



RAP

Energy solutions
for a changing world

Integrated Resource Planning: an Introduction

August 7, 2020

Alaska House of Representatives
Special Committee on Energy

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The Regulatory Assistance Project

China

European Union

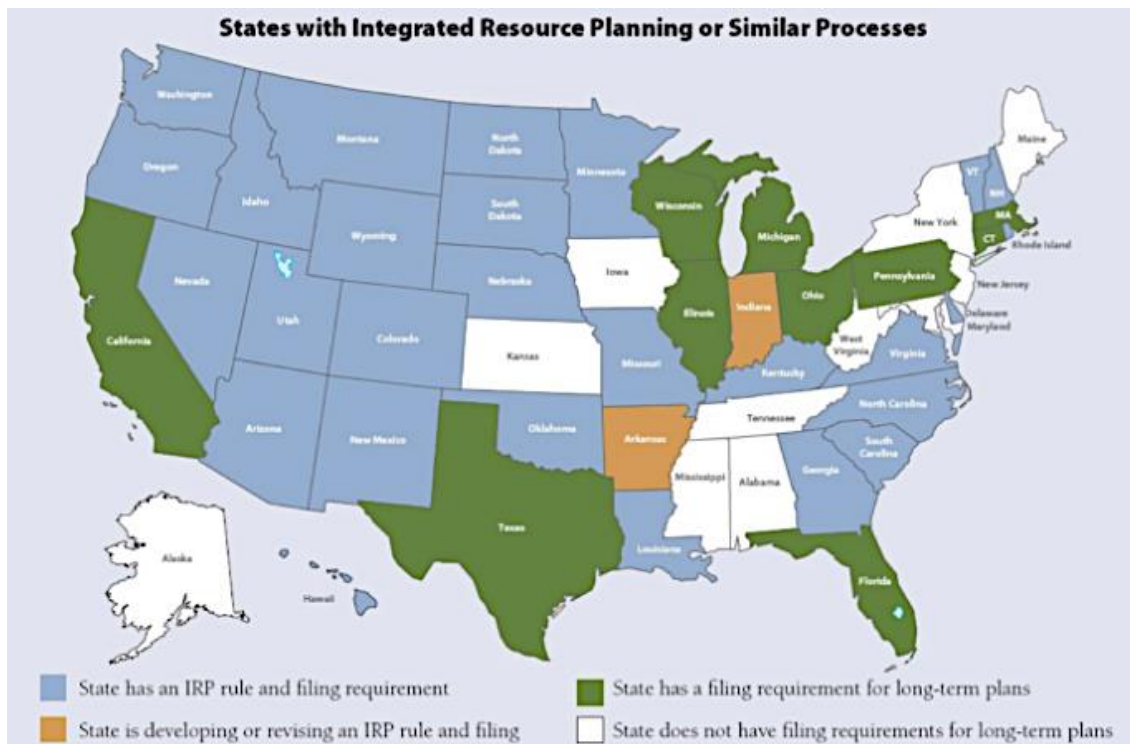
United States

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Where Does IRP Come From?

- Late 1970's
 - Huge cost overruns on coal and nuclear units
 - Delays in in-service dates created shortages
 - Price increases made energy efficiency an attractive option
- 1979 Three Mile Island accident
 - 60 nuclear units canceled

About 30 States Have Some Form of IRP



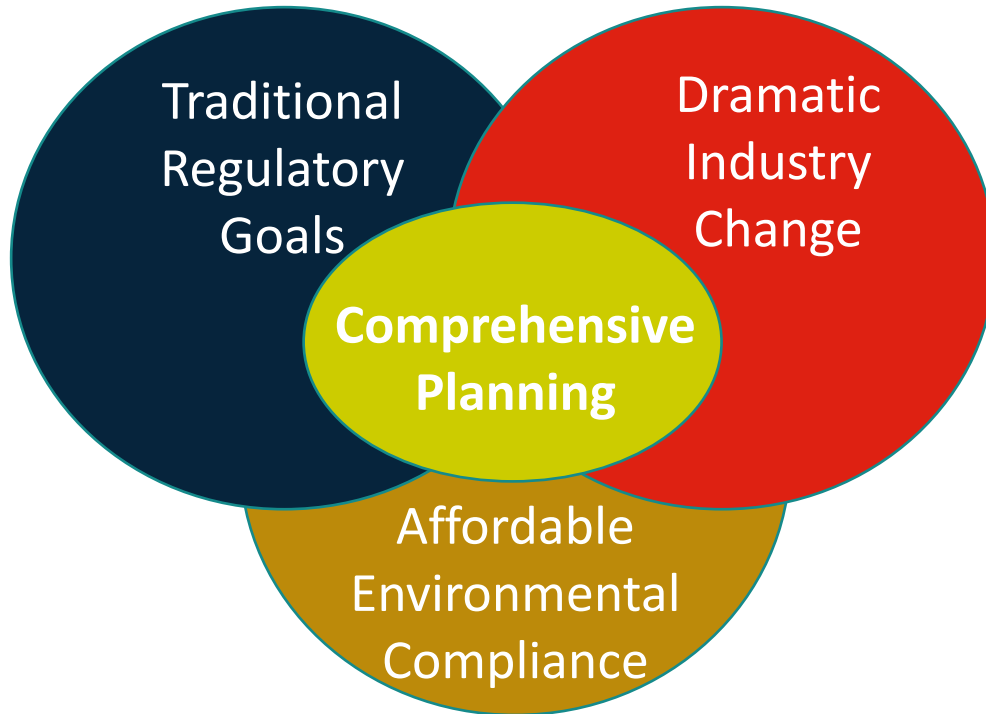
IRP – Complex, yes



Still, no need to drink from a fire hydrant



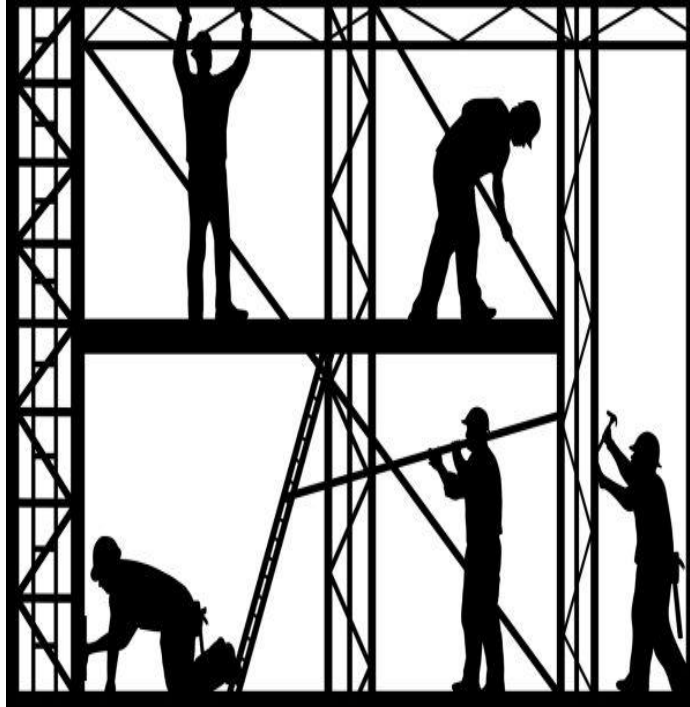
Today's Utility/Regulatory Challenge



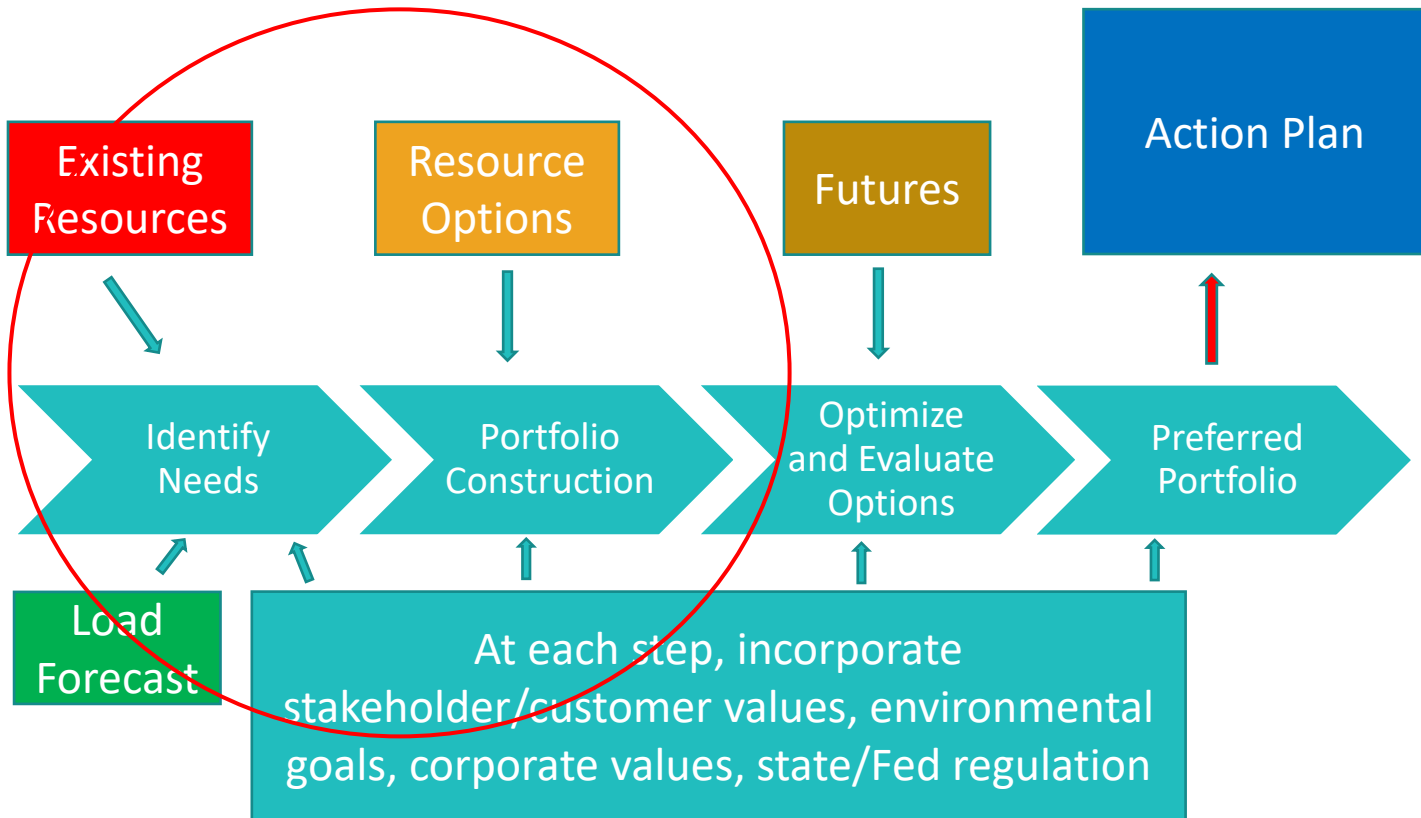
What is IRP

A plan for meeting the public's need for energy services that incorporates supply- and demand-side resources in a technology-neutral manner to identify least-cost futures under a given set of constraints.

IRP– Structure



IRP



Options for Consideration in Meeting Forecasted Energy Needs

- Energy Efficiency
- Demand Response
- Combined Heat and Power Opportunities
- Renewable Energy
- Power plant upgrades that increase the capacity or extend the life of an existing unit
- Construction of new capacity

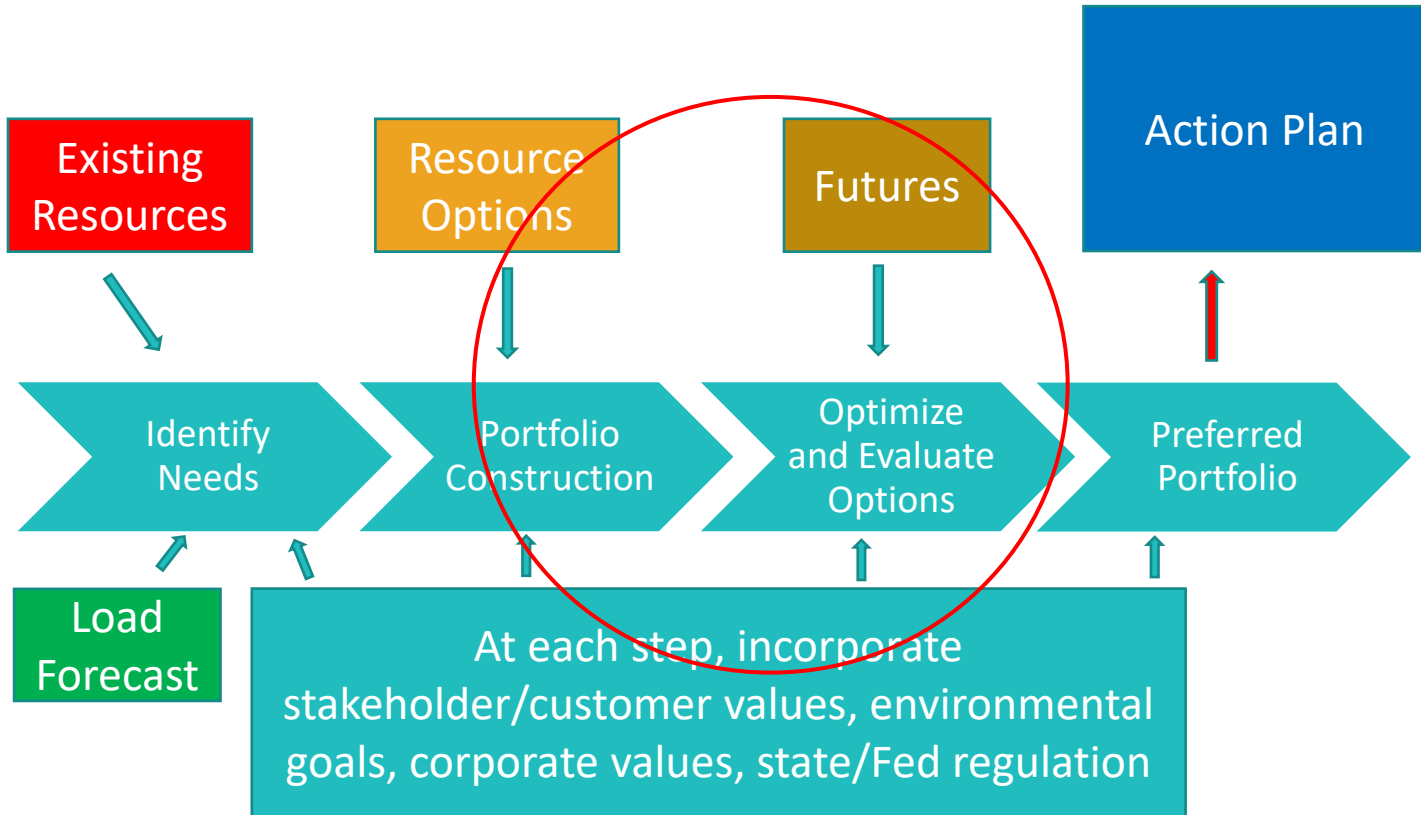
Each option should be examined in terms of meeting reliability needs throughout the planning horizon and doing so in a least-cost manner.

What about electrification?



Brattle: “Utility sales could nearly double by 2050”!

IRP



NOW--With all that Information? You Integrate *Supply and Demand*

Large utility
IRPs include
significant
computer
modeling for
***portfolio
optimization***



What About Risk?

Risk cannot be eliminated, but it can be managed

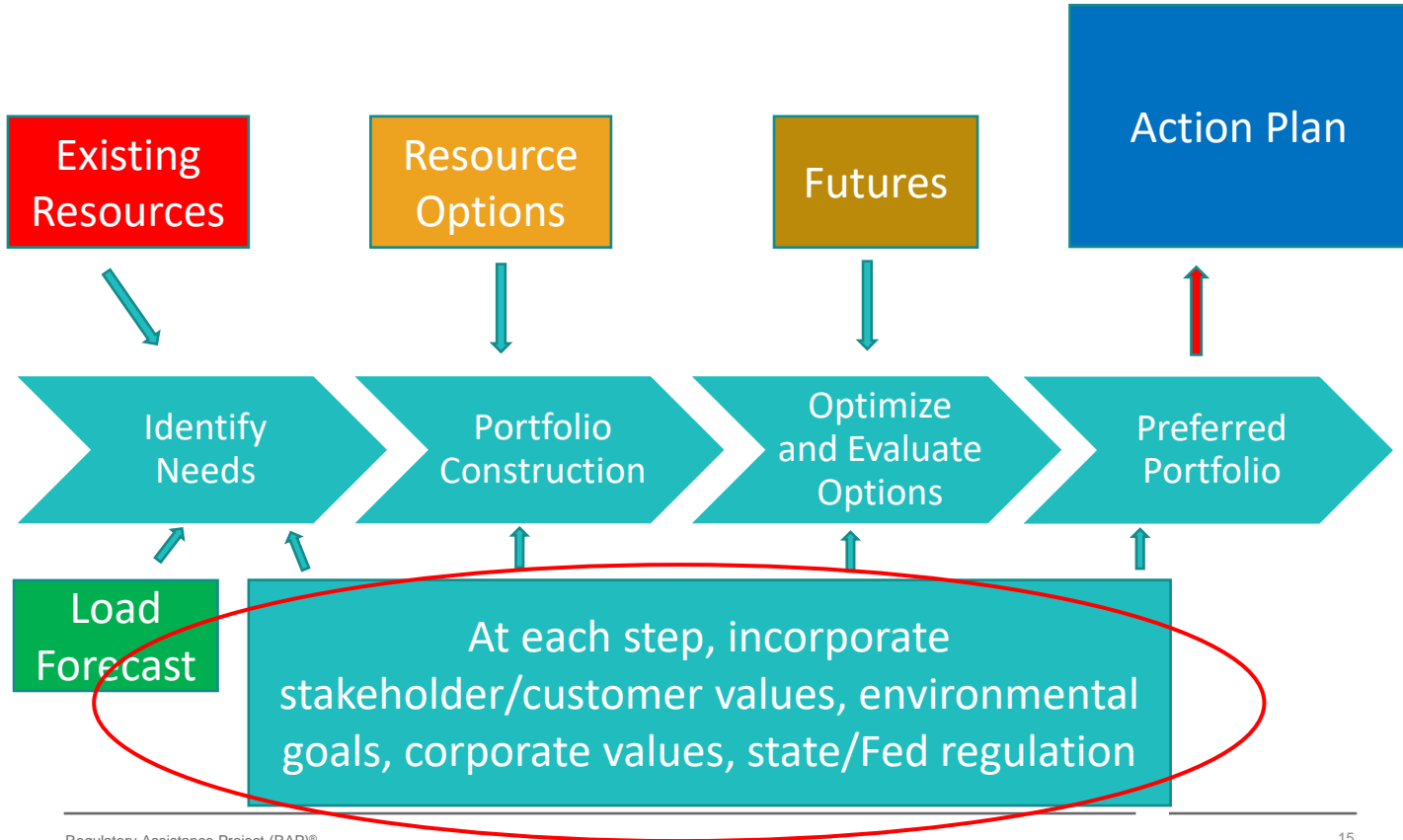
- Risk is defined in terms of *probabilities*, so sooner or later some risks will be realized, and will translate into \$.

Non-Strategies

- Ignoring risk
- “It’s always been done this way”

Make a fresh assessment of risk and attempt to limit it.

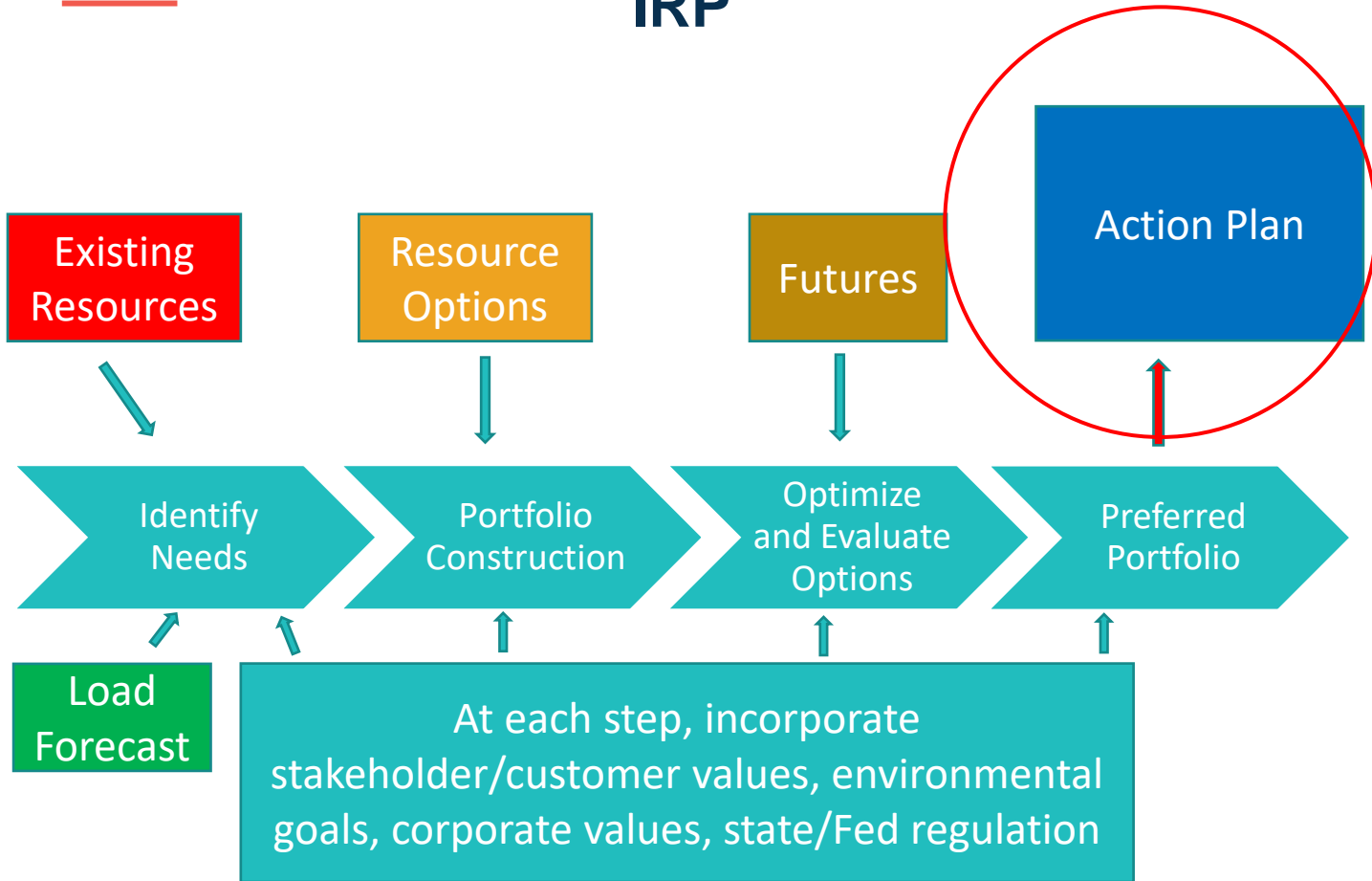
IRP



Public Participation – opportunity to educate and build support and constituencies



IRP



An Action Plan

Even though IRPs look out over 20-30-year horizons, they also should have an *action plan* that describes what should happen in the near term – the next several years.

IRP

- A useful tool for understanding electricity systems and preparing them for the demands of state economies including electrified transportation and an increased shares of renewables.
- Relevant in centrally managed power systems or where power generation and transmission require co-ordination across multiple jurisdictions.

IRP

- Helps manage risk and encourages timely and efficient investment,
- IRP can help to optimize decision-making, especially amid rapid technological innovation that involves trade-offs over resource and risk allocation.

IRP

- Effective planning depends on:
 - Sound regulatory oversight;
 - Comprehensive institutional processes;
 - Alignment with other public policy goals;
 - Timely data, and
 - Stakeholder consultation.



***Plans are worthless,
but planning is everything***

President Dwight D Eisenhower, 1957

About RAP

The Regulatory Assistance Project (RAP)® is an independent, non-partisan, non-governmental organization dedicated to accelerating the transition to a clean, reliable, and efficient energy future.

Learn more about our work at raponline.org



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