A sunset scene over a calm ocean. The sun is low on the horizon, creating a bright, golden glow that reflects on the water. The sky is a mix of light blue and yellow, with some wispy clouds. The text "Raters of the Lost Ark" is centered in a large, bold, black font.

Raters of the Lost Ark



Edison Electric Institute

Power by AssociationSM

Raters of the Lost Ark

David K. Owens
Executive Vice President
Edison Electric Institute

NARUC Annual Meeting

November 10, 2015

Austin, Texas

The Electric Distribution System in Transition

- The structure and operation of distribution systems will change as “smart” infrastructures are built out and new distributed technologies are deployed.
 - Ultimately, power will flow in 2 directions across distribution systems.
 - Investing in a safe and reliable grid infrastructure is critical to the deployment of new technologies.

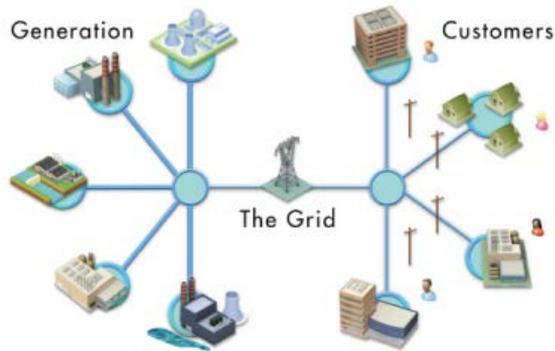


Figure 1: Today's Power System Characterized by Central Generation of Electricity, Transmission, and Distribution to End-Use Consumers

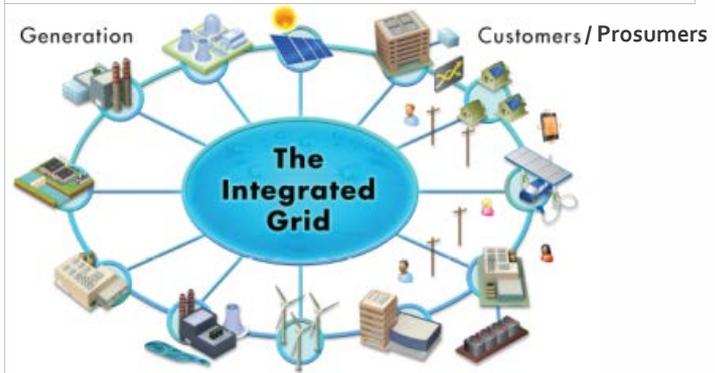


Figure 12: Creating an Architecture with Multi-Level Controller [44]

Expanding Options for Residential Customers



What Should Be the Central Objective for Customer Service Models and Regulatory Policy?

**Attain
Consumers'
Desired Level
of Electric
Reliability . . .**

Reliability

**. . . And
Society's
(State/Federal)
Clean Energy
Policy Goals . . .**

Sustainability

**. . . At As Low
a Cost to
Electricity
Customers As
Possible!**

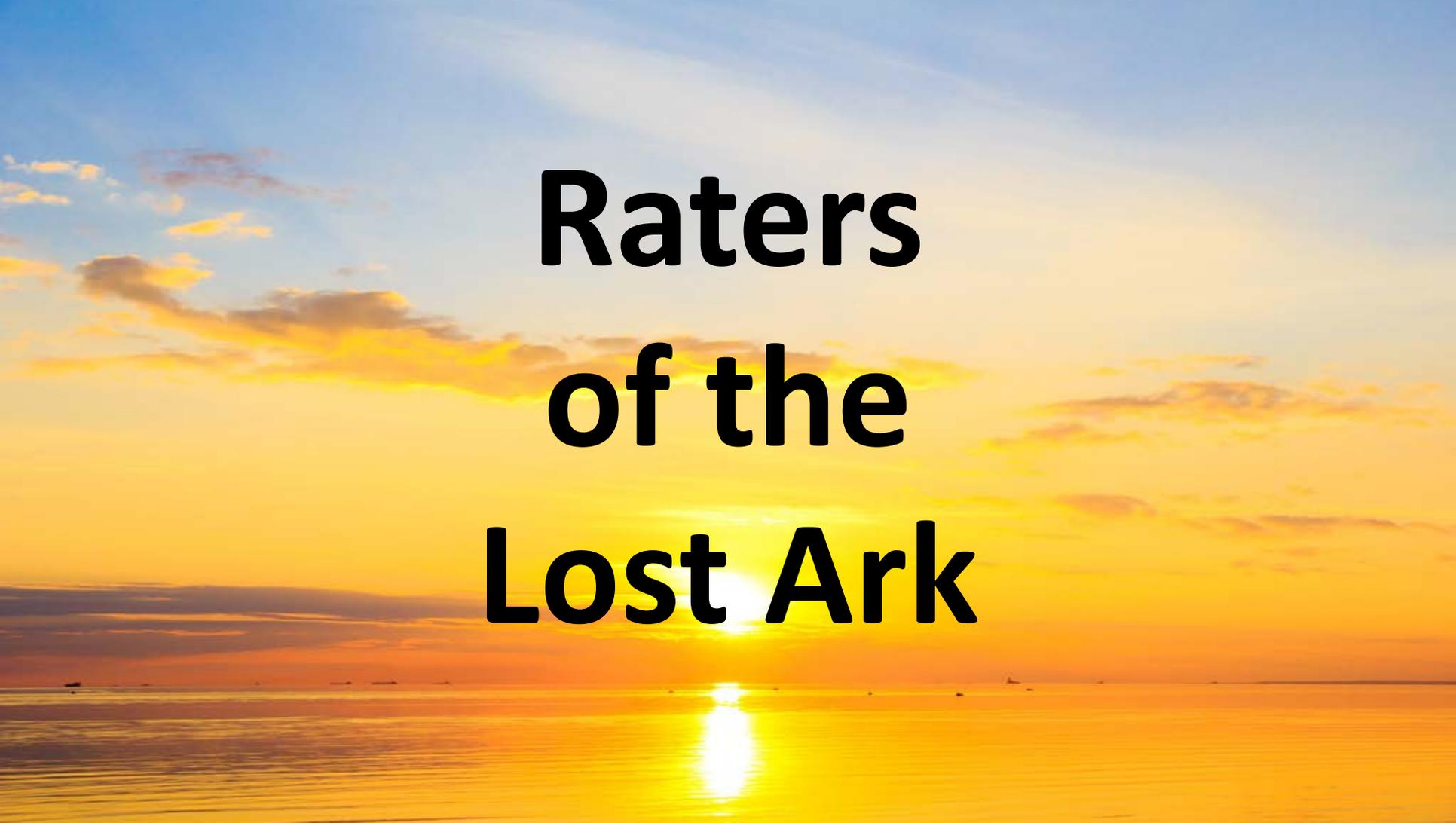
Affordability

Enabling Regulatory Frameworks to Better Serve Customers

- **Cost recovery for advanced distribution investments**
 - Rate policies that allow **accelerated depreciation**
 - **Alternative regulatory policies** (future test year, cost trackers, formula rates, multi-year rate plans, etc.)
 - New rate designs with **better fixed cost recovery**
 - **Performance-based regulatory policies**
- **New interconnection standards**
- **Support for value-added services**
- **Support for various DER asset ownership options**
- **Revised affiliate code-of-conduct rules**
- **Revised data privacy policies**

Selected Residential Customer DG Decisions

- **Grid Access Fee**—Arizona Public Service
- **Self Supply or Grid Supply with Higher Minimum Bill**—Hawaiian Electric
- **New DG Rate Class**—Westar
- **Standby Charge**—Dominion; Appalachian Power
- **3-Part Rate Including Demand Charge**—We Energies

A sunset over the ocean with the text "Raters of the Lost Ark" overlaid. The sun is low on the horizon, creating a bright reflection on the water. The sky is a mix of blue, orange, and yellow, with some clouds. The text is in a bold, black, sans-serif font.

Raters of the Lost Ark

Smart Rate Design for a Smart Future

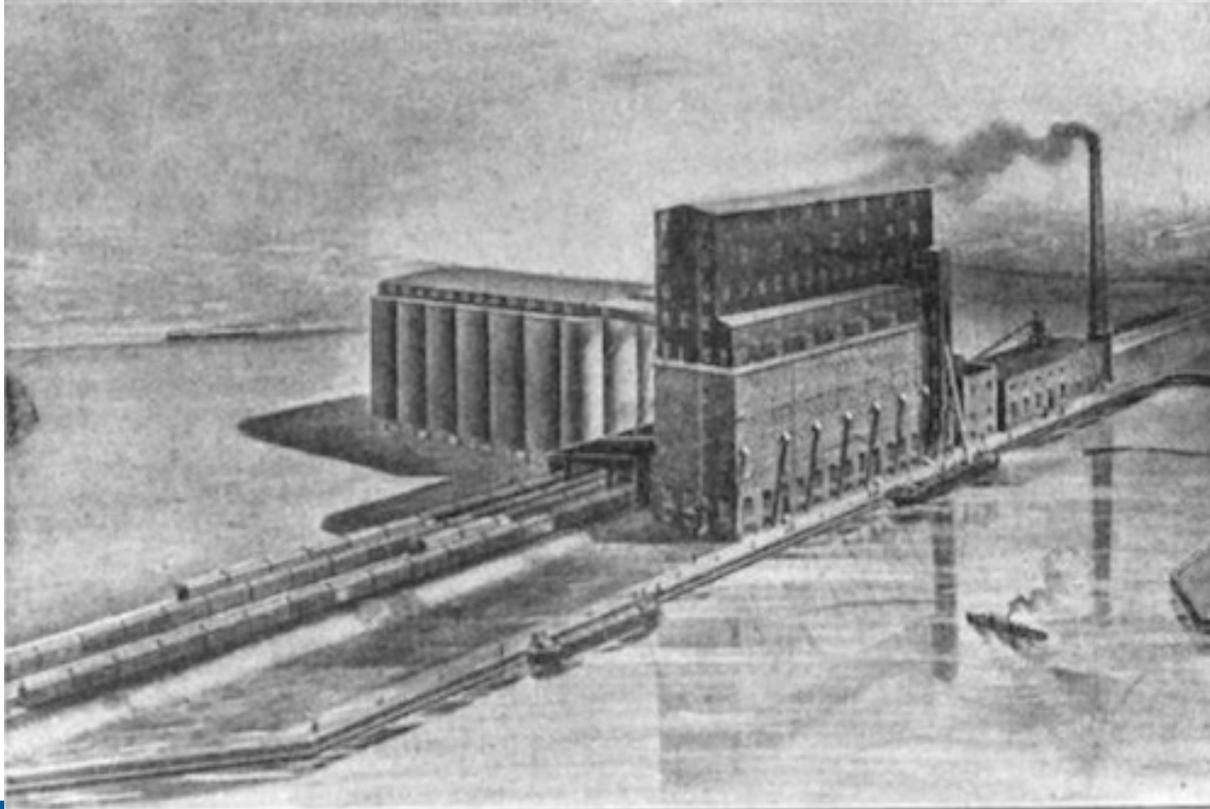
NARUC Annual Meeting
November 11, 2015

The Regulatory Assistance Project

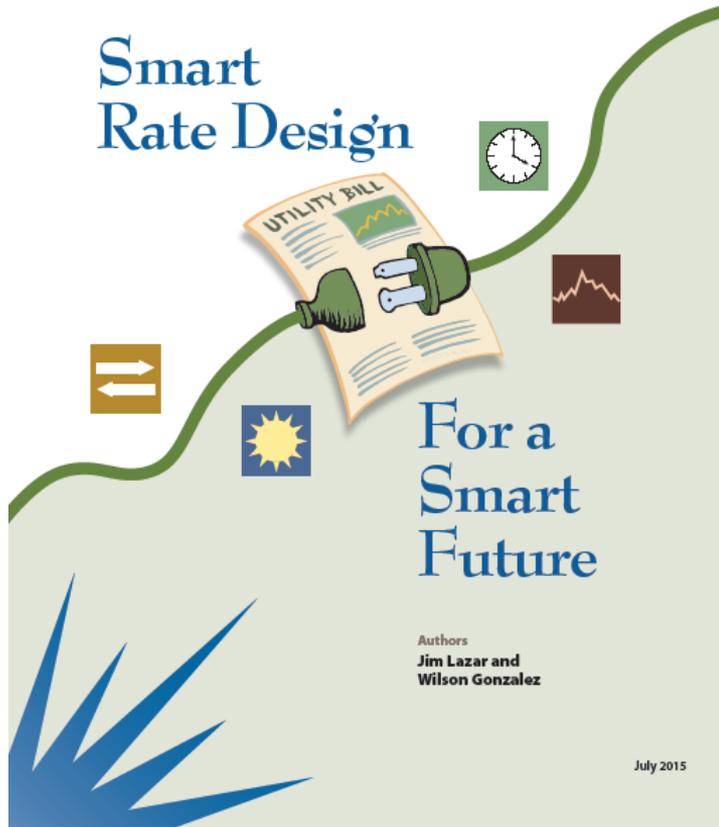
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web: www.raponline.org

Genesis of Utility Regulation

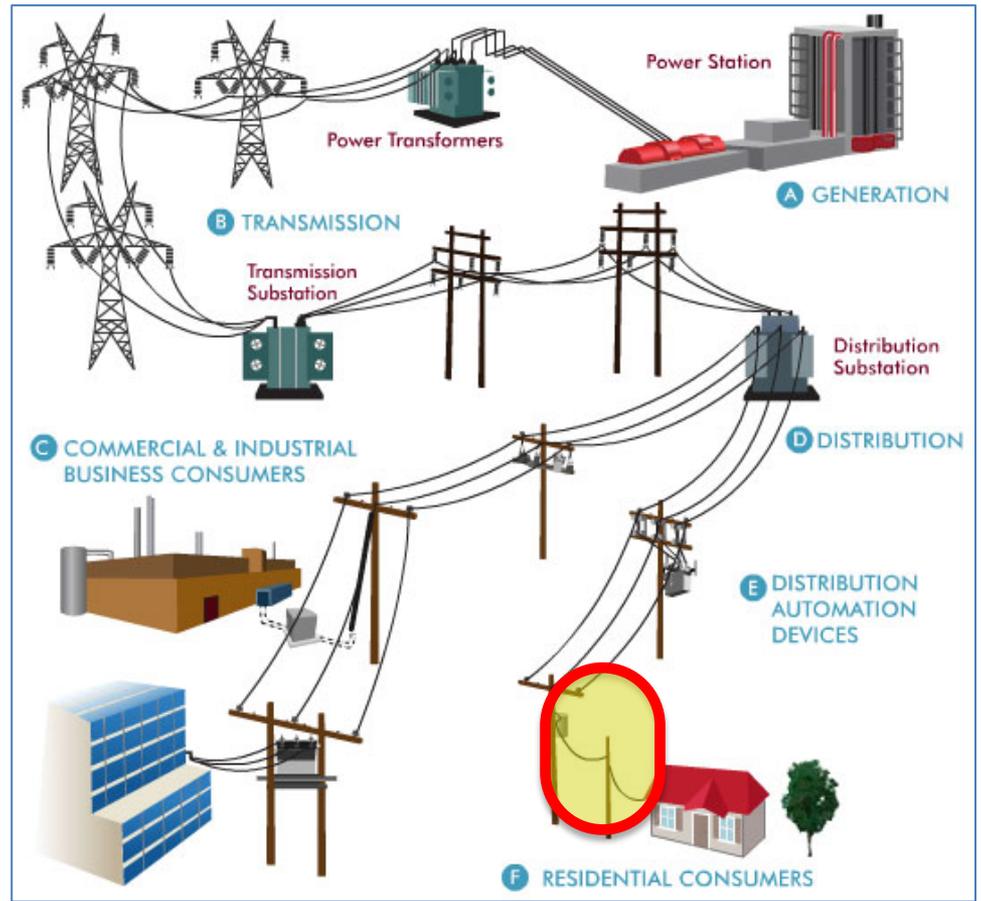


Smart Rate Design



Principle #1

A Customer should be allowed to connect to the grid for no more than the cost of connecting to the grid.



Principle #2

Customers should pay for the grid in proportion to how much they use the grid, and when they use the grid.



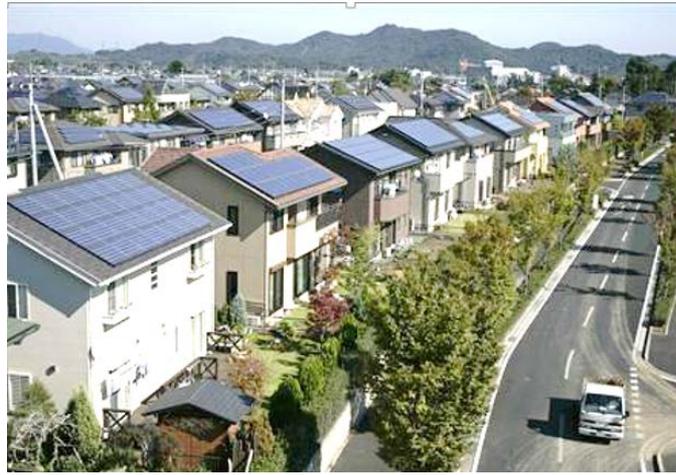
Principle #2

Customers should pay for the grid in proportion to how much they use the grid, and when they use the grid.



Principle #3

**Customers
delivering power
to the grid
should receive
full and fair
value -- no more
and no less.**



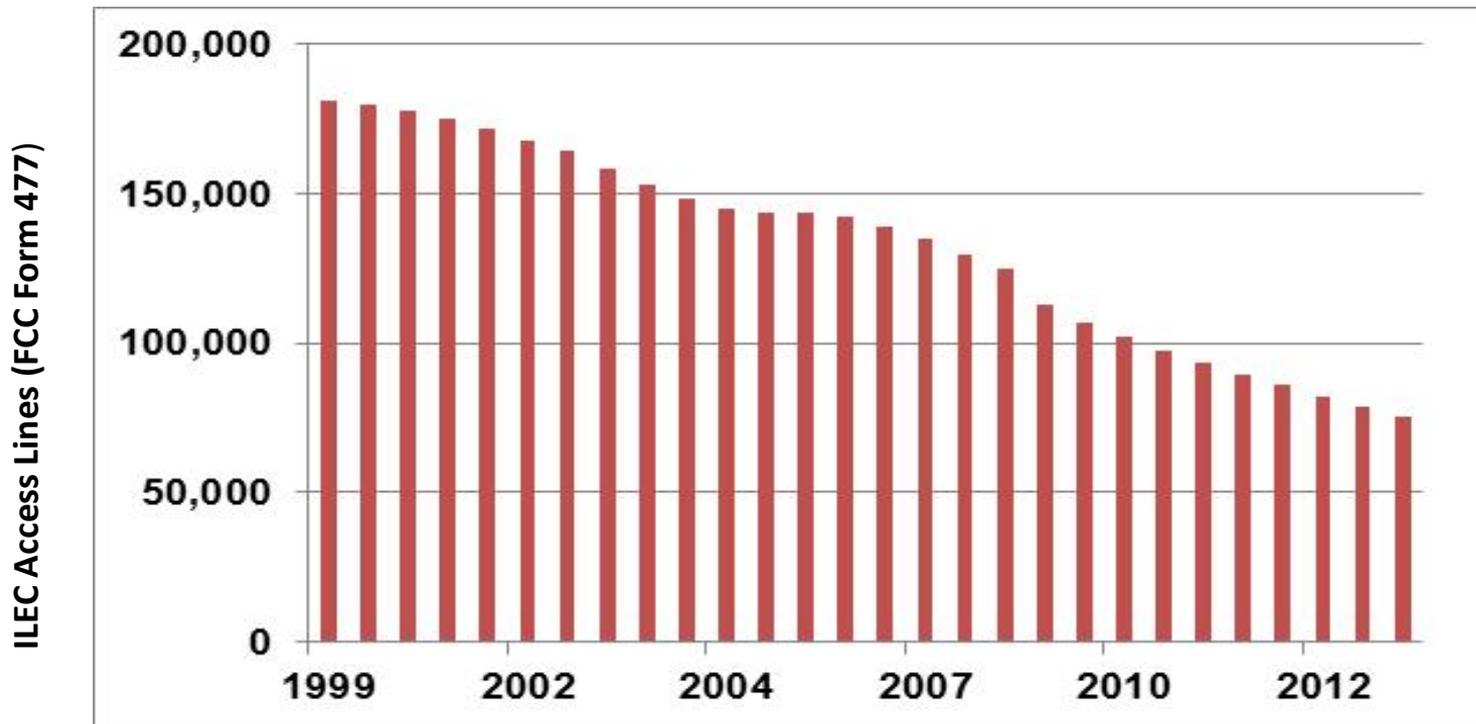
How Do Other Industries Recover Fixed Costs?



We Pay For Other “Grids” In Volumetric Prices



How Did High Fixed Charges Work Out for the Landline Phone Companies?



Good Rate Design vs. Bad: ~15% Difference in Usage

**Low Fixed Charge
+ TOU Rate
+ Inclining Block**

vs.

**High Fixed Charge
+ Flat Rate**

**~ Half of CPP
Obligation**



A Simple Cost-Based Residential Rate Design

Cost to Connect to the Grid

Billing	\$/mo	\$ 4.00
Line Transformer	\$/kVA/Mo	\$ 1.00

Bi-Directional Grid and Power Supply

Off-Peak	\$/kWh	\$ 0.07
Mid-Peak	\$/kWh	\$ 0.09
On-Peak	\$/kWh	\$ 0.14
Critical Peak	\$/kWh	\$ 0.74

About RAP

The Regulatory Assistance Project (RAP) is a global, non-profit team of experts that focuses on the long-term economic and environmental sustainability of the power and natural gas sectors. RAP has deep expertise in regulatory and market policies that:

- Promote economic efficiency
- Protect the environment
- Ensure system reliability
- Allocate system benefits fairly among all consumers

Learn more about RAP at www.raonline.org

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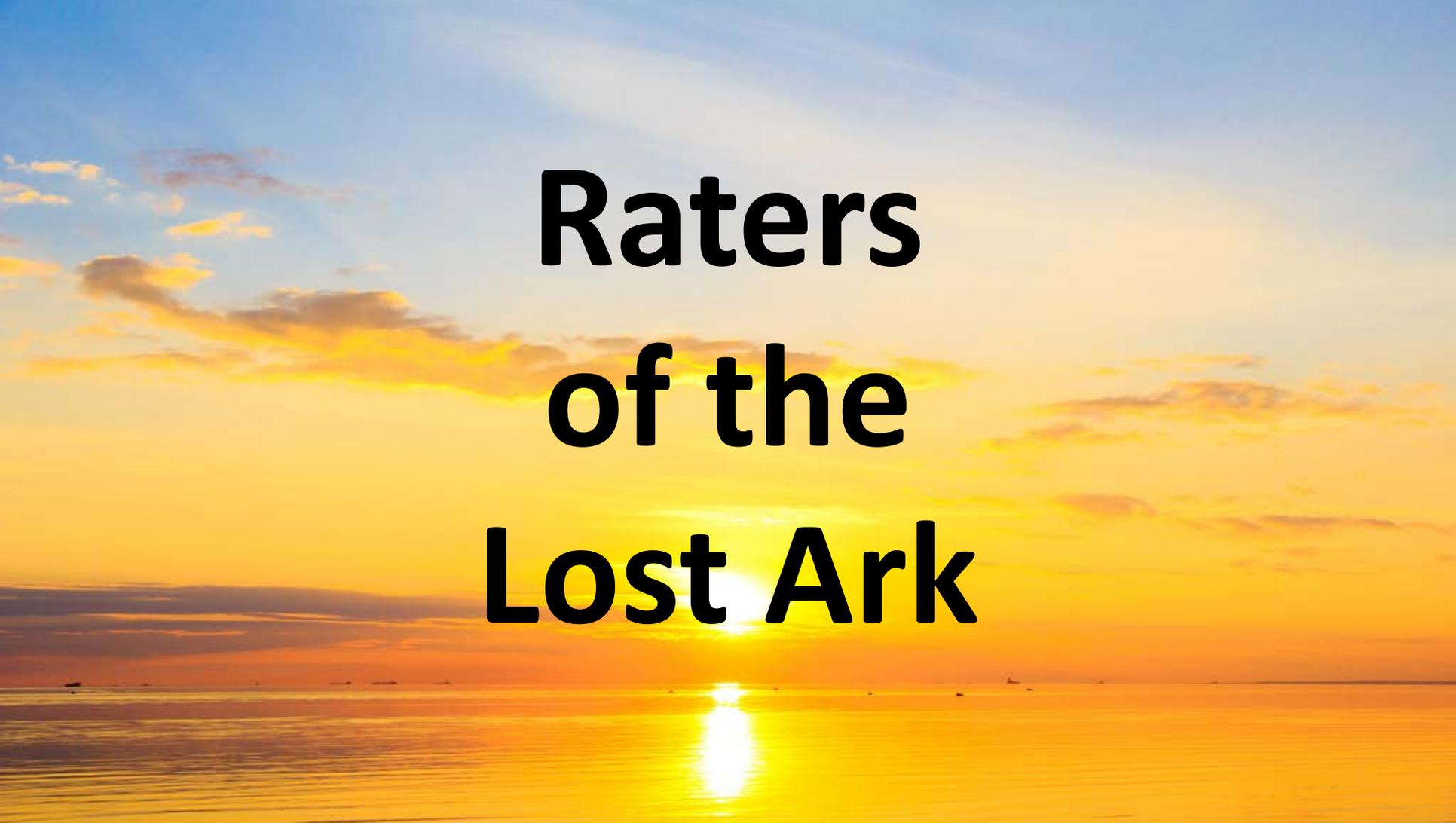
Global
US
China
EU

The Regulatory Assistance Project

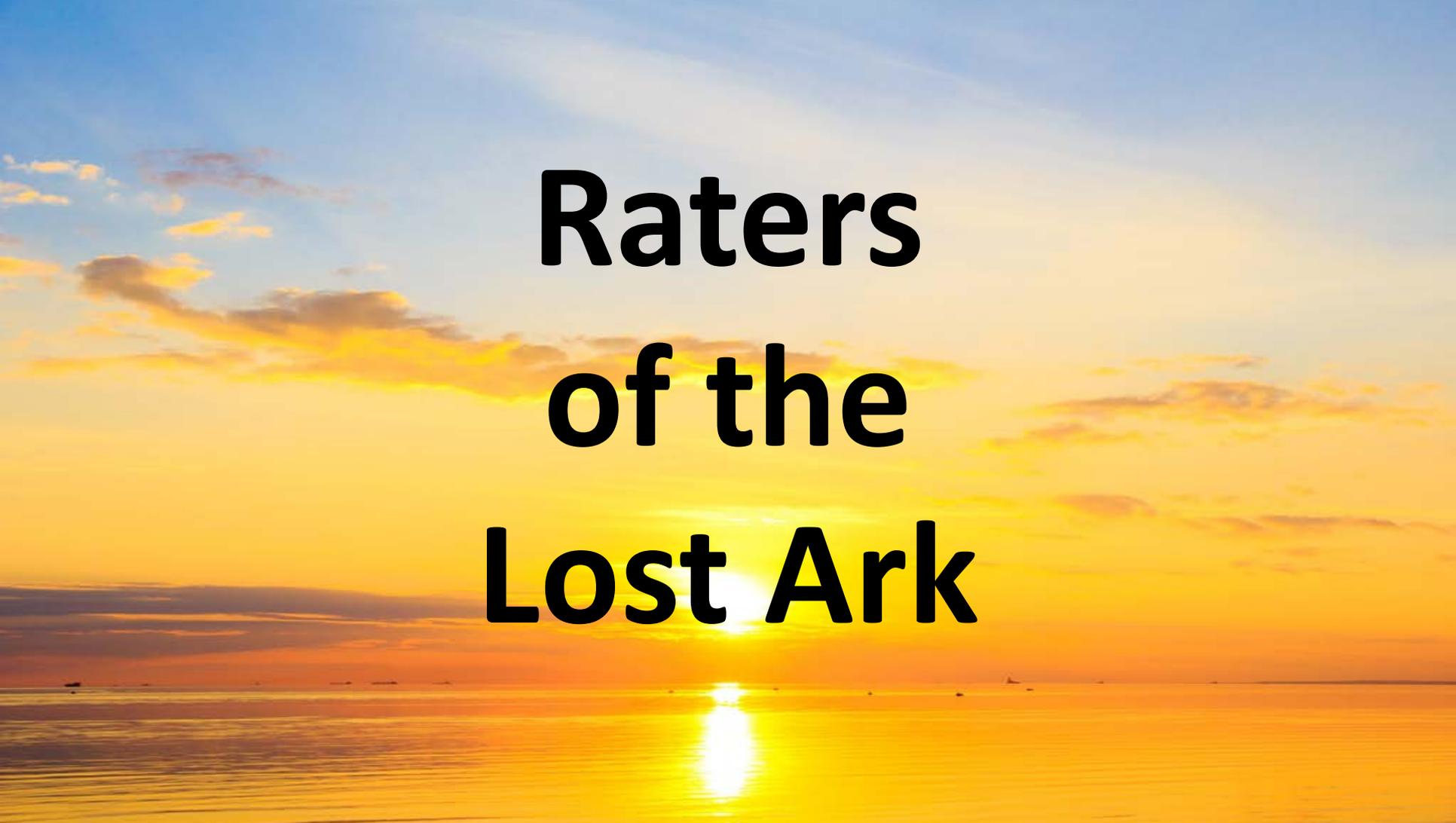
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A sunset over a calm ocean. The sun is low on the horizon, creating a bright reflection on the water. The sky is filled with soft, golden light and scattered clouds. The text 'Raters of the Lost Ark' is centered in a large, bold, black font.

Raters of the Lost Ark

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Raters of the Lost Ark