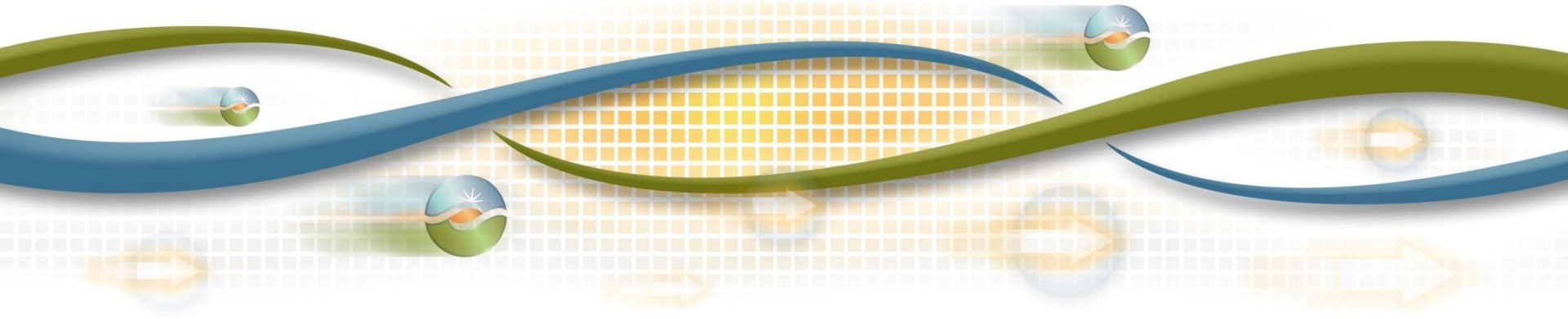


Demand Response and Energy Efficiency in the ISO

Gathering input on a roadmap for demand response and energy efficiency

DRAFT



Several objectives drive roadmap activities.



Enable alternatives for transmission or local capacity



Support demand response and energy efficiency investments



Integrate alternative resources in ISO markets to follow load, integrate renewables, or avoid new capacity



Align wholesale and retail signals to enable resources to respond to grid conditions



Evolve and establish technology & regulatory framework to support all goals

DRAFT

DR and EE may satisfy needs as cost-effective alternatives.



Enable alternatives to transmission or local capacity to enable the most cost-effective options to satisfy needs

- ISO – Establish performance criteria for alternative resources
- ISO – Evolve process for selecting and tracking development of selected alternatives
- CEC – Verify performance of demand response and energy efficiency programs
- CPUC – Align key agency processes for consistent input assumptions

Key processes:



Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

Transparency and certainty is needed for investment.



Enable market transparency, revenue certainty and resource viability to support demand response and energy efficiency investments

- ISO** – Determine future system and local operational needs from resource fleet as the grid evolves
- ISO**
FERC – Develop ISO market products tailored to future operational needs
- CPUC**
ISO
FERC – Establish a multi-year forward procurement framework to target procurement of needed capabilities

Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

Key processes:

ISO 3-5 year capacity market stakeholder process

CPUC 3-5 year capacity market proceeding

ISO Capacity procurement mechanism
ISO Flexible Capacity and Local Reliability
Resource Retention

CPUC Cost-Effectiveness Protocols

CPUC DR application 3-year cycle

CPUC EE application 3-year cycle

CPUC LTPP

ISO Flexibility Studies

CPUC RA proceeding

DR can bring needed operational characteristics.



Integrate alternative resources in ISO markets to follow load, integrate renewables, or avoid new capacity

ISO

CPUC

– Review existing utility demand response programs and implement as many as possible in the ISO market in the near-term

ISO

FERC

– Implement ISO market products tailored to operational needs

CPUC

ISO

– Support 3rd-party and utility demand response program development consistent with needed operational characteristics

CEC

CPUC

ISO

– Support pilots to test resource capabilities and gain operational experience




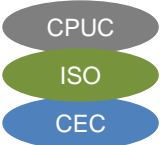
Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

DR can bring needed operational characteristics.

-  – Support regulatory policy and rules for direct participation in wholesale markets
-  – Seek changes to federal reliability standards to remove barriers to participation
-  – Implement reliability and market-based demand response models after resolution of federal legal challenges
-  – Support consumer choice to enable innovation and development of demand response participation

Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

Key processes:

CPUC Rule 24 – direct participation

ISO flexible ramping product

ISO PDR, RDRR, NGR model changes

CPUC DR application 3-year cycle

CPUC EPIC

WECC Balancing standard

Consistent signals can benefit entire system.



Align wholesale and retail signals to enable distributed resources to respond to grid conditions

- CPUC
ISO

– Consistent annual funding levels for FlexAlert conservation campaign
- CPUC
ISO

– Pursue changes in retail rate structure that better aligns with system conditions and produces beneficial changes in consumption patterns
- CEC
ISO
CPUC

– Develop coordination models that enable a whole system optimization for cost and reliability
- CPUC
ISO
CEC

– Design and conduct price-responsive distributed energy resource pilots in coordination with distribution system operators
- ISO

– Model demand elasticity in ISO market

Key processes:

CPUC DR application 3-year cycle

CPUC rate design

Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

Regulatory and technology frameworks support all goals.



Evolve and establish technology and regulatory framework enabling above goals

ISO – Expand metering and telemetry options to support emerging business models and lower costs
CPUC

ISO – Increase coordination and data sharing with distribution system operations
CPUC

ISO – Streamline demand response market registration process and implement demand response system enhancements to reduce complexity and registration time
CPUC

ISO – Develop electrical location mapping tool in coordination with distribution operator to support registration and verification
CEC
CPUC

Key processes:

ISO expanding metering and telemetry options stakeholder process

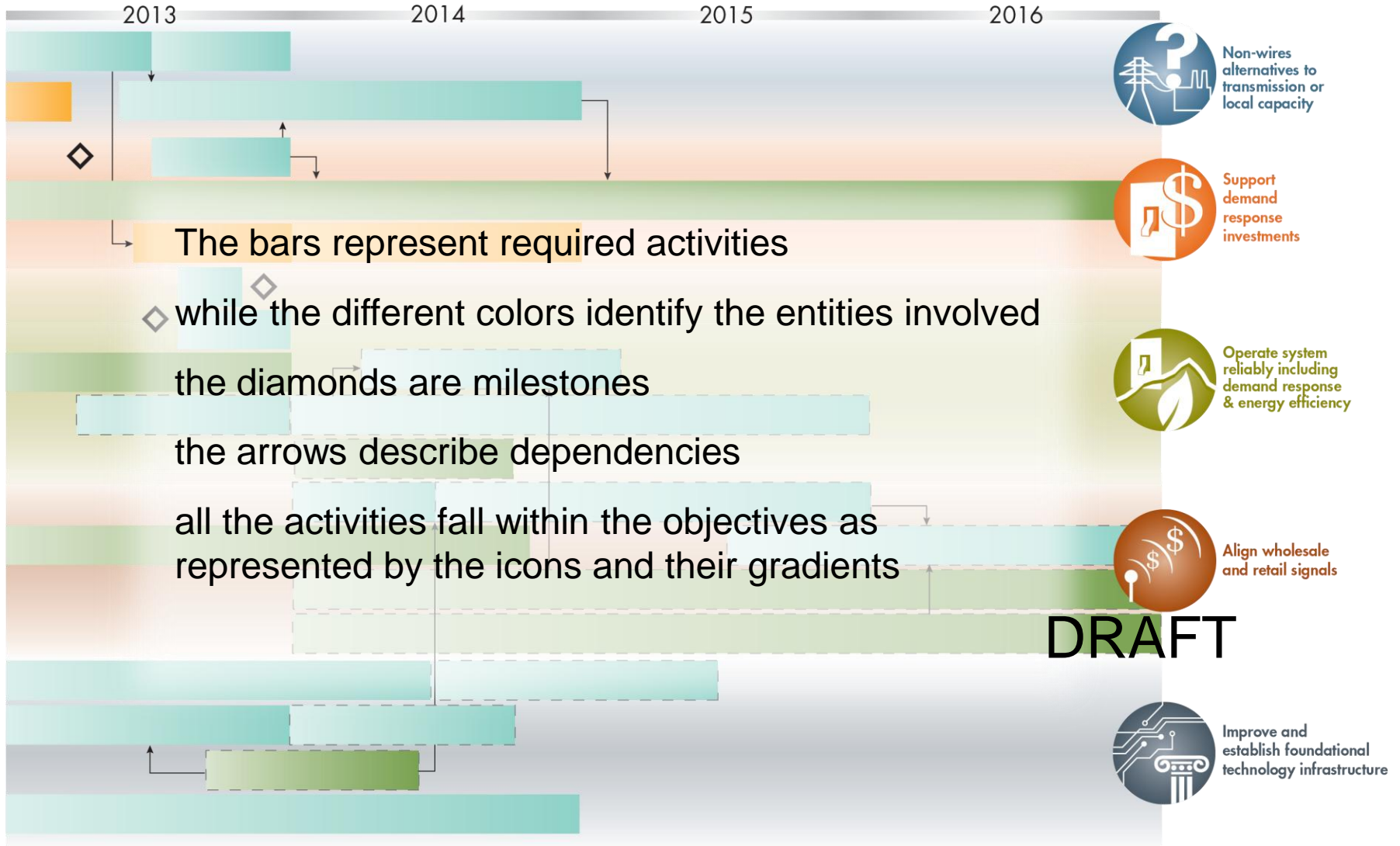
Please provide feedback:

Are there additional activities needed?

Who needs to lead and be involved in implementing these activities?

DRAFT

Activities provided on a timeline to support goals.



Thank you for your feedback

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DRAFT