

December 2019

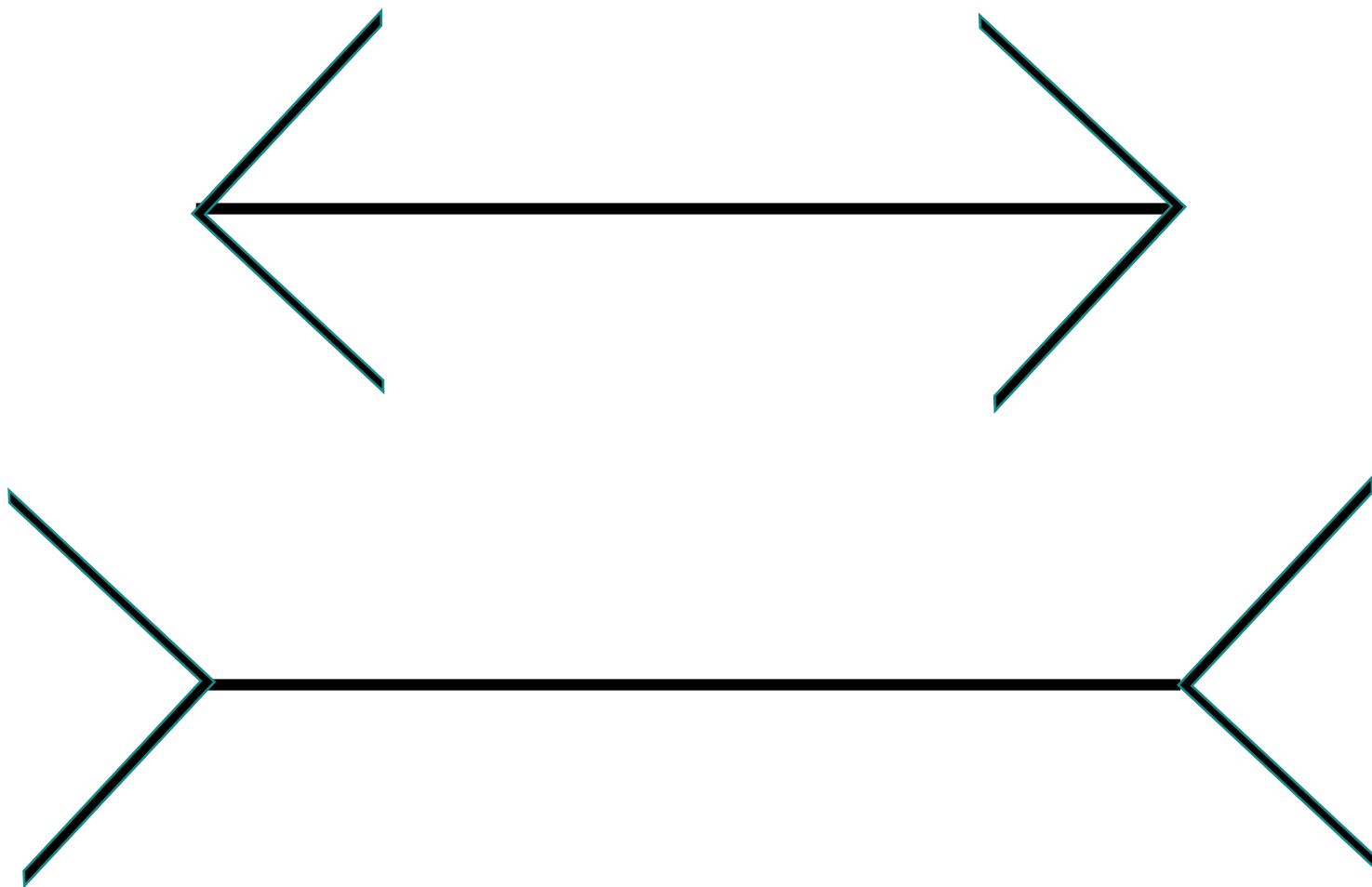
Best practices on EEOs: Testing the robustness of existing guidance

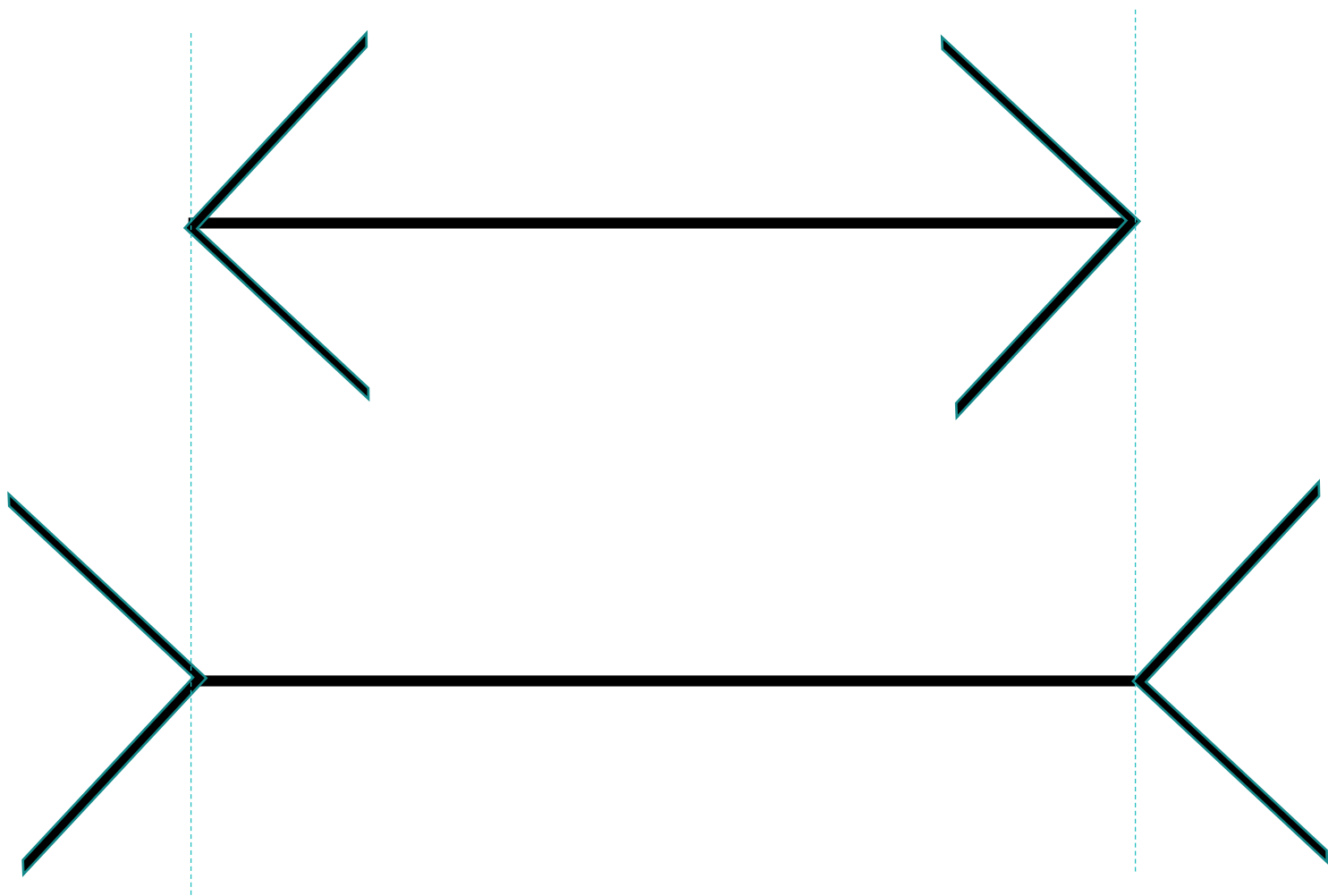
IEA/RAP workshop, Paris, 10 December 2019

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1 EEOs in a changing context



Market-based Instruments for Energy Efficiency

Policy Choice and Design

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**RAP**

Energy solutions
for a changing world

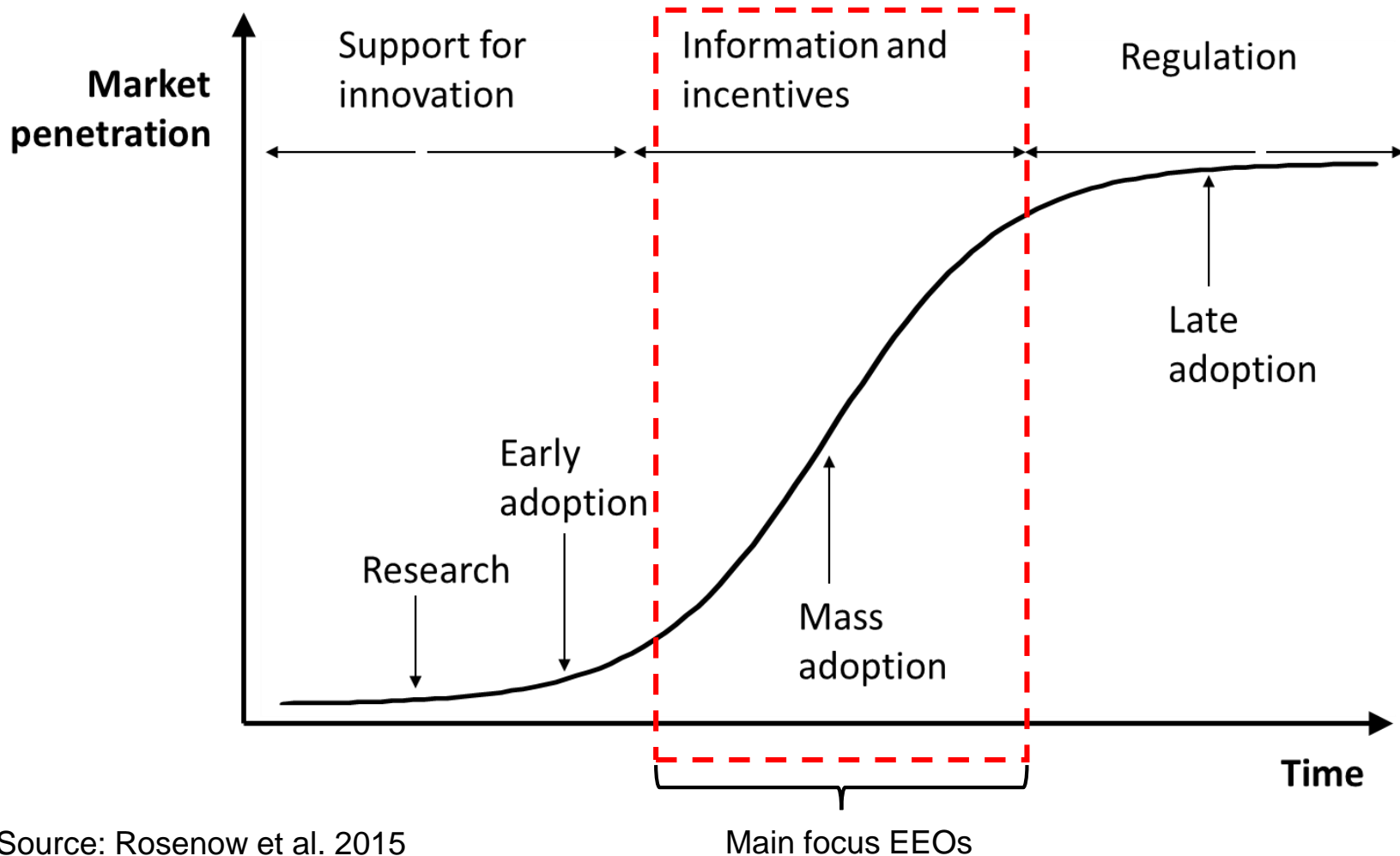
Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes

Research Report
Task XXII of the International Energy Agency
Demand Side Management Programme

Report prepared by:
The Regulatory Assistance Project

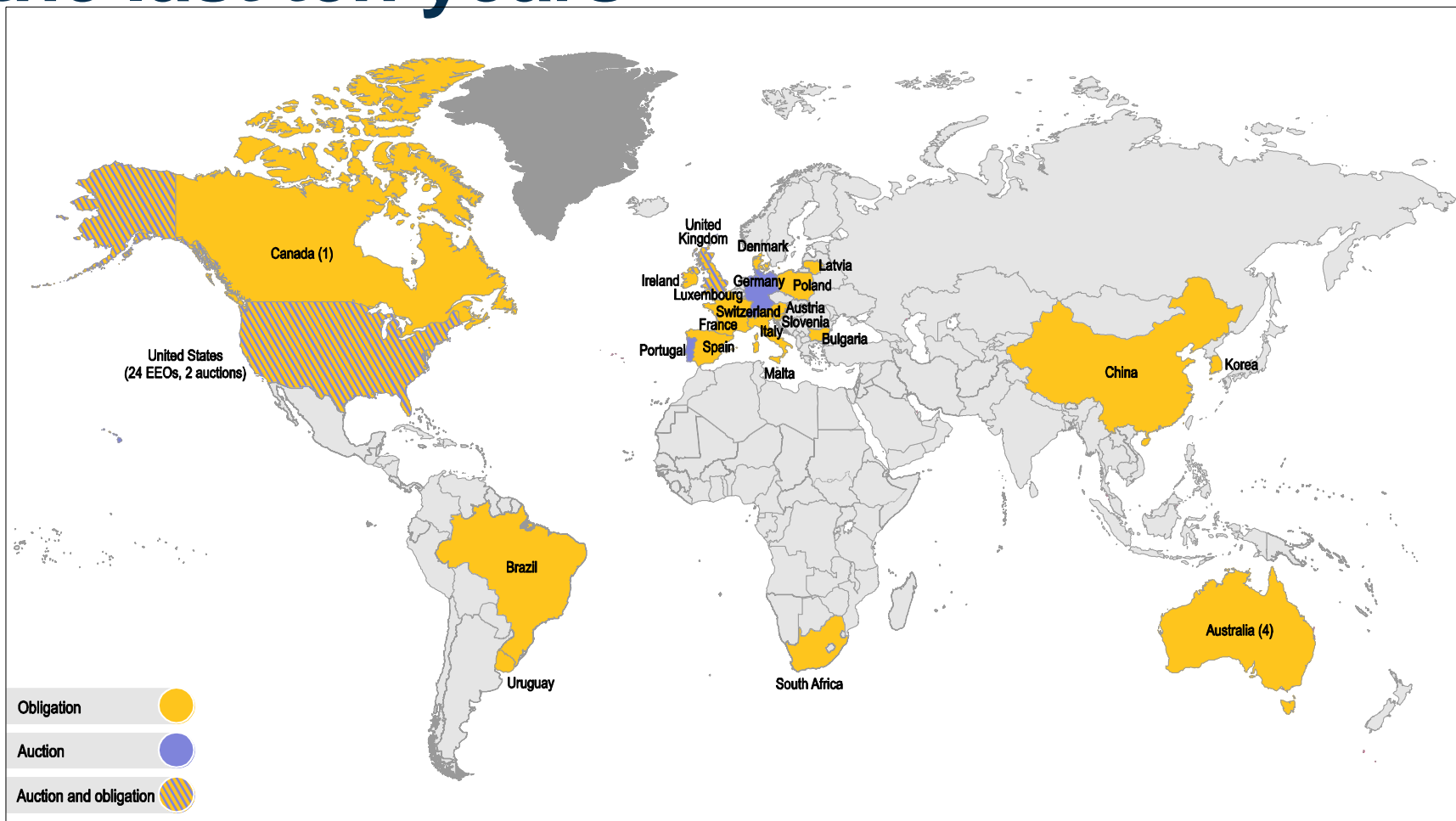


Market transformation and EEOs



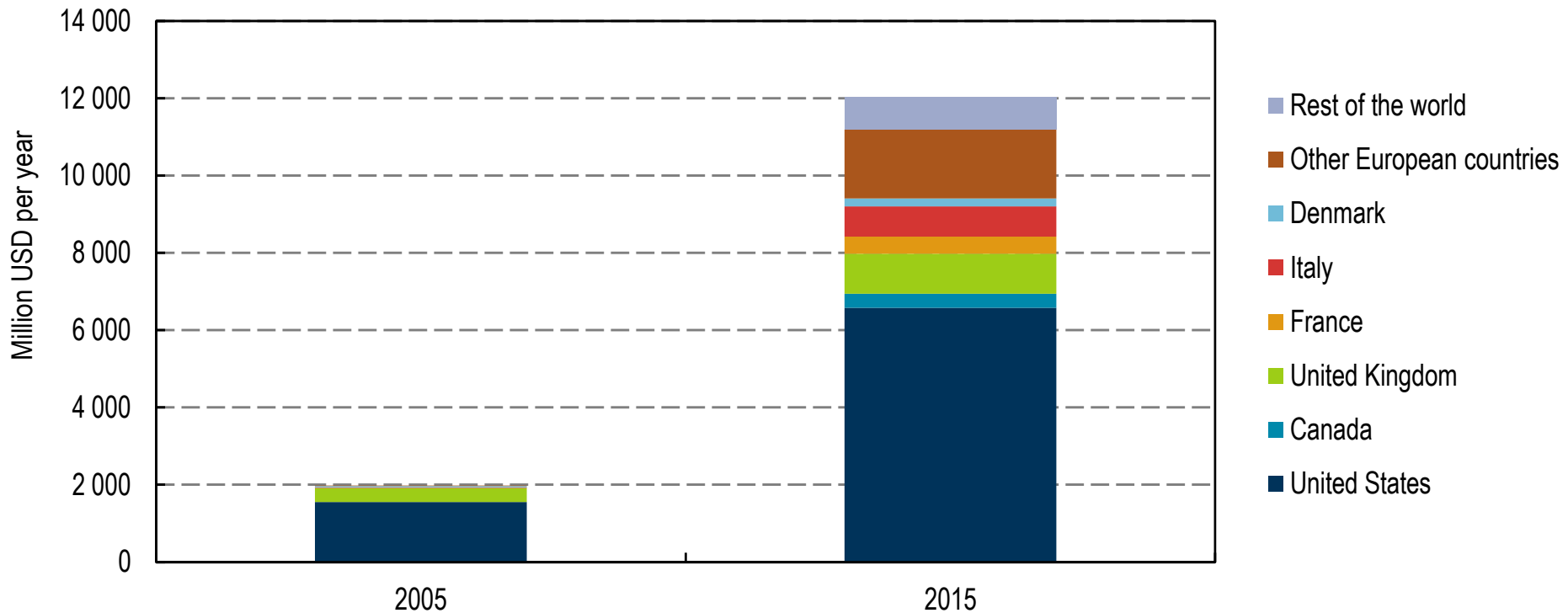
Source: Rosenow et al. 2015

Number of EEOs has quadrupled over the last ten years



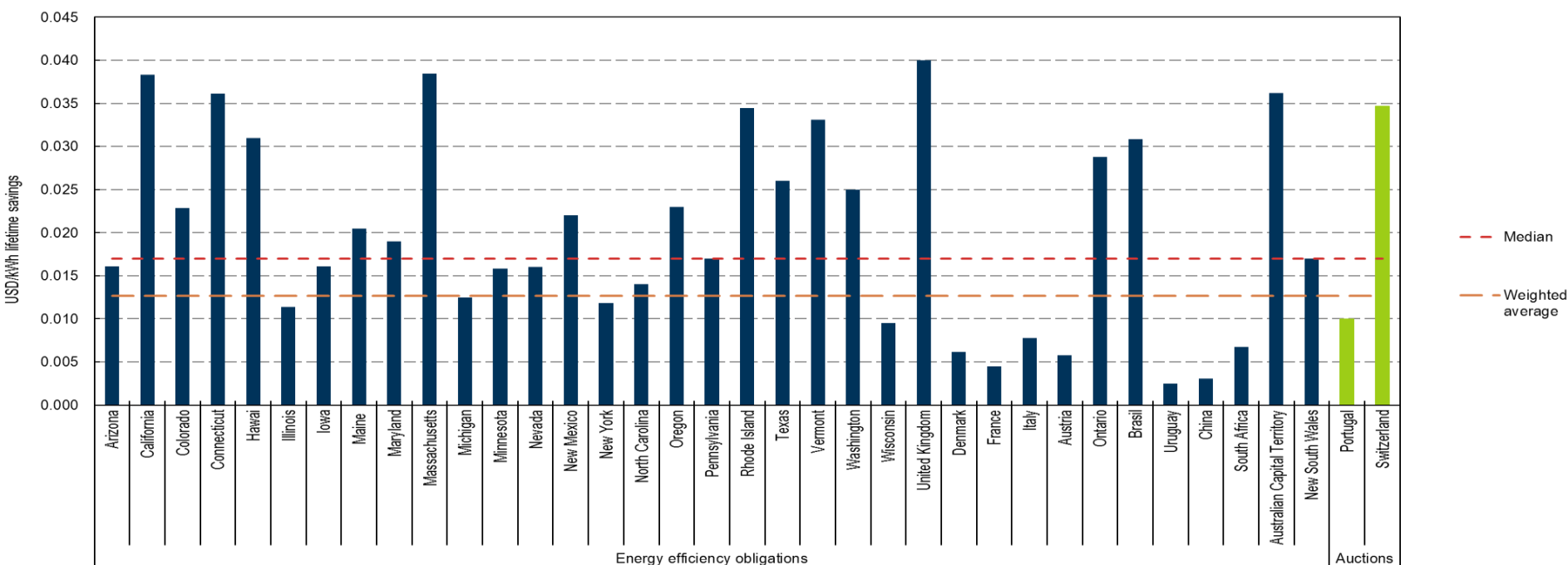
This map is without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries, and to the name of any territory, city or area.

Rise of public investment through EEOs



Available data indicates that EEOs are cost-effective

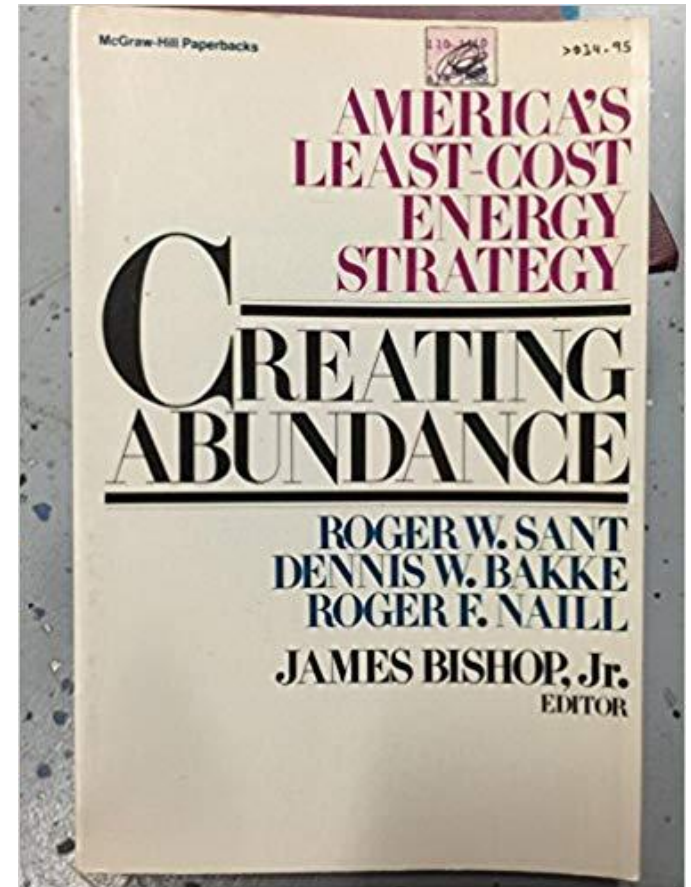
Expenditure by obligated parties and payments to auction winners per unit of energy saved



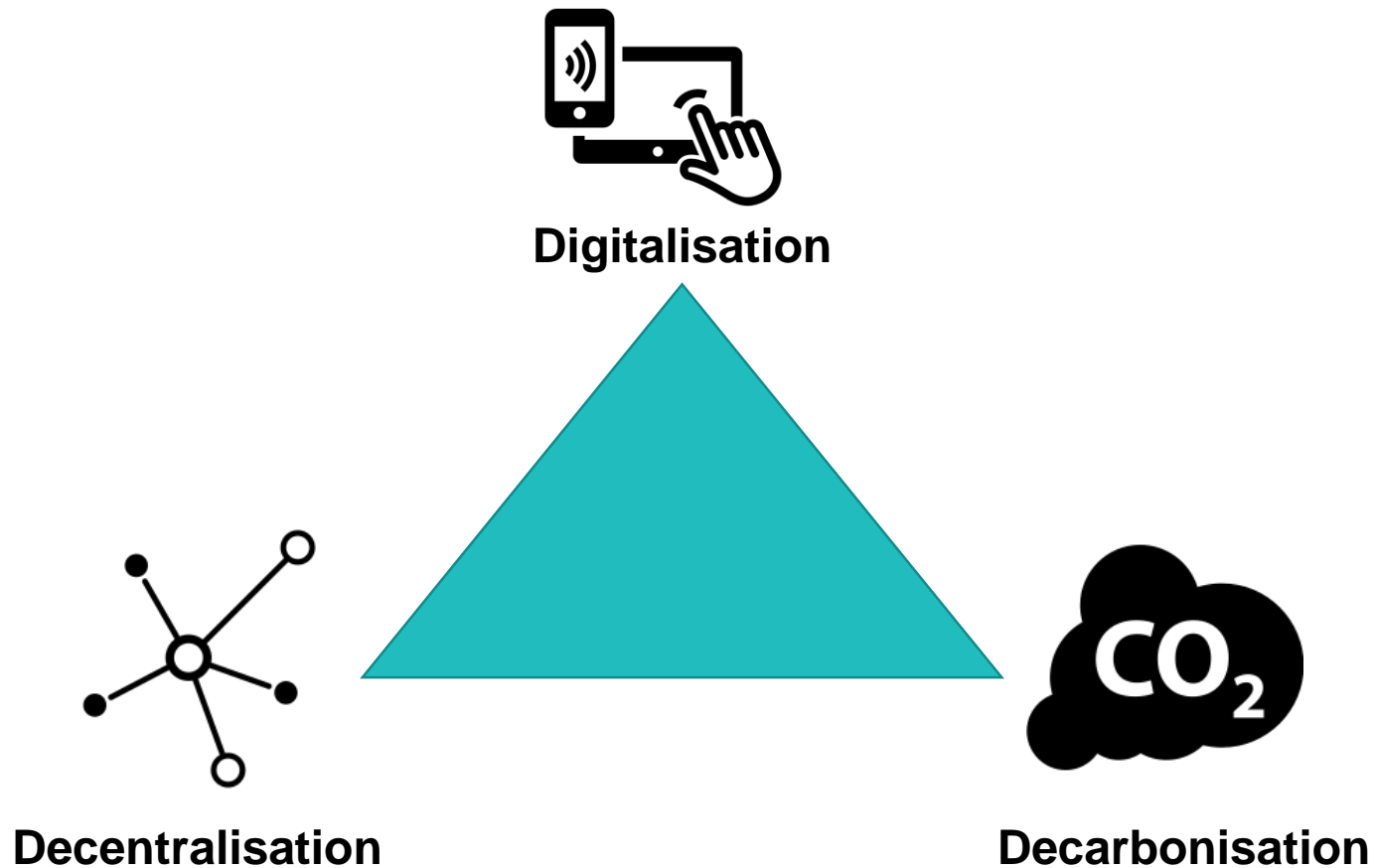


Origin of EEOs: Least Cost Planning

- **Process:** electric utilities evaluate the costs, benefits, and risks of different resources for meeting electric power demand
- **Goal:** arrive at the mix of resources that will meet future demand at the lowest cost while still providing reliable electric service



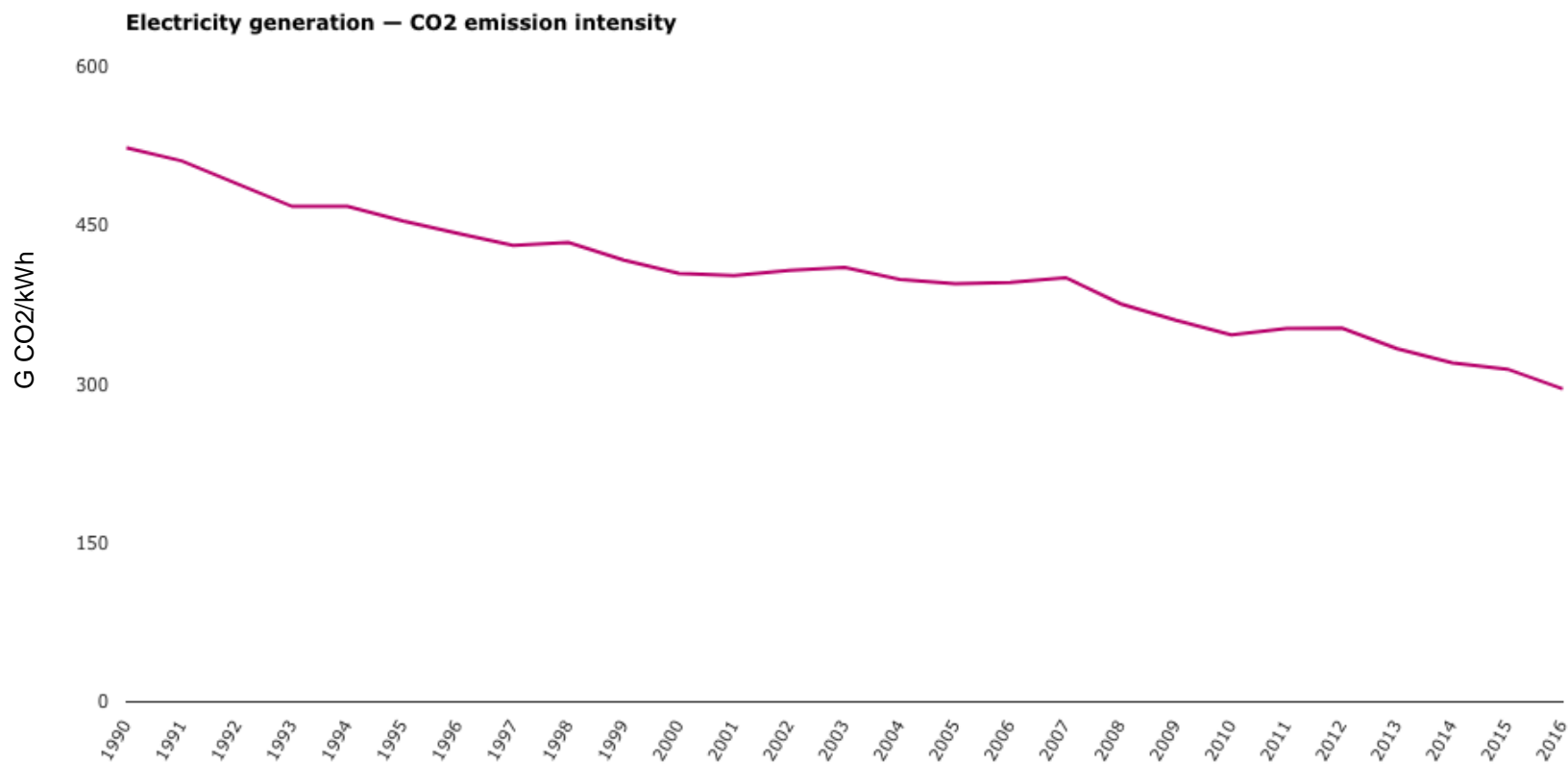
Changing context - the 3 Ds



2 Decarbonisation

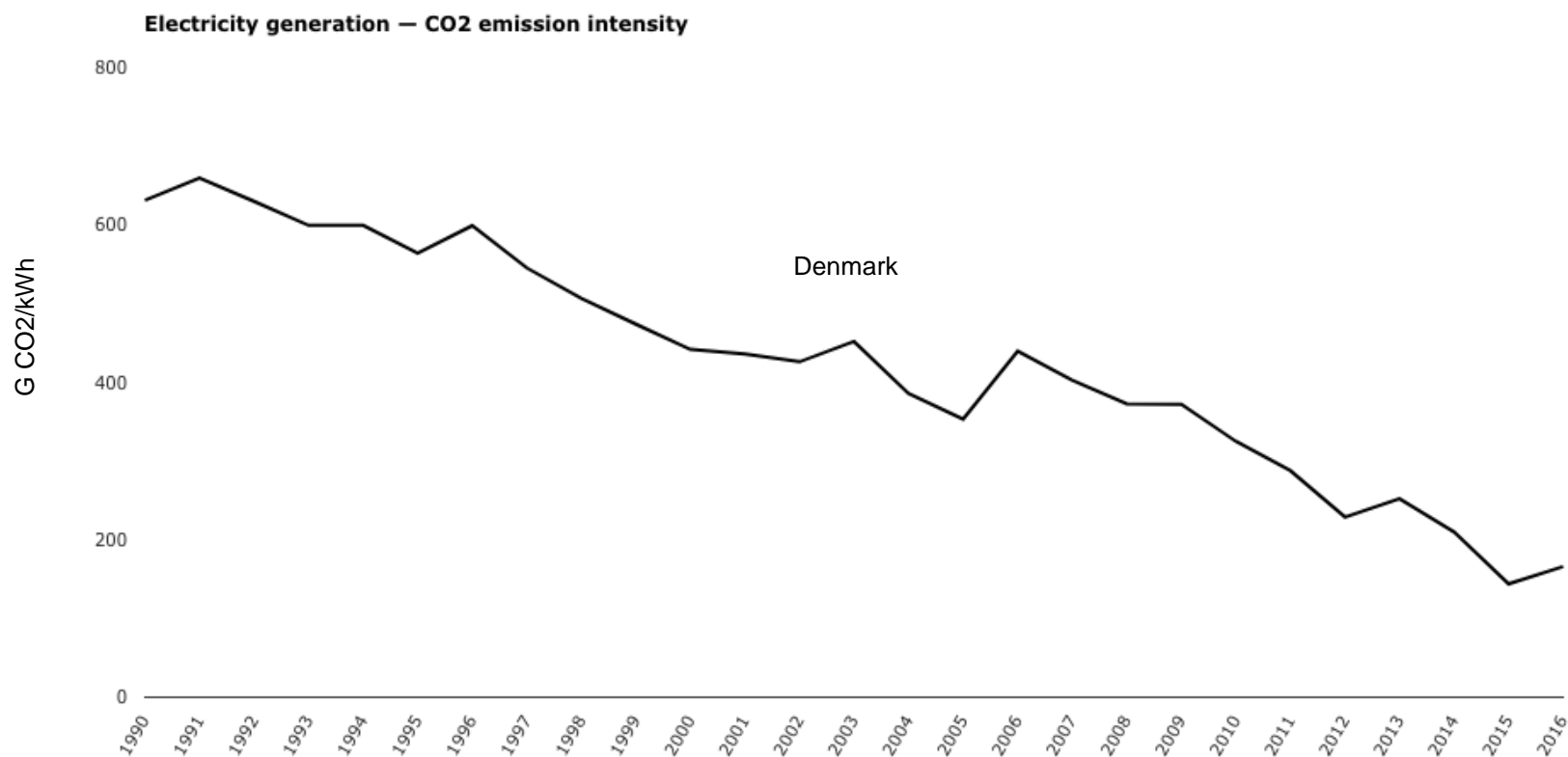


Electricity is getting cleaner – example EU-28 average



Source: EEA 2018

...and in some countries now cleaner than natural gas

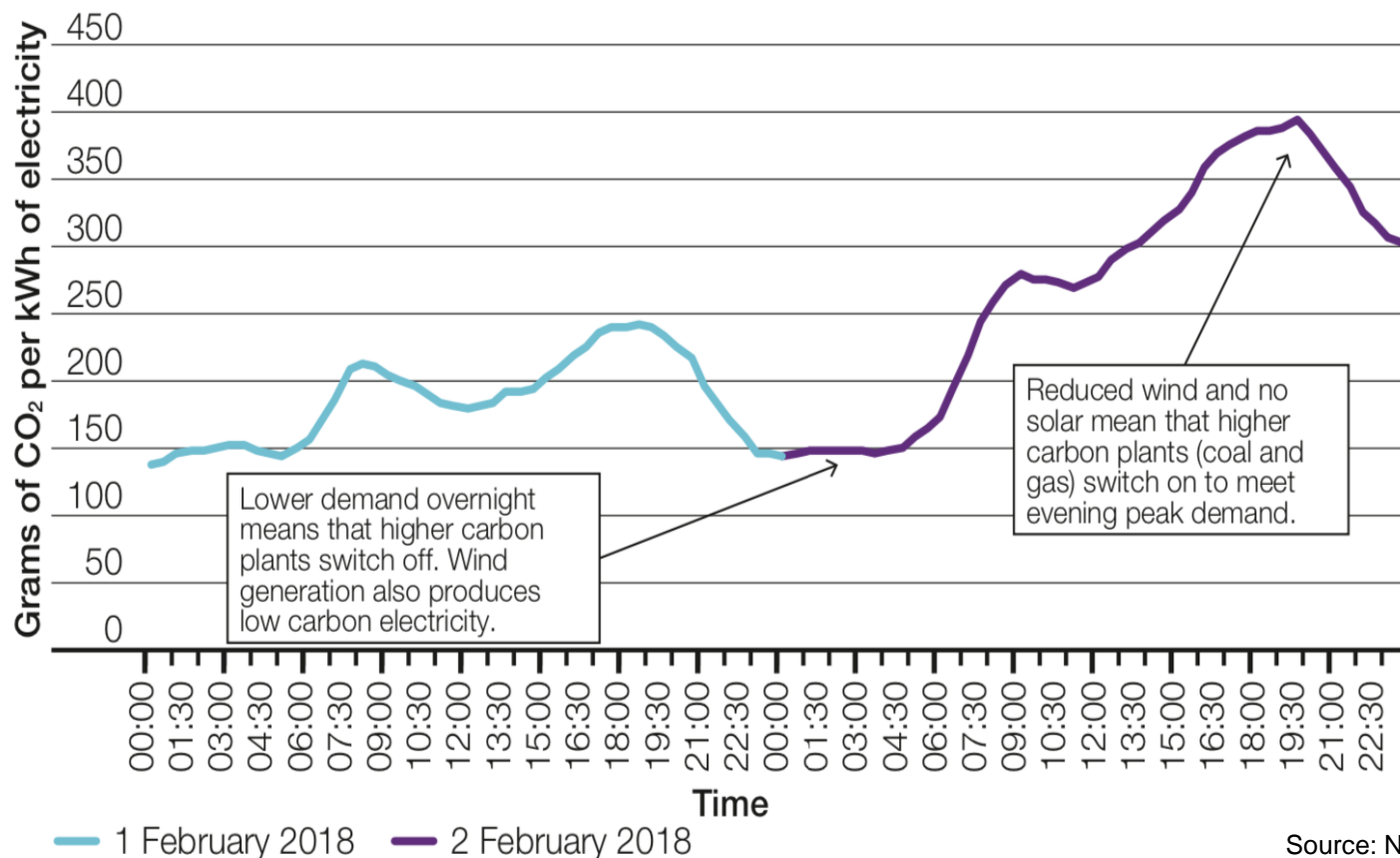


Source: EEA 2018





Emissions vary across the day – example from the UK



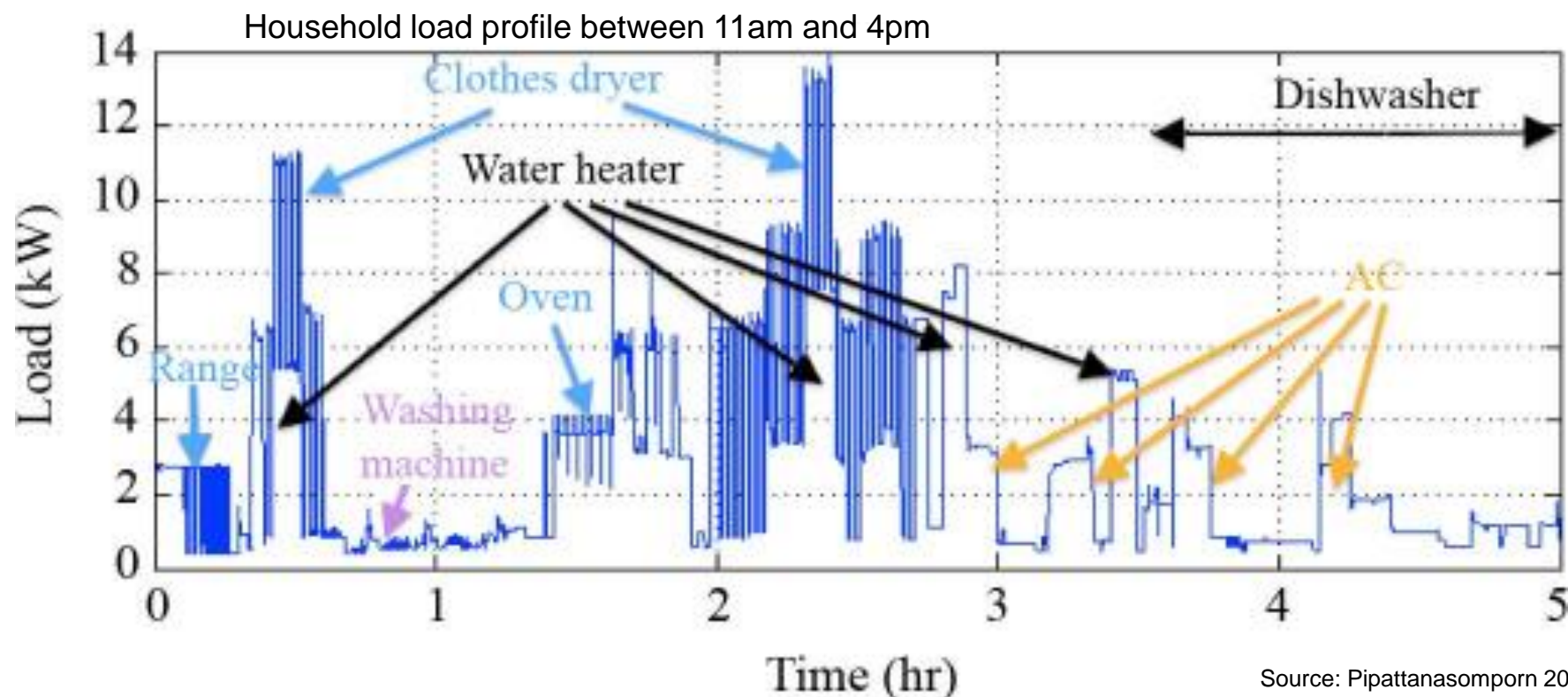
Source: National Grid 2018

3 Digitalisation





Digitalisation demonstrates the time-specific nature of EE



Digitalisation allows to target EE measures in time

15:55 📶 🔋

< scheduling heating Save

schedule 1 ▾

Increases or decreases in the accommodation temperature can be scheduled here for up to three time periods per day. If a room sensor is installed and activated the desired room temperature is...

activated active ☒

climate system climate system 1

mon

Start time 16:00 Stop time 19:00

temperature -10

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Start time 16:00 Stop time 19:00

temperature -10

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Start time 16:00 Stop time 19:00

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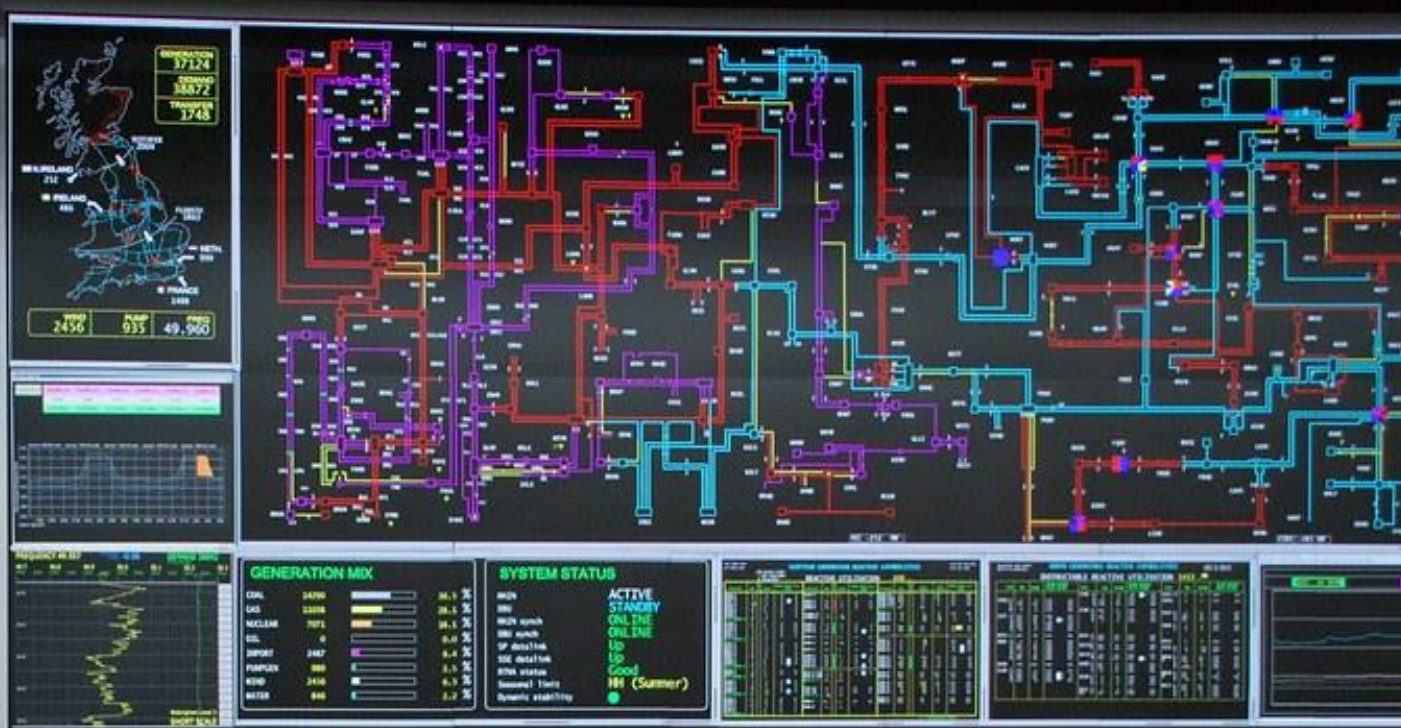
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Overview Service Info Manage History

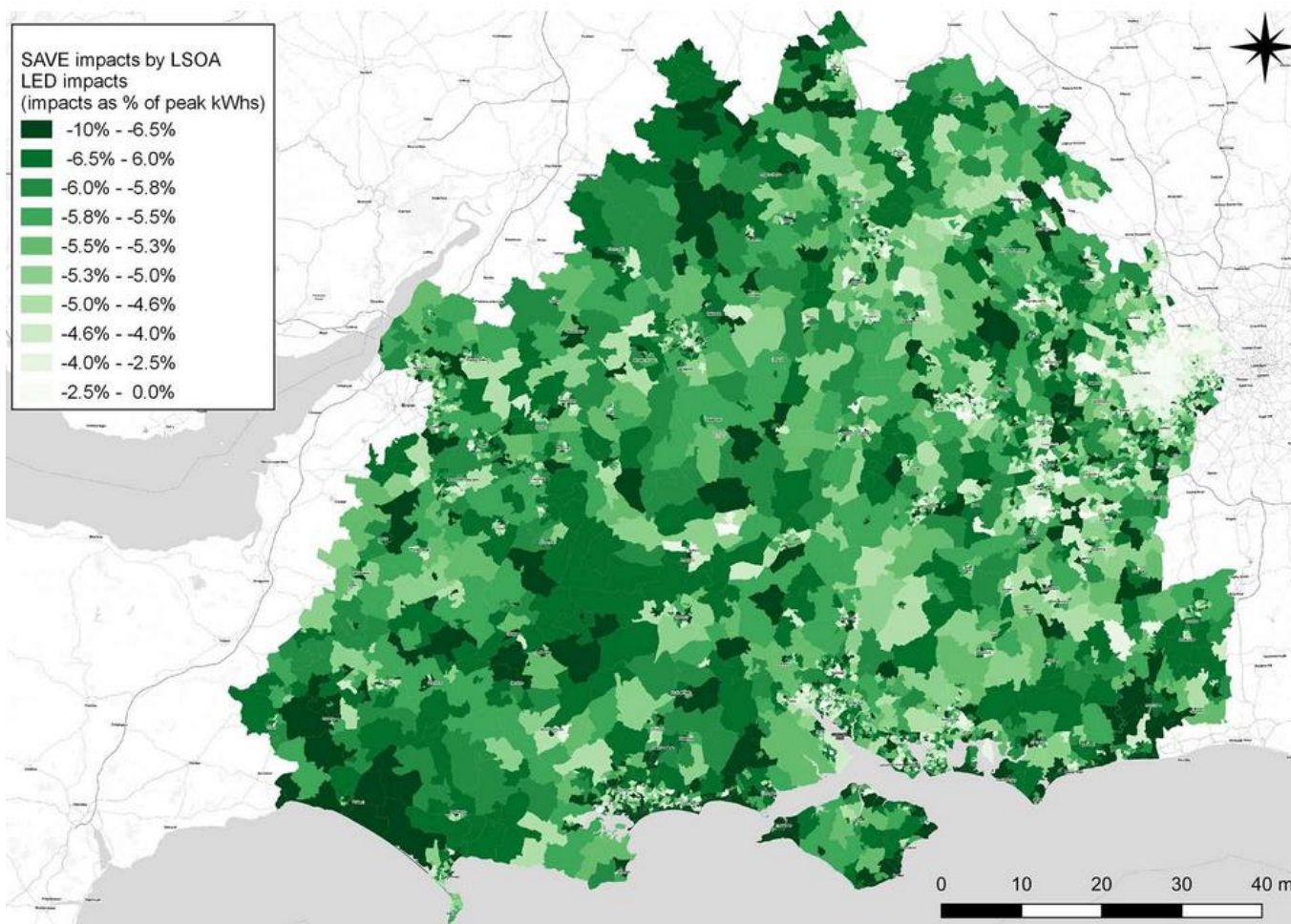


tionalgrid

nationalgrid



SSEN SAVE Project



Source: SSEN 2019

4 Decentralisation







Questions

- Are these important factors that will (or should) shape EEOs in the future?
- What is missing?

About RAP

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Learn more about our work at raponline.org



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10 DECEMBER 2019

Best practice guidance for Energy Efficiency Obligations

IEA/RAP Energy Efficiency 2.0 Workshop

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Testing existing guidance

- Is the existing guidance fit for purpose?
- How should it be updated?

Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes

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Best Practices for EEO Schemes

1. Policy Objectives

3. Fuel Coverage

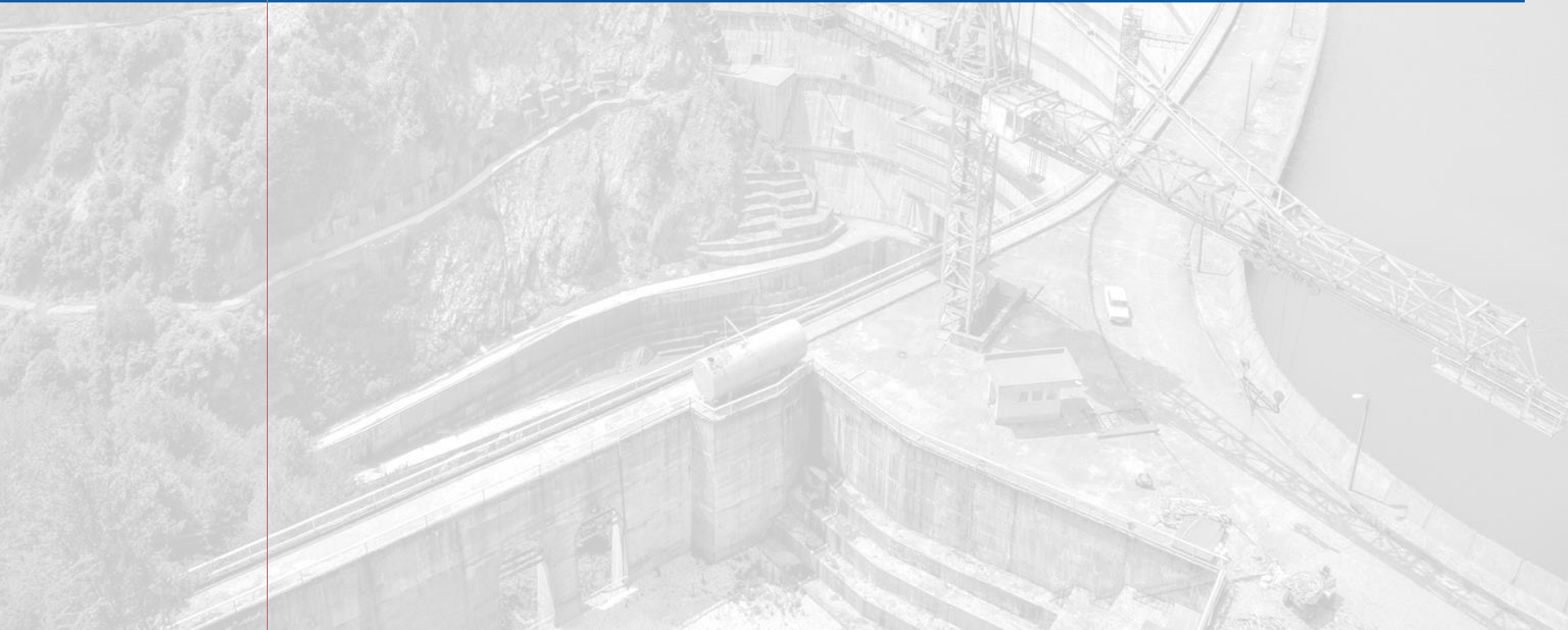
5. Energy Saving Target

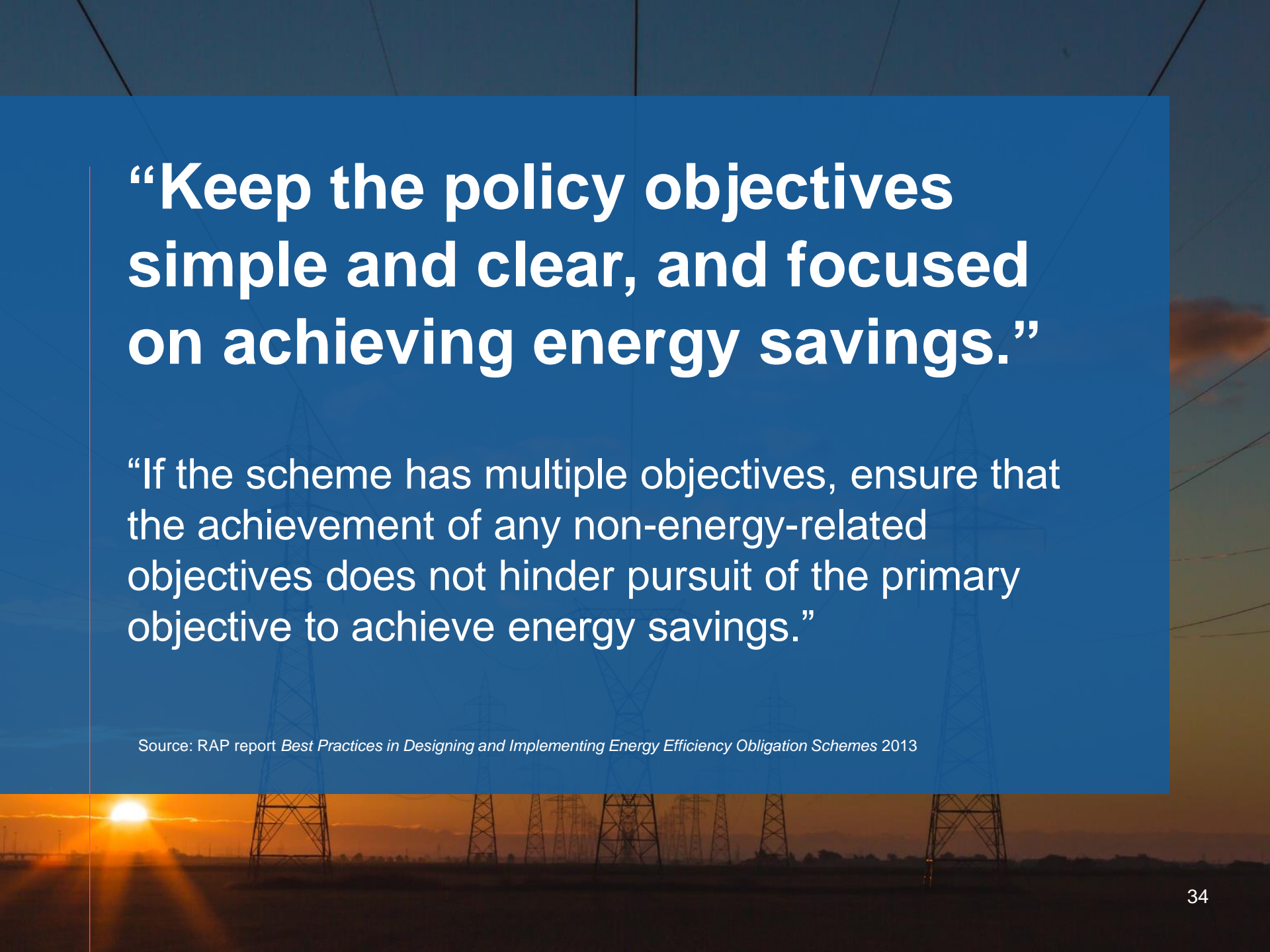
6. Obligated Parties

10. Eligible Energy
Efficiency Activities

12. Trading of Energy
Savings

1 Policy objectives



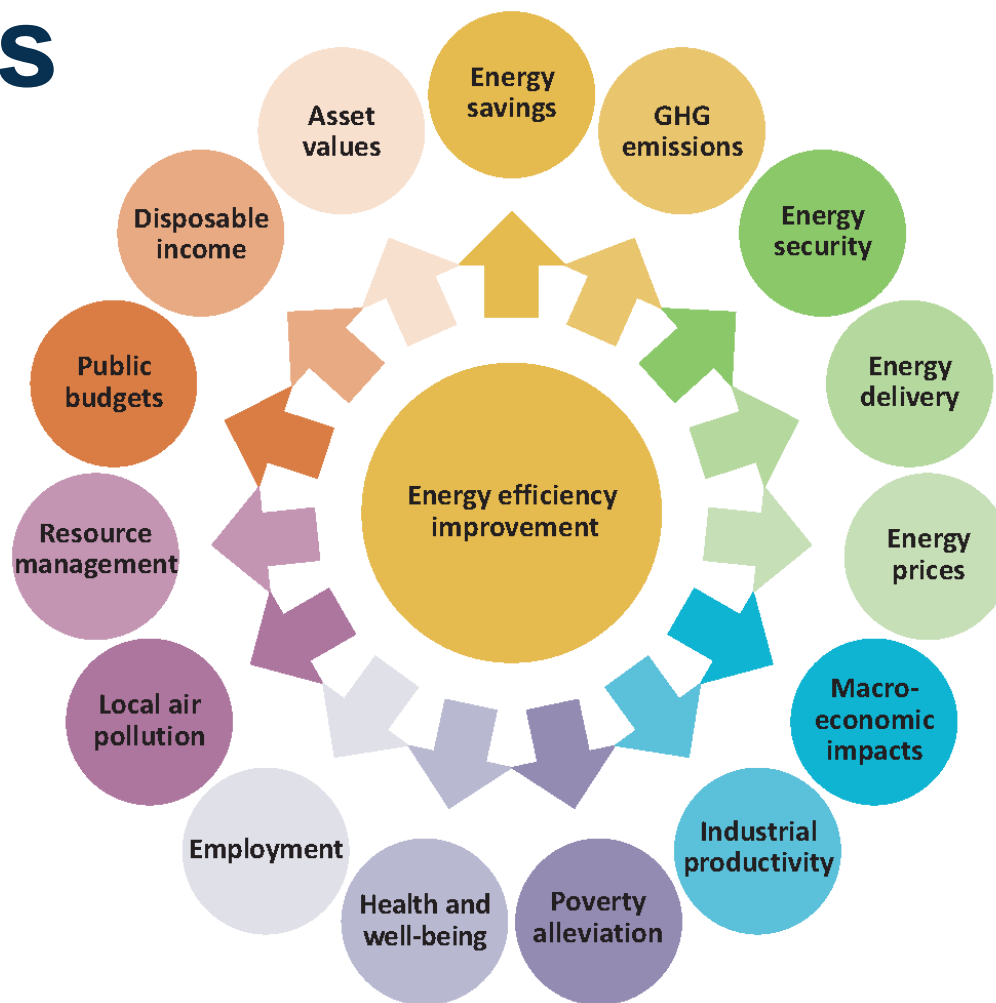
The background of the slide features a series of high-voltage power lines stretching across the horizon under a sunset sky. The sun is a bright, glowing orb on the left side, casting a warm orange and yellow light. The power lines are silhouetted against the sky, creating a rhythmic pattern of vertical and diagonal lines. The overall mood is serene yet industrial.

“Keep the policy objectives simple and clear, and focused on achieving energy savings.”

“If the scheme has multiple objectives, ensure that the achievement of any non-energy-related objectives does not hinder pursuit of the primary objective to achieve energy savings.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

Energy efficiency has multiple benefits

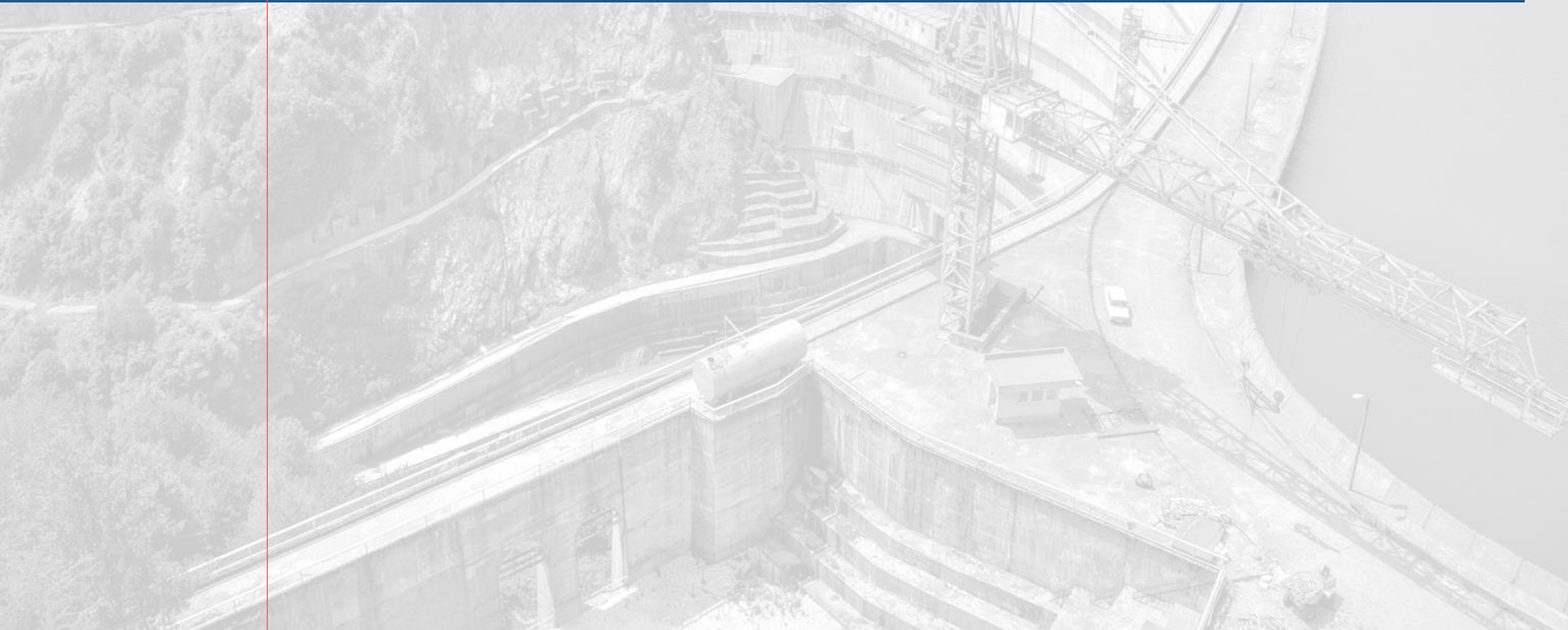


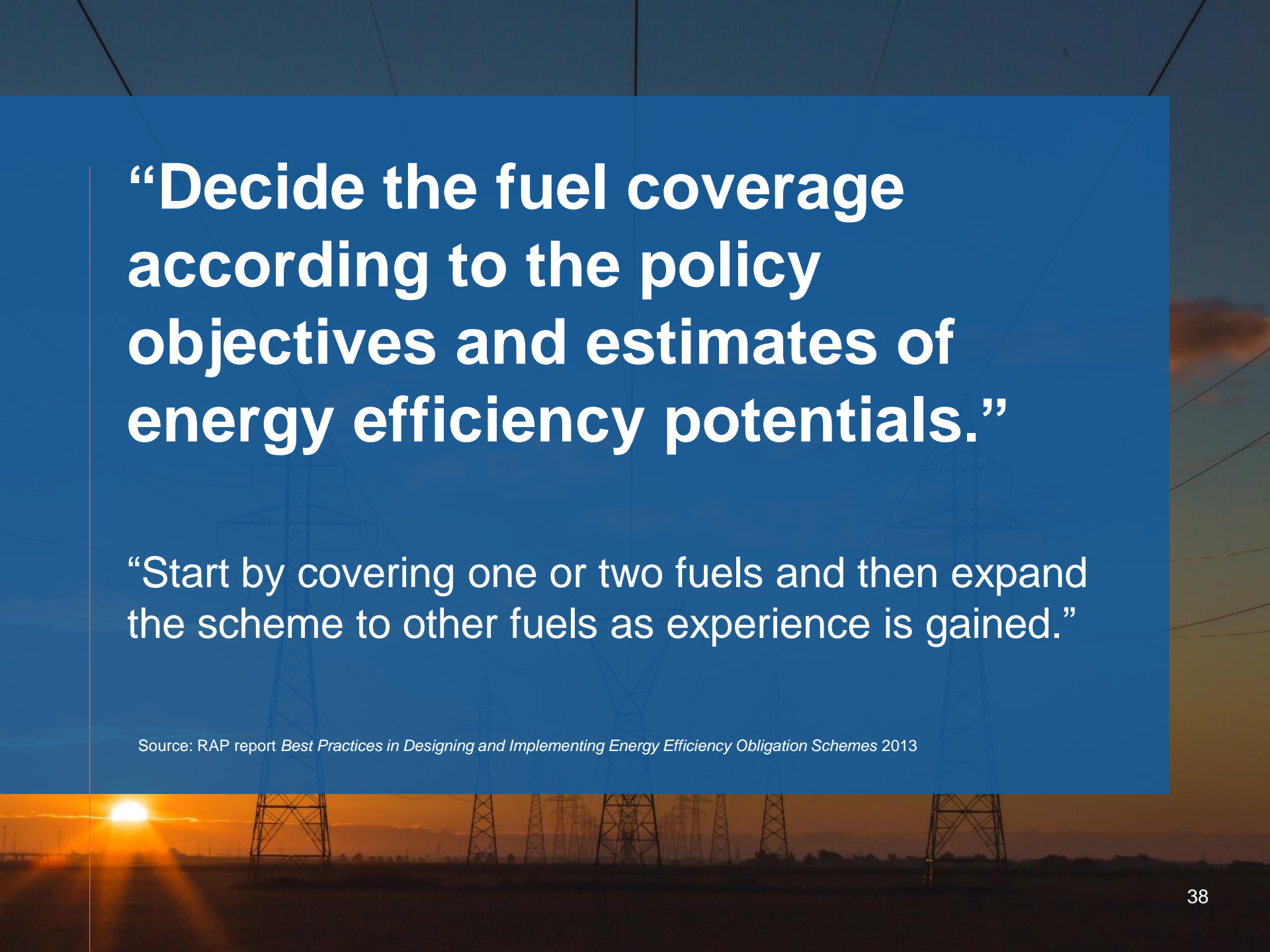
Many possible objectives

- to acquire cost-effective ee as an energy resource;
- to reduce energy bills for end-use customers;
- to assist low income households with energy bills;
- to stimulate the energy services industry;
- to improve environmental outcomes;
- to enhance energy security and reliability.

Question: should programmes be technology neutral in meeting objectives?

2 Fuel coverage



The background of the slide features a series of high-voltage power lines stretching across the horizon under a sunset sky. The sun is a bright, glowing orb on the left side, casting a warm orange and yellow light. The sky transitions from a deep orange near the horizon to a darker blue at the top. The power lines are silhouetted against the sky, creating a rhythmic pattern of vertical and diagonal lines.

“Decide the fuel coverage according to the policy objectives and estimates of energy efficiency potentials.”

“Start by covering one or two fuels and then expand the scheme to other fuels as experience is gained.”

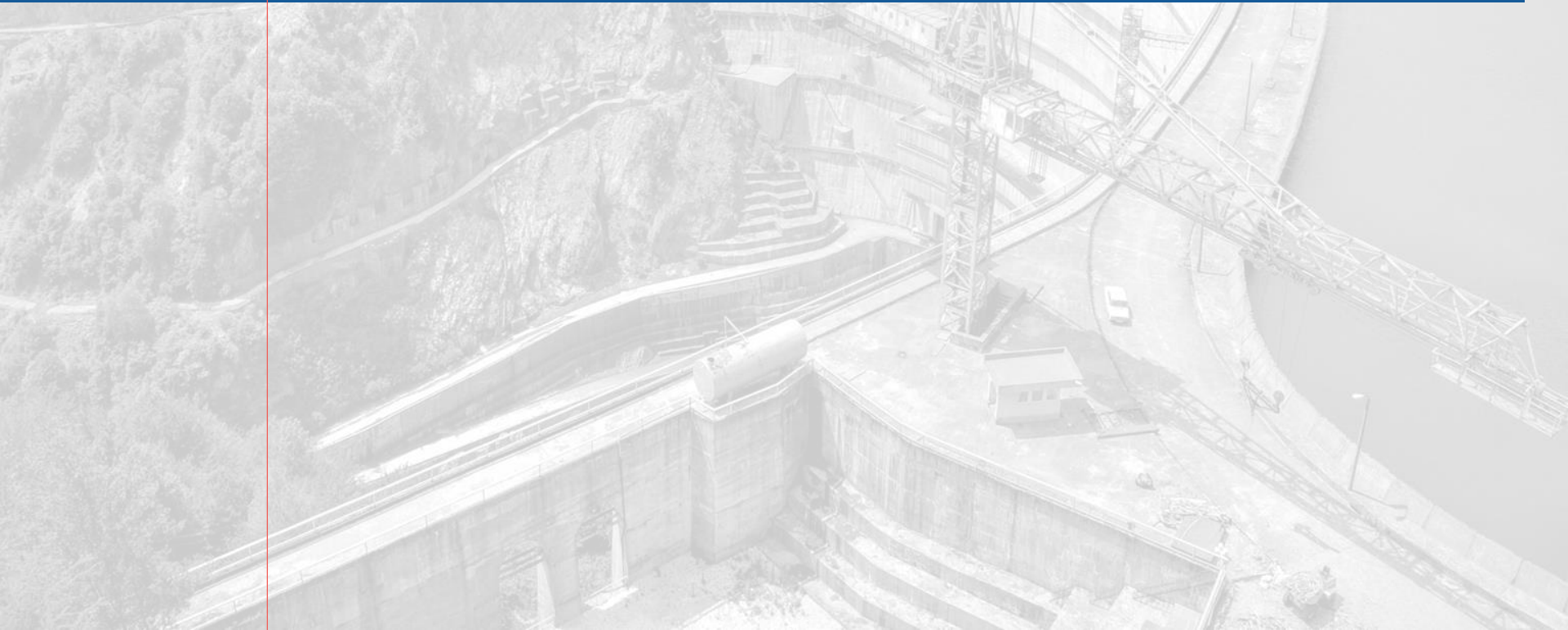
Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

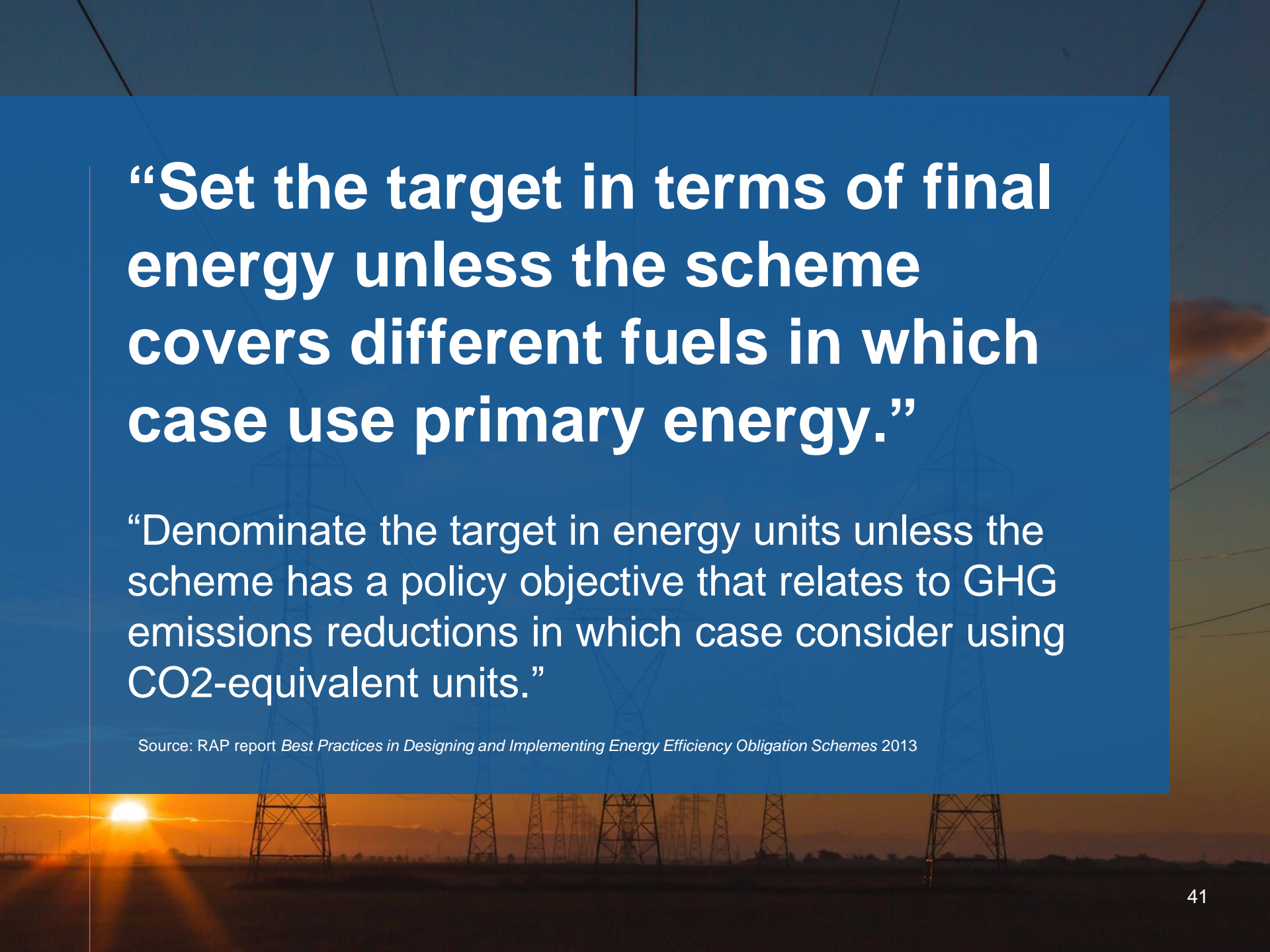
Fuel coverage

Question

With decarbonisation implying the electrification of many end-uses, does it make sense to begin by only covering one or two fuels?

3 Energy saving target



The background of the slide features a photograph of several high-voltage power line towers stretching across a landscape under a sunset sky. The sun is low on the horizon, creating a bright orange glow and lens flare effects. The sky transitions from a deep orange near the horizon to a darker blue at the top. The power lines and towers are silhouetted against this warm background.

“Set the target in terms of final energy unless the scheme covers different fuels in which case use primary energy.”

“Denominate the target in energy units unless the scheme has a policy objective that relates to GHG emissions reductions in which case consider using CO2-equivalent units.”

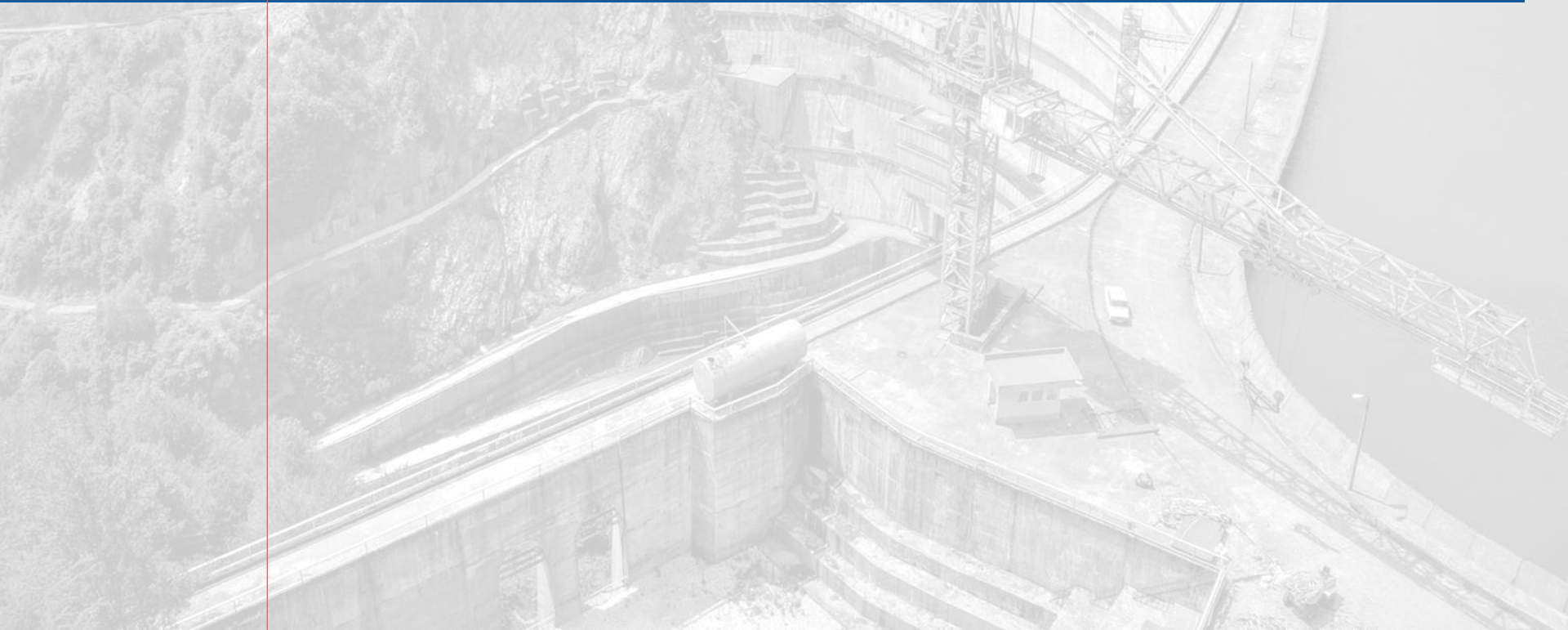
Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

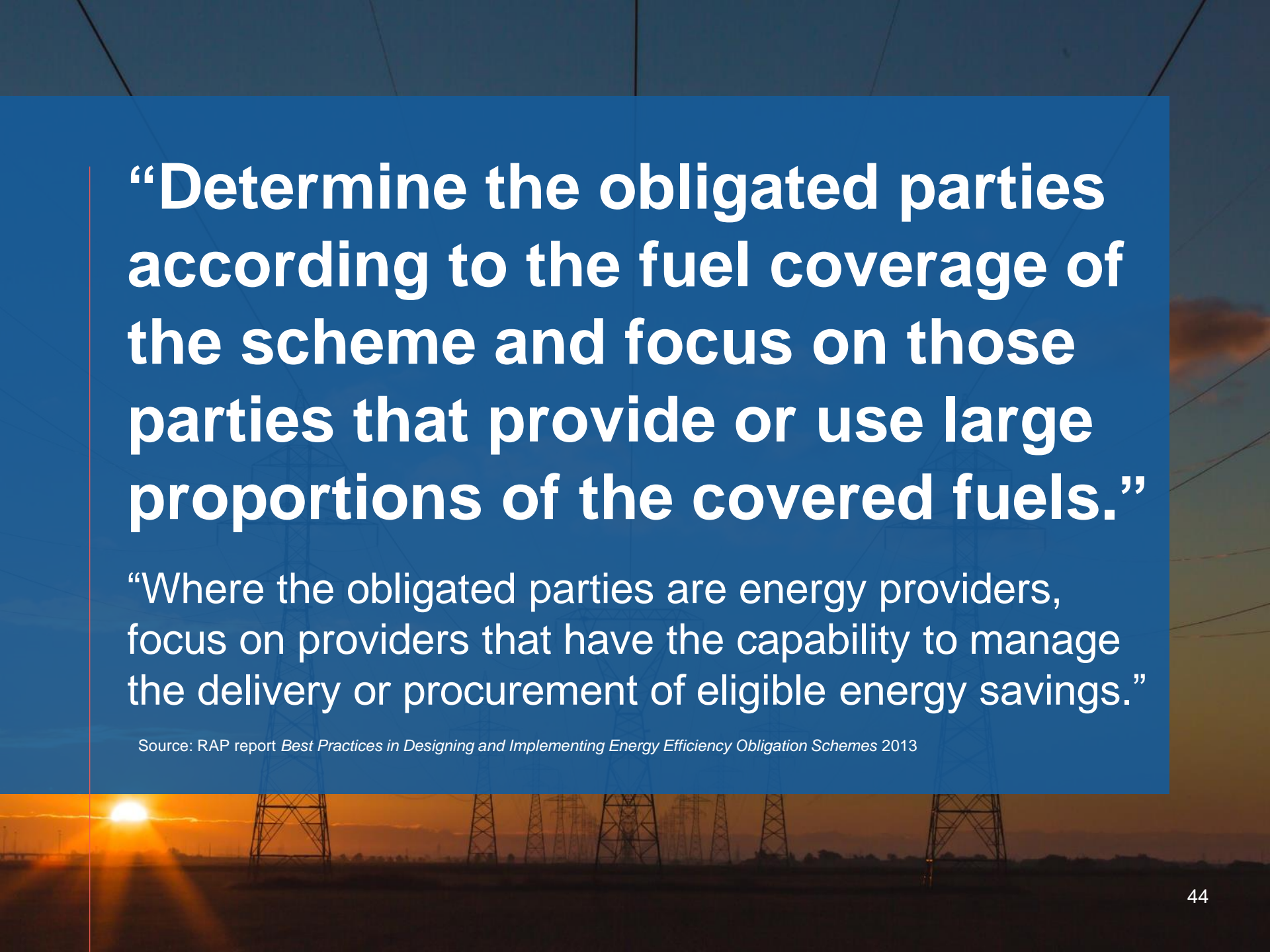
Target setting

Question

Is it right to denominate targets in primary energy terms when more than one fuel is covered, given expected improvements in the primary energy intensity of electricity grids?

4 Obligated parties



The background of the slide features a silhouette of several high-voltage power line towers against a warm, orange-hued sky at sunset or sunrise. The sun is visible on the left side, creating a lens flare effect. The entire scene is partially covered by a semi-transparent blue rectangle that contains the text.

“Determine the obligated parties according to the fuel coverage of the scheme and focus on those parties that provide or use large proportions of the covered fuels.”

“Where the obligated parties are energy providers, focus on providers that have the capability to manage the delivery or procurement of eligible energy savings.”

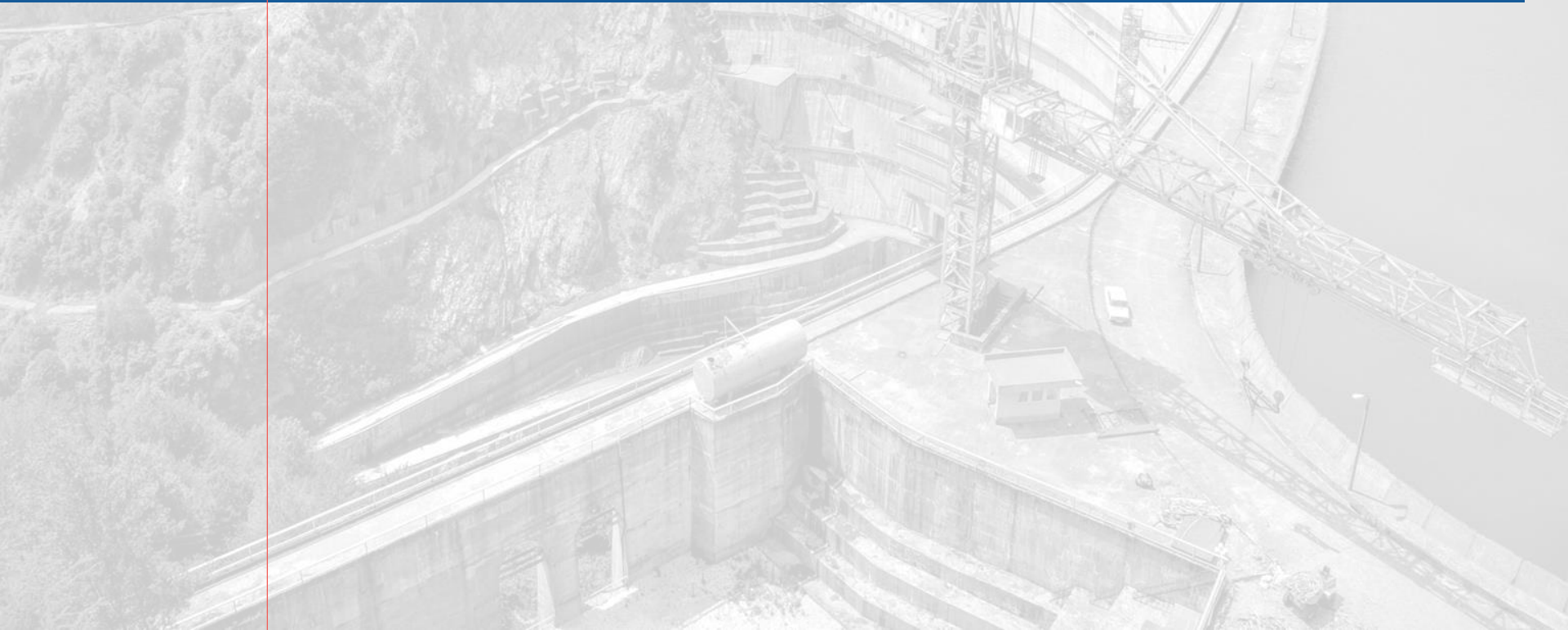
Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

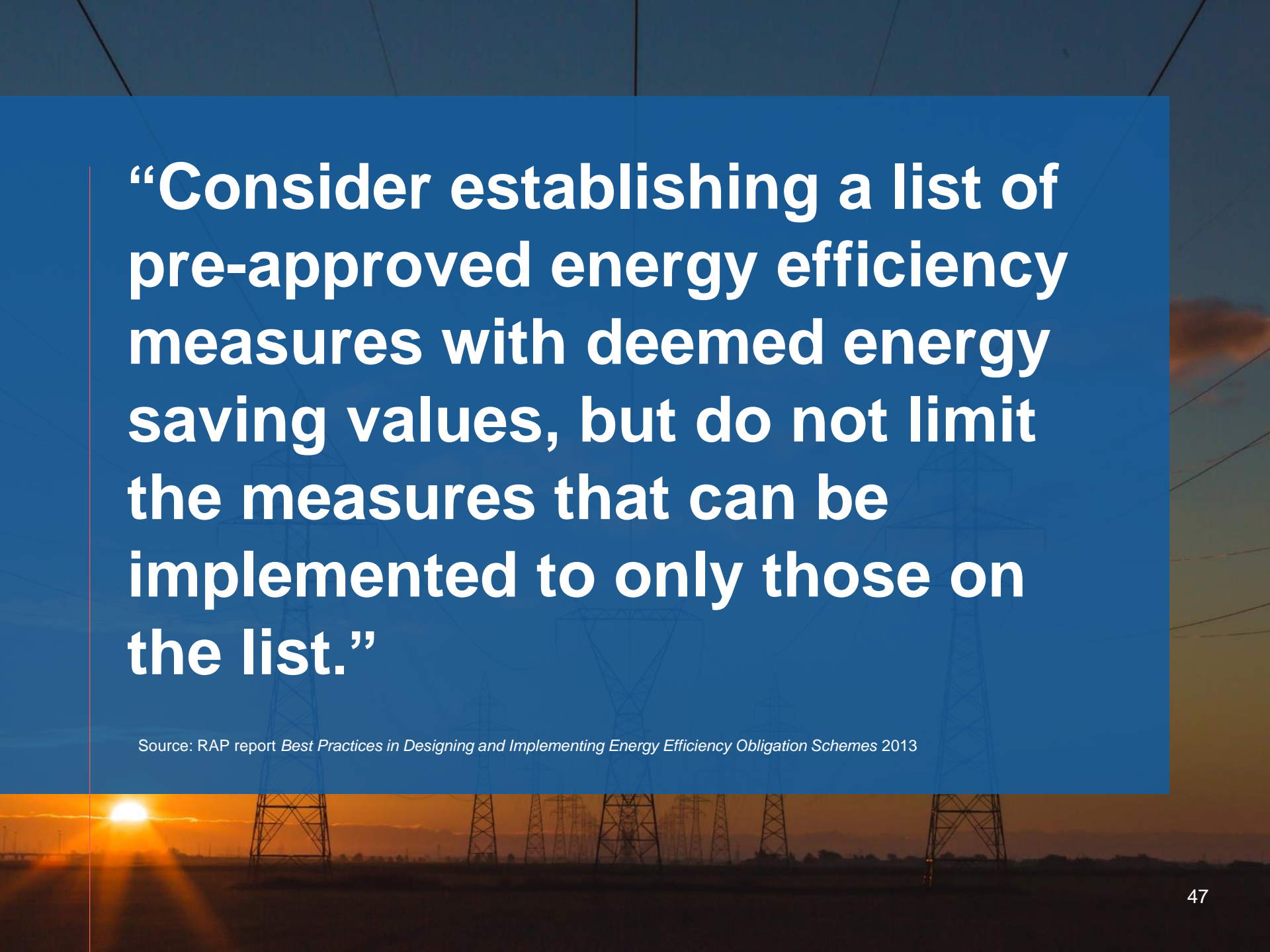
Obligated parties

Question

With increasing electrification of end uses and more intermittent renewable supply, does it make sense to obligate distribution system operators instead of, or in addition to energy suppliers?

5 Eligible energy efficiency activities



The background of the slide features a silhouette of several high-voltage power line towers against a sunset sky. The sun is a bright, glowing orb on the left side, casting a warm orange and yellow light across the horizon. The sky transitions from a deep orange near the horizon to a darker blue at the top. The power lines and towers are dark silhouettes, creating a grid-like pattern across the scene.

“Consider establishing a list of pre-approved energy efficiency measures with deemed energy saving values, but do not limit the measures that can be implemented to only those on the list.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

Pay for performance

Arguments for

- Aligns incentives
- Reduces EM&V costs
- Technology neutral

Challenges

- Requires smart meters
- Requires the development of robust system for calculating the counterfactual

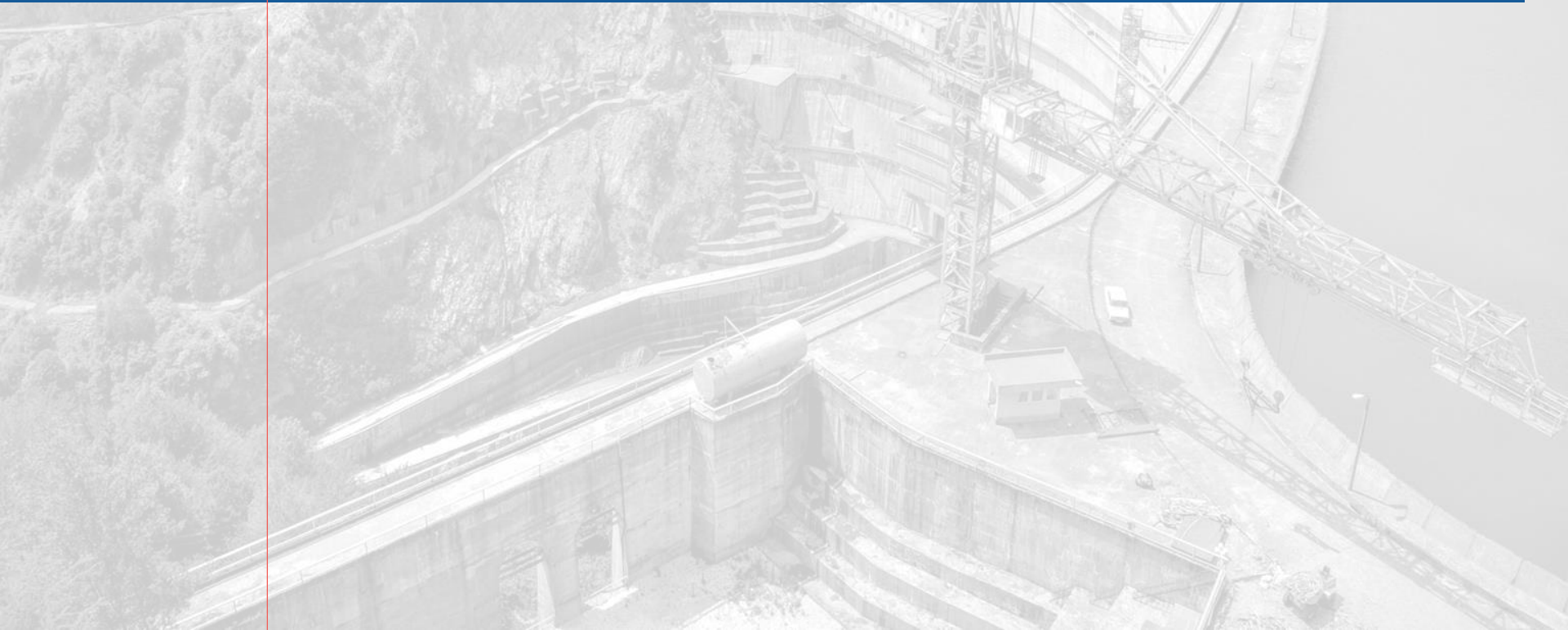
Eligible energy efficiency activities

Question

Should deemed savings be consigned to history?

Should deemed savings be considered as a last resort while pay-for-performance programmes are established?

6 Trading of energy savings



The background of the slide features a photograph of several high-voltage power line towers and their associated cables. The scene is captured during sunset or sunrise, with a bright sun low on the horizon to the left, creating a warm orange glow and lens flare effects. The sky transitions from a deep orange near the horizon to a darker blue at the top. The power lines and towers are silhouetted against this sky. A large, semi-transparent blue rectangle is overlaid on the upper portion of the image, serving as a background for the main text.

“Consider enabling trading of energy savings among both obligated parties and third parties.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

Trading of energy savings

Question

Is it right to be agnostic about trading?

Does it not encourage an energy efficiency industry and open up new opportunities?

Does it make programmes more open to fraud?

About RAP

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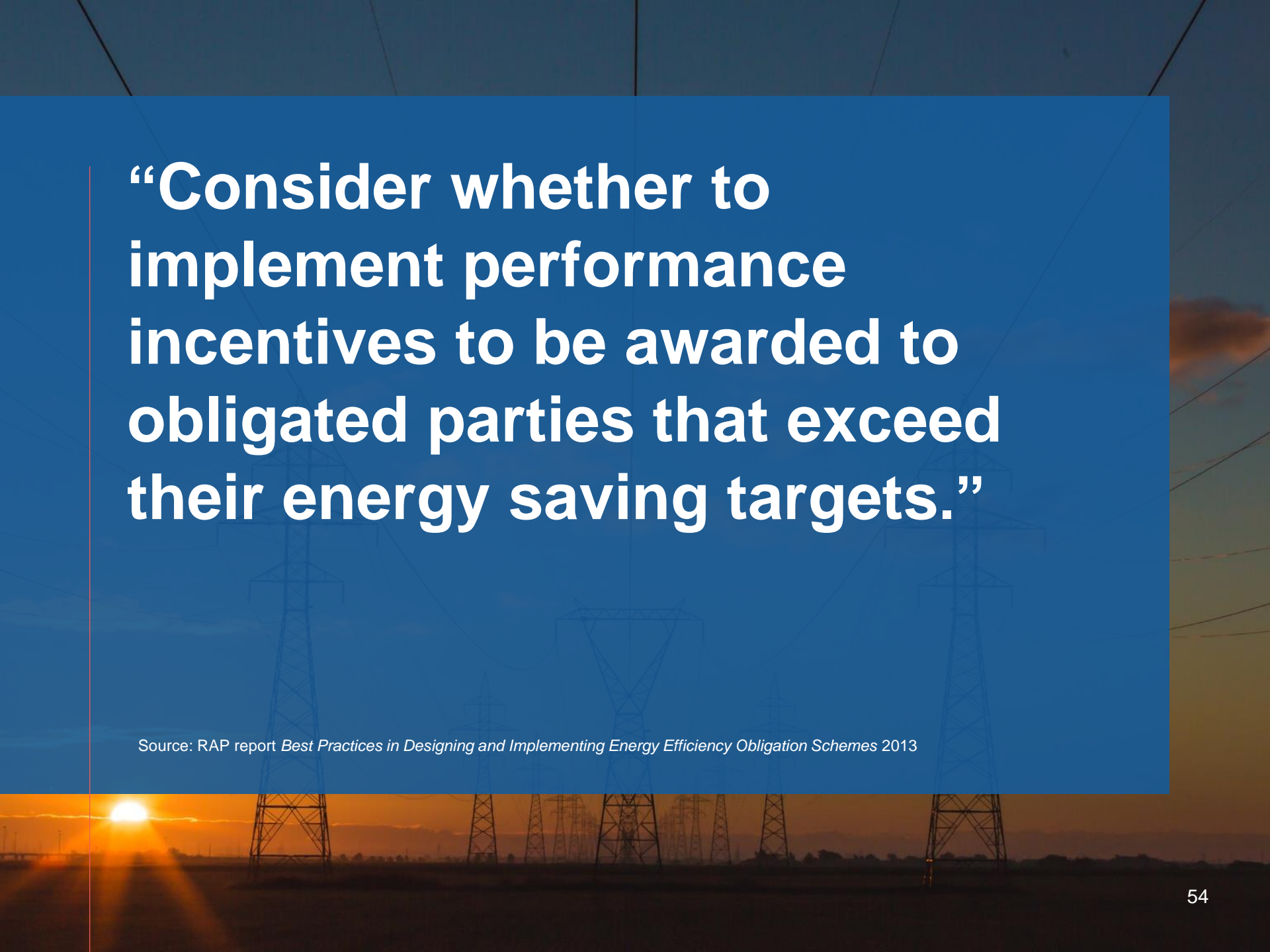
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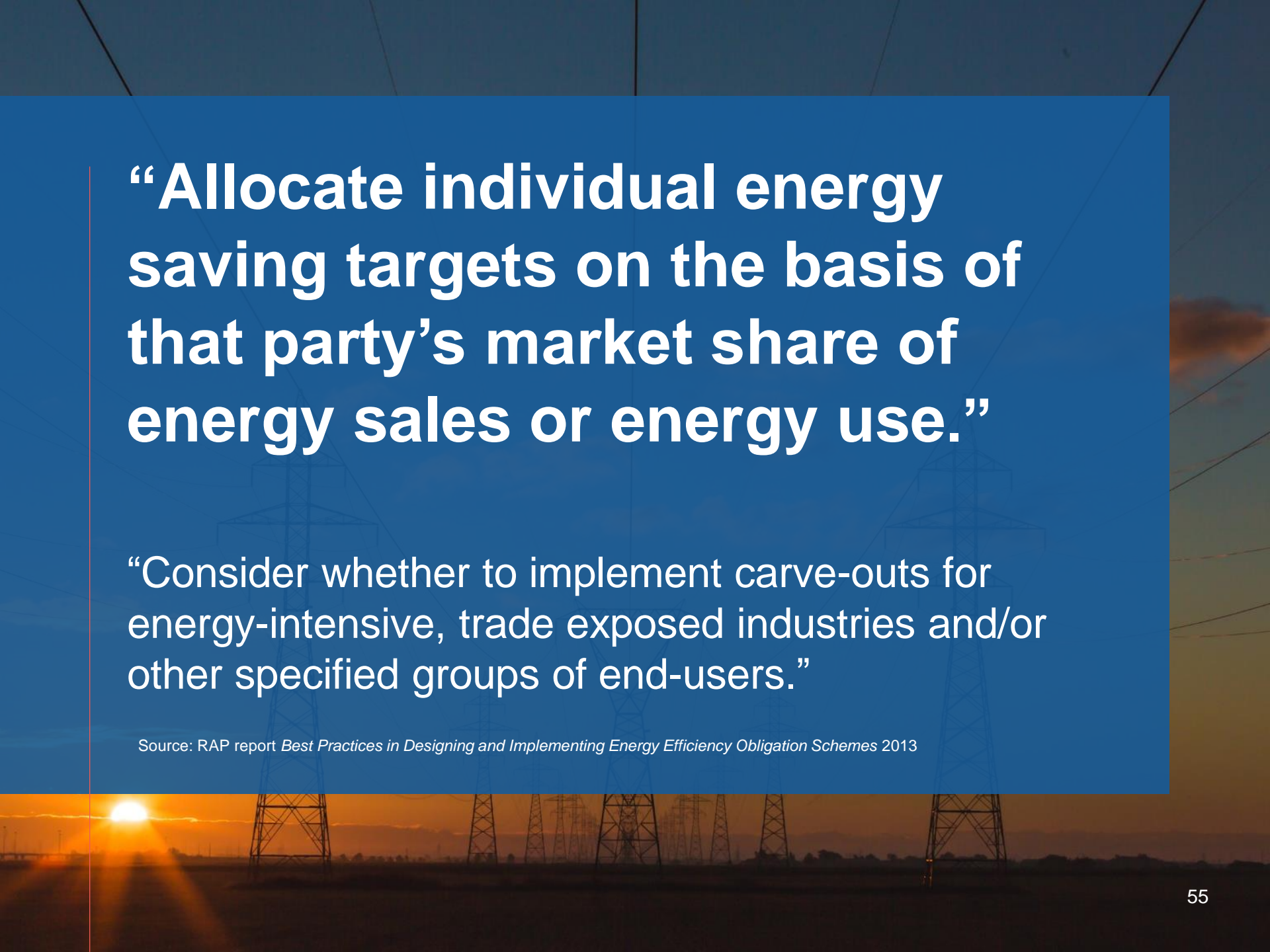
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The background of the slide features a photograph of several high-voltage power line towers stretching across a landscape at sunset. The sky is a mix of orange, yellow, and blue, with the sun low on the horizon creating a lens flare effect. The image is partially covered by a large blue rectangular overlay that contains the main text.

**“Consider whether to
implement performance
incentives to be awarded to
obligated parties that exceed
their energy saving targets.”**

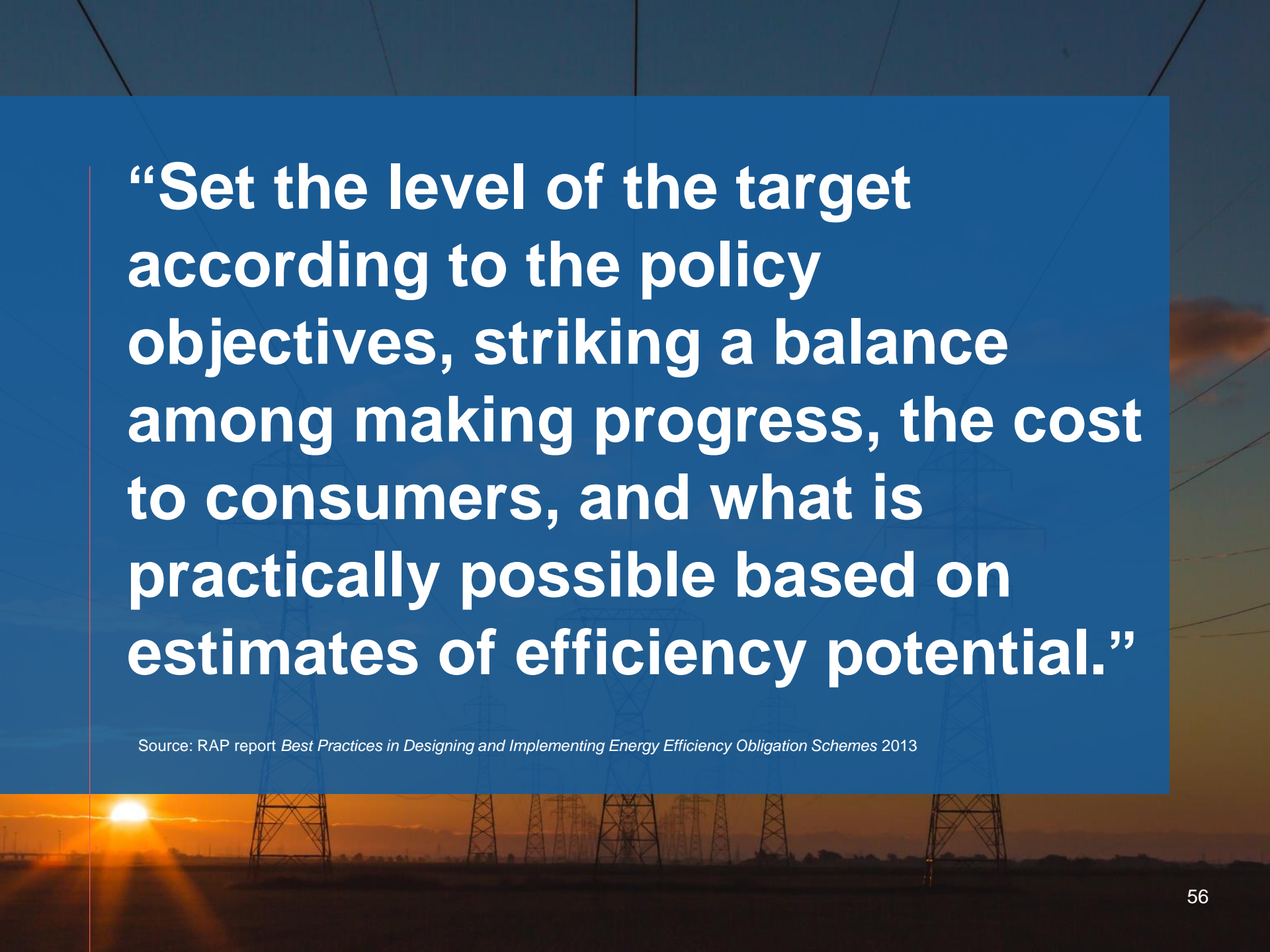
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“Allocate individual energy saving targets on the basis of that party’s market share of energy sales or energy use.”


“Consider whether to implement carve-outs for energy-intensive, trade exposed industries and/or other specified groups of end-users.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

The background of the slide features a silhouette of several high-voltage power transmission towers against a sky transitioning from a deep blue at the top to a warm orange and yellow near the horizon, where a bright sun is setting or rising, creating a lens flare effect.

“Set the level of the target according to the policy objectives, striking a balance among making progress, the cost to consumers, and what is practically possible based on estimates of efficiency potential.”

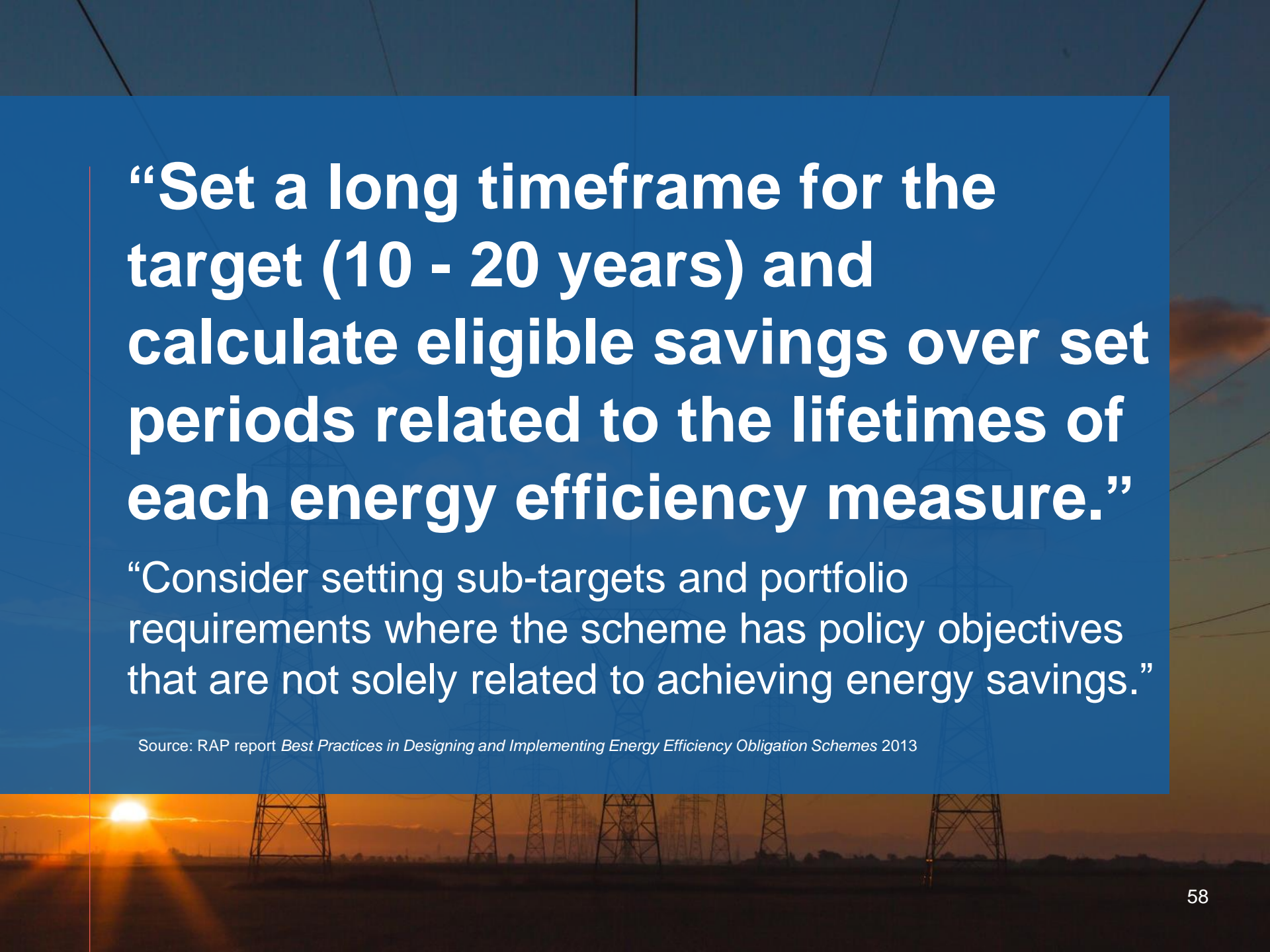
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“Establish a procedure for obligated parties to report savings to an appropriate authority and a process for checking and verifying these savings.”

“Establish a penalty regime for those that fail to meet their energy saving targets; set the penalty level high enough to mobilise parties to meet their targets.”


Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

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“Set a long timeframe for the target (10 - 20 years) and calculate eligible savings over set periods related to the lifetimes of each energy efficiency measure.”

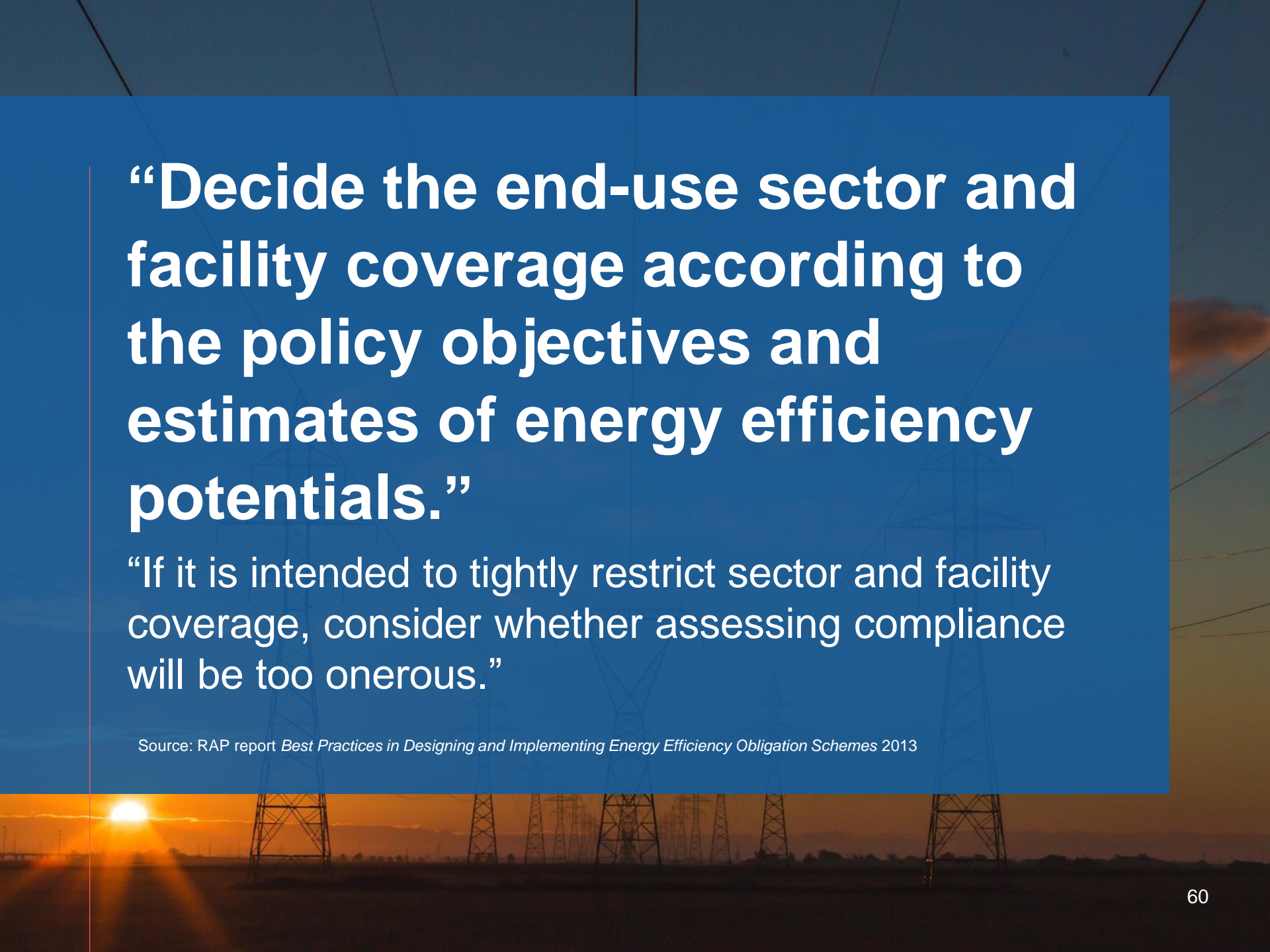
“Consider setting sub-targets and portfolio requirements where the scheme has policy objectives that are not solely related to achieving energy savings.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

The background of the slide features a photograph of several high-voltage power line towers stretching across a landscape at sunset. The sky is a mix of orange, yellow, and blue, with the sun low on the horizon creating a lens flare effect. The towers are silhouetted against the bright sky.

“Use a carefully selected combination of legislation, regulation, and Ministerial and administrative processes to establish and operate the EEO scheme.”


Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

The background of the slide features a photograph of several high-voltage power line towers stretching across a landscape under a sunset sky. The sun is low on the horizon, creating a bright orange glow and lens flare effects. The sky transitions from a deep orange near the horizon to a darker blue at the top. The power lines and towers are silhouetted against this warm background.

“Decide the end-use sector and facility coverage according to the policy objectives and estimates of energy efficiency potentials.”

“If it is intended to tightly restrict sector and facility coverage, consider whether assessing compliance will be too onerous.”

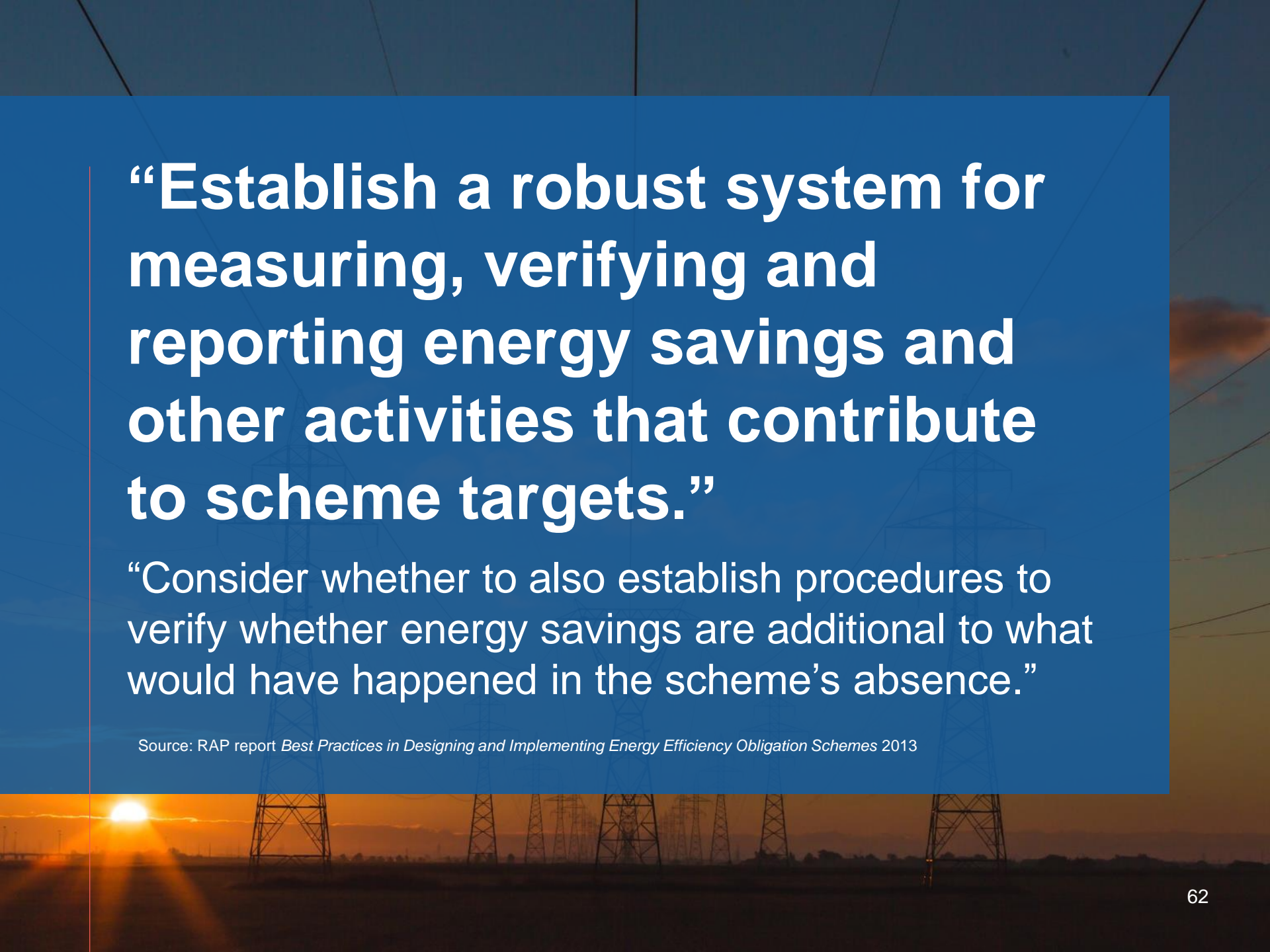
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The background of the slide features a series of high-voltage power lines stretching across the horizon under a sunset sky. The sun is a bright, glowing orb on the left side, casting a warm orange and yellow light. The power lines are silhouetted against the sky, with some lines crossing in the foreground. The overall scene is a landscape view of an electrical transmission system.

“Provided that the energy savings can be verified, do not place restrictions on the projects or measures that can be implemented.”

“If the scheme includes trading, enable non-obligated parties to implement projects and measures.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

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“Establish a robust system for measuring, verifying and reporting energy savings and other activities that contribute to scheme targets.”

“Consider whether to also establish procedures to verify whether energy savings are additional to what would have happened in the scheme’s absence.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013

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“Establish an appropriate mechanism to enable recovery of the costs incurred by obligated parties in meeting their individual energy saving targets.”

Source: RAP report *Best Practices in Designing and Implementing Energy Efficiency Obligation Schemes* 2013