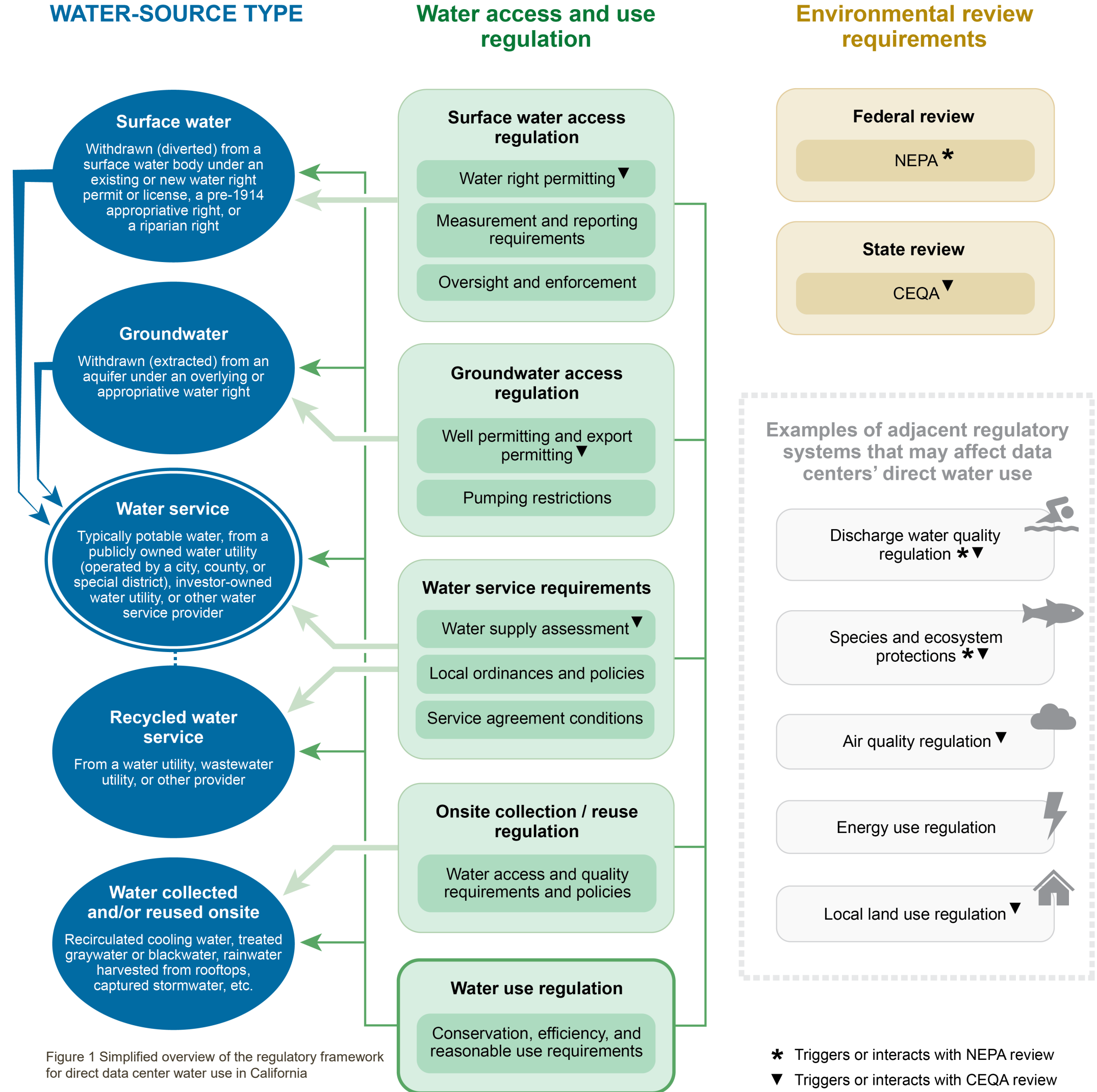


Figure 1 Simplified overview of the regulatory framework for direct data center water use in California

Key findings

- Limited reporting and transparency hinder understanding of scope, scale, and impacts.
- Local communities bear the impacts and make decisions on development, but they lack guidance.
- Water and energy use are intertwined: Saving water may mean using more energy.



Recommendations I

The state can

- improve water use data collection and transparency &
- build local and state capacity.

A thought experiment

The status quo:

- Fragmented reporting has not provided a clear picture:
 - *How many data centers are in California?*
 - *Where are they?*
 - *What water sources do they use?*
 - *Can local water systems handle the load?*
 - *How do they compare to other industries?*
- Without answering these questions, we cannot know if data center water use is an issue in California.

A vision & open questions:

- Data centers report water use
 - A state entity analyzes the data & provides services to communities
- Local entities have the information to decide if a data center is in their best interest.
- *Who should collect and analyze data?*
 - *Are there legal and institutional barriers?*
 - *What is the economic burden? Who pays?*
 - *Should this apply to data centers only?*
 - ...

Recommendations II

The state can

- improve water use data collection and transparency &
- build local and state capacity.

Local governments and the state can

- require and incentivize water efficiency and recycled water use.

The industry can

- explicitly consider water-related impacts in siting and design &
- include site-specific data in sustainability reports.

Conclusion

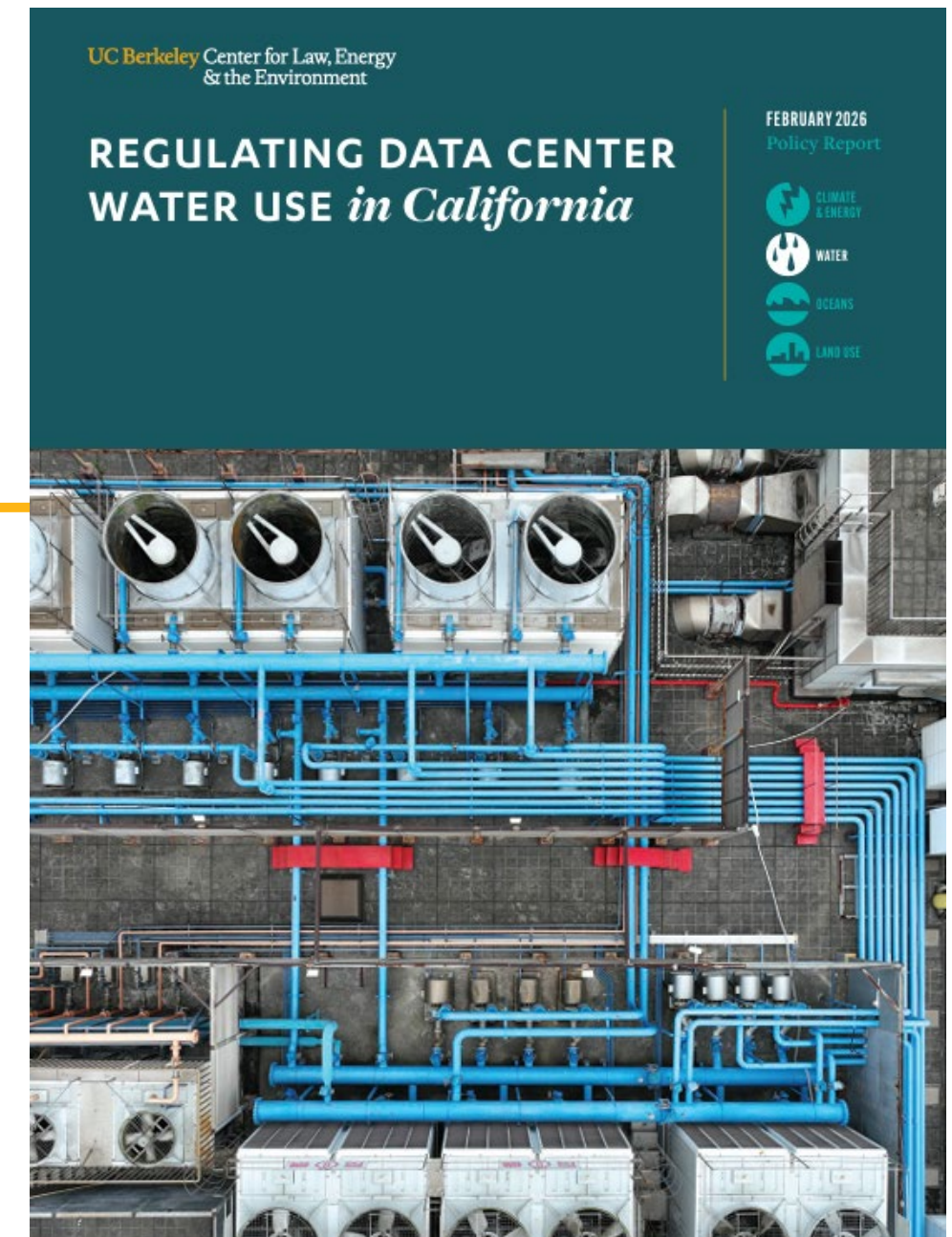
- The scale and speed of data center growth...
- ...and the magnitude of the industry's estimated water use...
- ...call for a coordinated effort to understand data centers' water use
–*before* it creates irreversible impacts.
- State and local governments and the tech industry can champion transparency and innovation to reduce data centers' water impacts.

Thank you!

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