

Achieving Carbon Free Electricity Goals by Harnessing the "Whole-of-Government" Approach – 2 Case Studies in Action

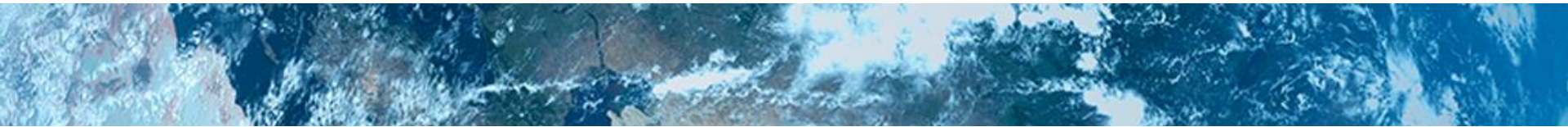
August 08, 2024

Presentation to the Interagency Sustainability Working Group

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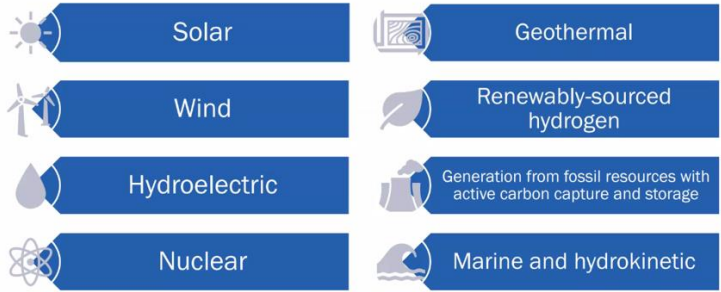
Agenda

- Carbon Pollution-Free Electricity (CFE) Goals
- Authority for Utility Services
- Electricity Markets
- Vertically Integrated Pathfinder Case Study: El Paso Electric
- Retail Market Pathfinder Case Study: PJM
- Resources
- Appendix
- Definitions

Carbon-Free Electricity (CFE) Goals and Pathways

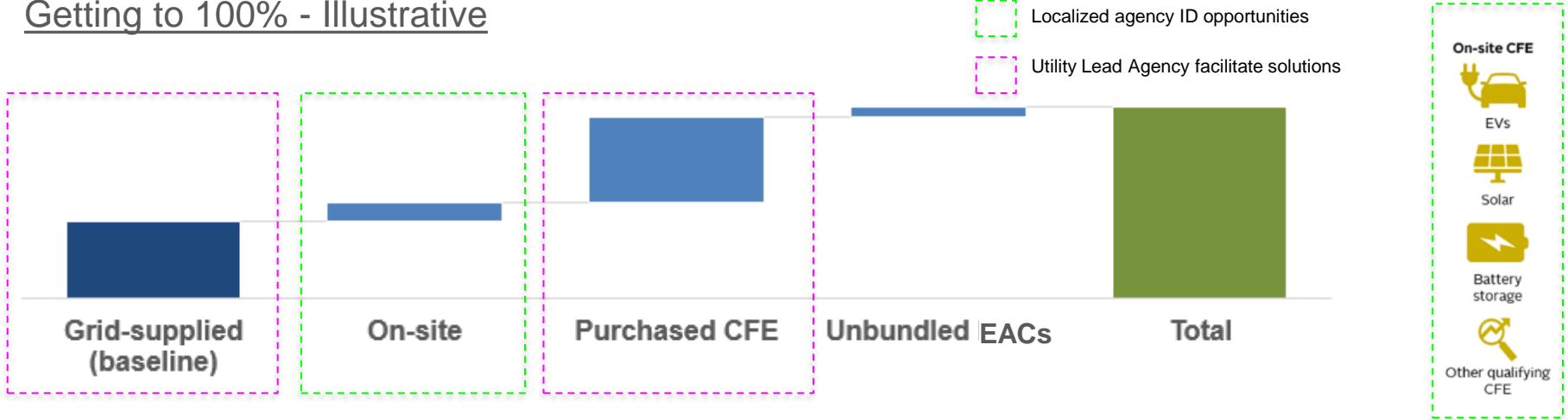
EO 14057 FY 2030 Goal	100 percent net annual CFE 50% matching on a 24/7 basis CFE
Per Implementing Instructions	Agencies set net annual CFE goals starting in FY 2023

What Technologies are Considered CFE?



Other technologies may also be eligible with carbon capture and storage

Getting to 100% - Illustrative

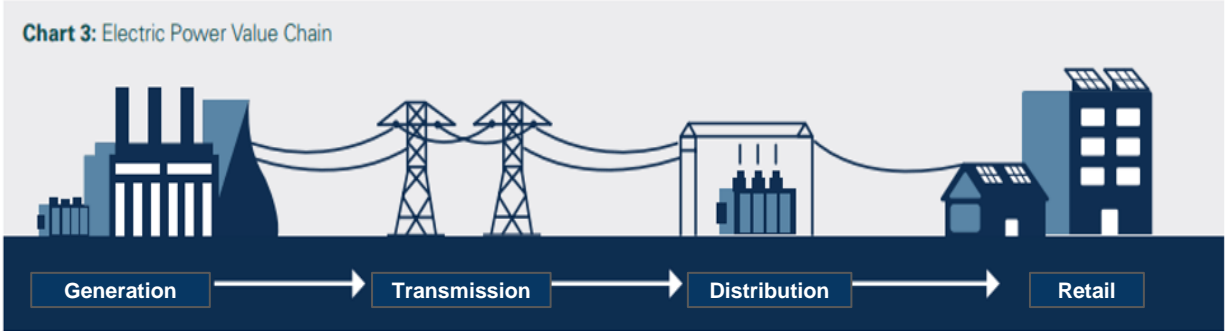
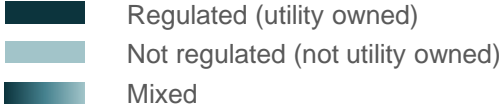


Source: CEQ Executive Order (E.O.) 14057 [Implementing Instructions](#), Section 4.2.4 Requirements and Priority Strategies

Why is GSA leading this work?

- 40 U.S.C. §501(a)-(b)
 - *The Administrator of General Services shall...perform functions related to procurement and supply including... management of public utility services.*
 - *A contract for public utility services may be made for a period of not more than 10 years.*
- FAR Part 41 - Acquisition of Utility Services
 - *GSA is authorized...to prescribe policies and methods governing the acquisition and supply of utility services for Federal agencies. This authority includes related functions such as managing public utility services...*

Electric utility market components



Source: GTM, Tortoise

Archetype

State example

Retail regulated / no wholesale market

Georgia

Retail regulated / wholesale market

Minnesota

Partial choice / wholesale market

California

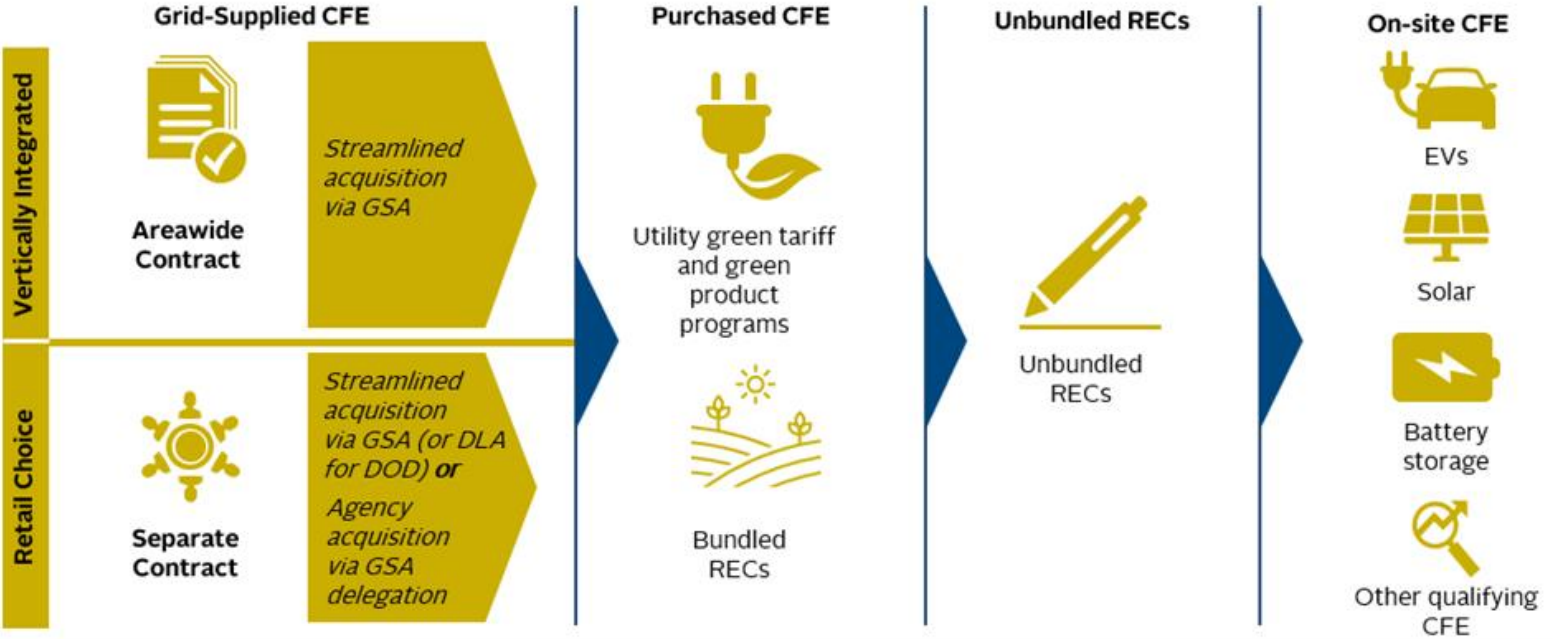
Full retail choice / wholesale market

Texas

Regulated	Regulated	Regulated	Regulated
Mixed	Regulated	Regulated	Regulated
Mixed	Regulated	Regulated	Mixed
Not regulated	Regulated	Regulated	Not regulated

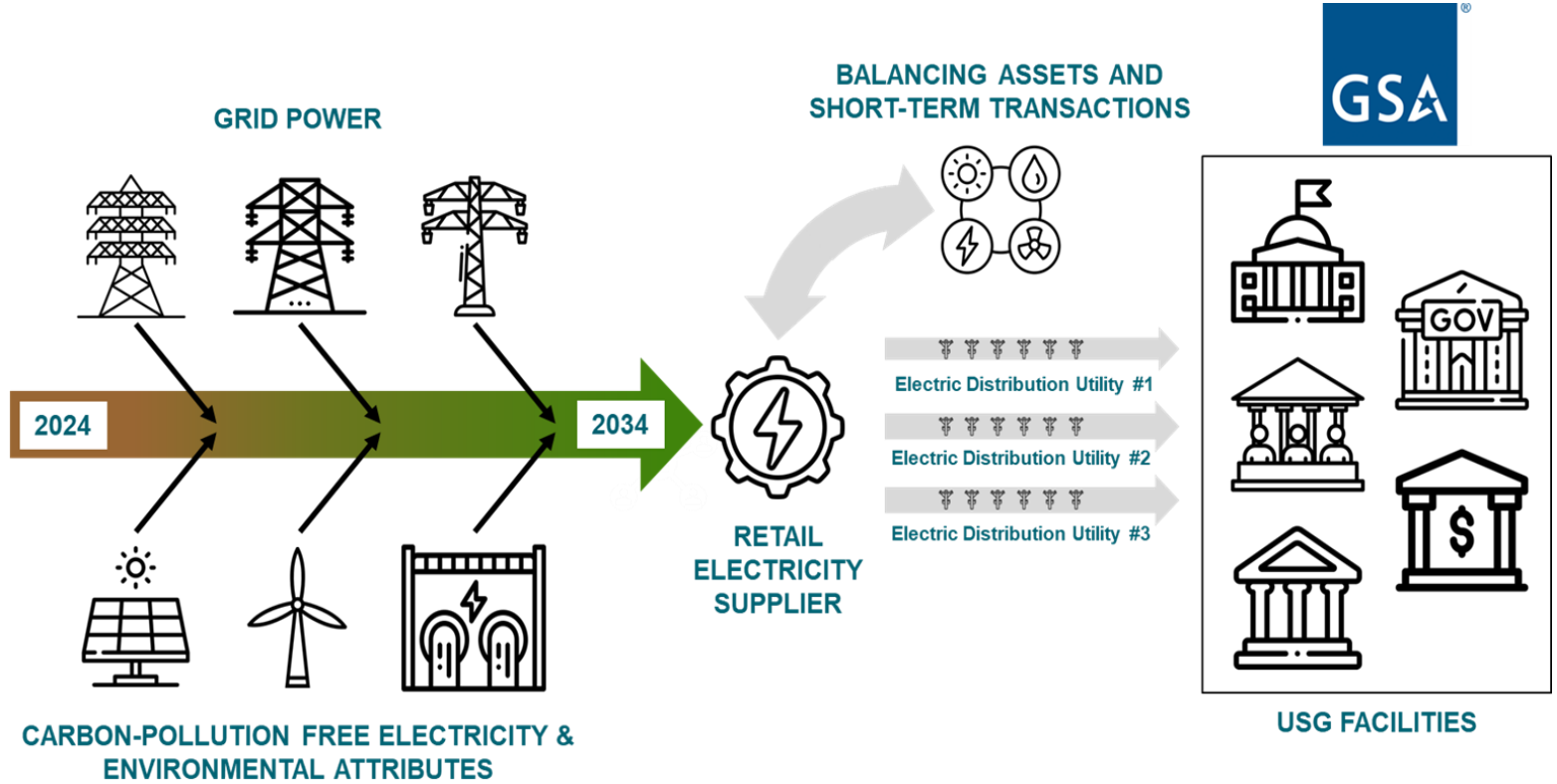
Overview of CFE Options in Different Energy Markets

Case studies



Overview of Procurement Strategy in PJM Market

Case studies



Overview of CFE Options in Different Energy Markets

Scope

Case studies



All accounts are in Delaware, Illinois, Maryland, New Jersey, Ohio, and Pennsylvania. GSA is seeking 1.1 million MWh of CFE and corresponding EACs. The Government is soliciting offers for a 10-year delivery period, beginning with meter read date in April 2025.

Timeline and Pricing Structure

GSA posted its synopsis on July 15th. The RFP was issued on July 31st and proposals will be due approximately 30 days after the solicitation is issued.

Accounts will be structured into pricing groups and contractors can submit proposals for one or more groups.

Overview of CFE Options in Different Energy Markets

Award

Case studies



The contract(s) awarded for the CFE portion will be Firm-Fixed-Price, Requirements Type. The solicitation will be issued as a Request for Proposal posted to www.SAM.gov. Additional requirements may be added by amendment. All responsible sources may submit a proposal, which shall be considered.

Additional Detail

In 2030, it's anticipated that contractor(s) will provide a mix of ~35% purchased CFE and ~65% grid-supplied CFE (totaling 100% CFE).

Overview of CFE Options in Different Energy Markets

GSA and DOD's collaboration efforts?

Case studies



In the PJM retail choice market, two solicitations will occur in parallel. One led by GSA and one led by DLA Energy.

GSA and DLA Energy will collaborate throughout this process, but each will issue RFPs, evaluate offers, and award contracts independently.

Impact

- ~ 4% increase in GSA CFE
- ~ 7% increase in DOD CFE
- ~ 4% potential increase in USG CFE

GSA active engagements across the country

Vertically Integrated Utility

States

Focus

Status



AR

First-of-its-kind tariff development, test

Tariff approved, annual enrollments



MN, WI, SD, ND, MI

Annual + hourly matching, grid-efficient buildings

In progress



GA, AL, MS

Utilize existing programs + develop new annual matching, test regulatory engagement model

In progress



NM, TX

On-site development and grid-efficient buildings

In progress



Focus today

Pathfinder Case Study: El Paso Electric



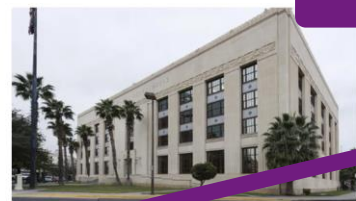
DIVE BRIEF

GSA secures carbon-free power deal with El Paso Electric for federal sites

The new memorandum of understanding aims to make federal buildings in West Texas and New Mexico 100% carbon pollution-free by 2030.

Published April 18, 2024

Highly Amaranath
Editor



A facade of a U.S. courthouse building in El Paso, built in 1936. The GSA and El Paso Electric will collaborate on filing a carbon pollution-free tariff to support the federal government's clean energy goals in the provider's service territory. Highsmith, Cass M. (2016). "El Paso." U.S. Courthouse El Paso. Texas. [Photograph]. Retrieved from Library of Congress, Washington, DC.

Listen to the article 4 min

Dive Brief:

- The U.S. General Services Administration announced Wednesday that it has signed a memorandum of understanding with El Paso Electric to supply federal facilities in West Texas and southern New Mexico with carbon pollution-free electricity.
- Under the MOU, GSA and EPE aim to develop a roadmap for federal agencies in the electric provider's service area to increase their purchase of carbon-free electricity, the GSA said in a news release.
- By 2030, this effort is expected to ensure that the electricity consumed by federal customers in EPE's service territory is 100% carbon emissions-free on a net annual basis and that at least half of the electricity used by these federal facilities is sourced from carbon-free resources on an hourly basis, such that there is a consistent supply of clean energy round the clock, according to the MOU.

Dive Insight:

With over 300,000 buildings and 600,000 vehicles, the federal government is the largest energy consumer in the U.S., the GSA noted. In

MOU
Collaborate with GSA to meet CFE goals

Q2FY2

Design & File Tariff/s
To enable USG to achieve clean energy goals

Q4FY24-FY25

Solutioning and Road Map
EPE working with GSA and USG agencies on load, needs, opportunities

Q3FY24

New Tariffs Available
Enrollment in new green tariffs, ongoing construction / acquisition / delivery of CFE resources

FY26



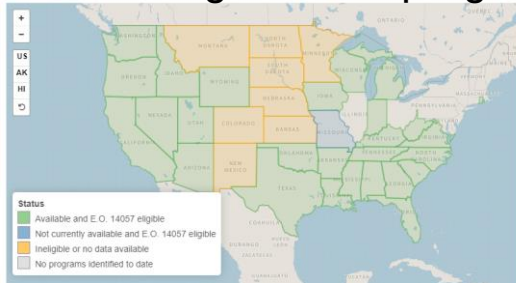
What does that mean for you?

- **We need your participation!**
- GSA is leading creation and enrollment in CFE opportunities and is ready to support individual agency decisions to achieve your EO 14057 goals.
- Be on the lookout for ...
 - CFE retail / program enrollment opportunities
 - Construction of CFE generation opportunities
- Plan ahead: budget for CFE, goal attainment
- Communicate: within agency, interagency, & utilities

Resources

Identify your [Facility's Serving Utility and Balancing area](#) by entering zip.

[Federal Utility Carbon Pollution-Free Electricity Program Availability Map](#) to assess whether your utility company uses the GSA areawide contract and offers available and eligible CFE programs



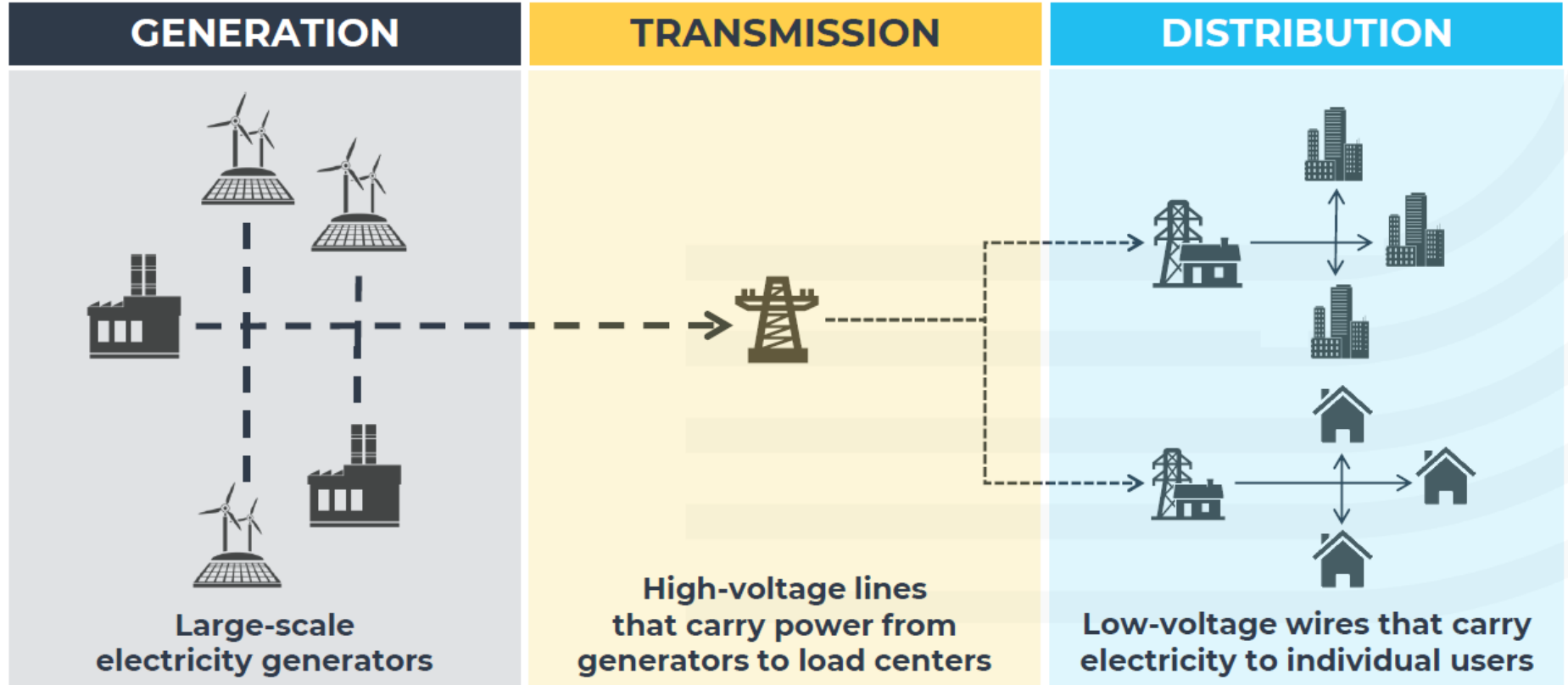
Sign up for [Utility Open Houses for Federal Customers](#) or watch previously recorded sessions on the [WBDG](#) site.

Utility Open House for Federal Customers - Dominion Energy Virginia	🕒 4.5 hours	📅 08-07-2024
Utility Open House for Federal Customers - Duke Energy	🕒 4 hours	📅 08-15-2024
Utility Open House for Federal Customers - Oklahoma Gas & Electric	🕒 4 hours	📅 07-25-2024

Email energy@gsa.gov or CFEsupport@gsa.gov with questions on CFE energy procurement

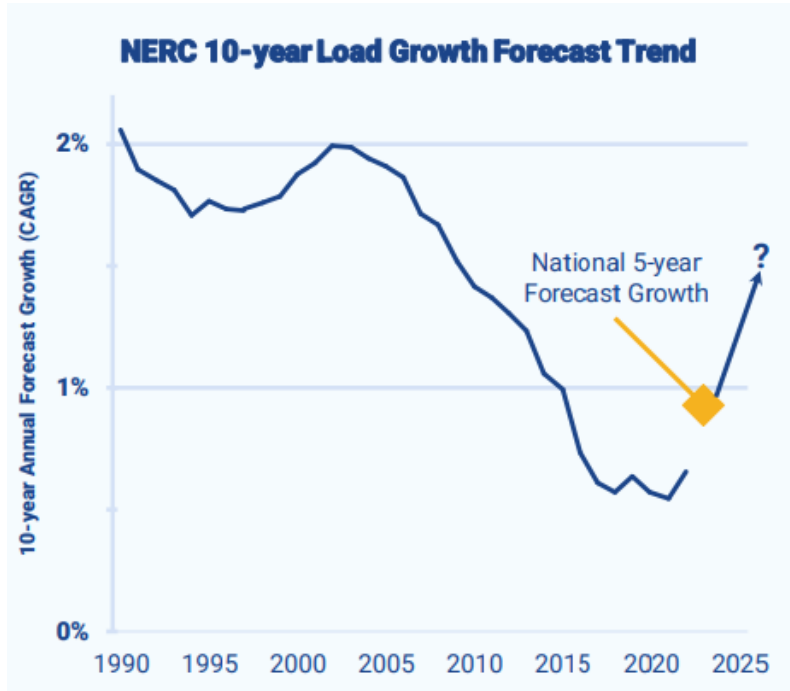


World's Largest Machine



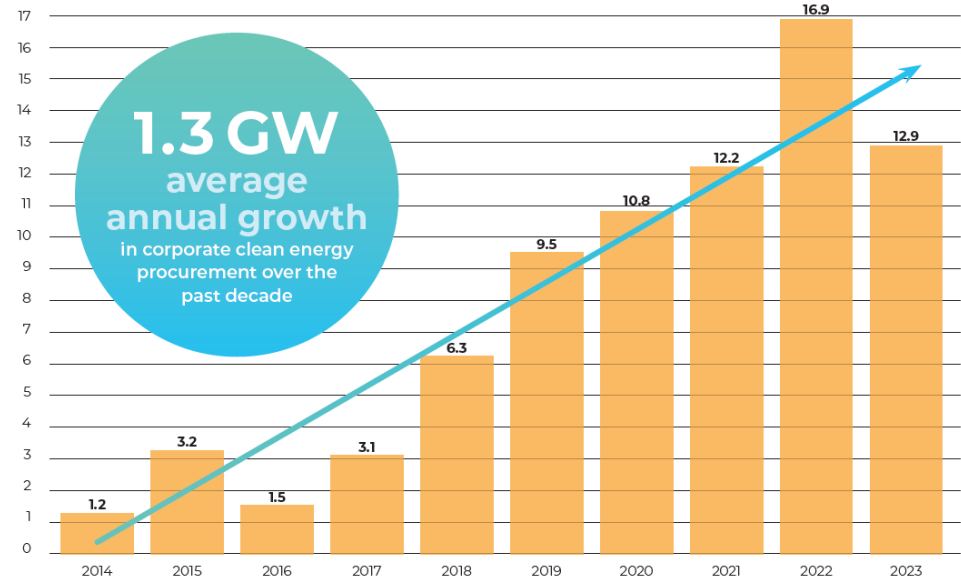
US Demand

The Era of Flat Demand is Over



Source: Grid Strategies, NERC

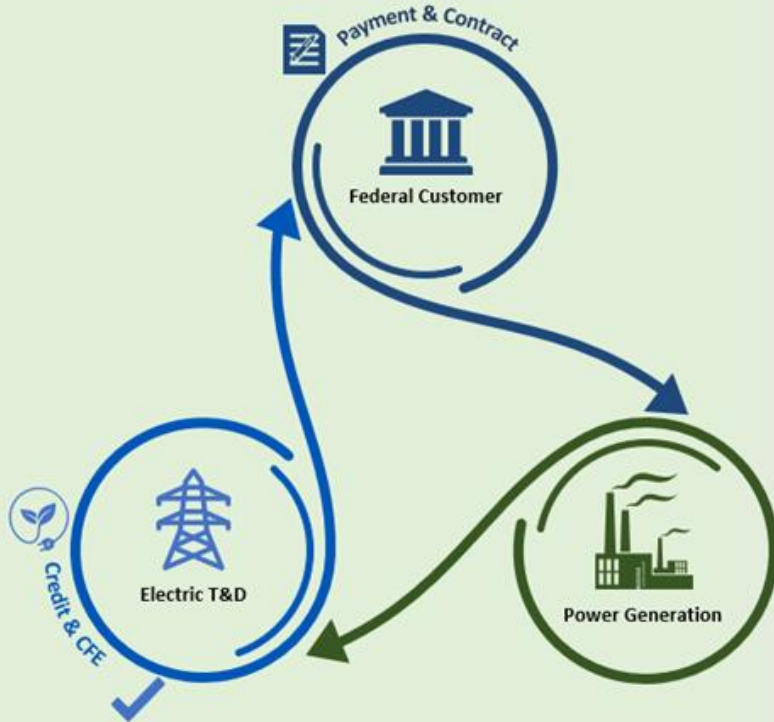
Growing Clean Energy Demand



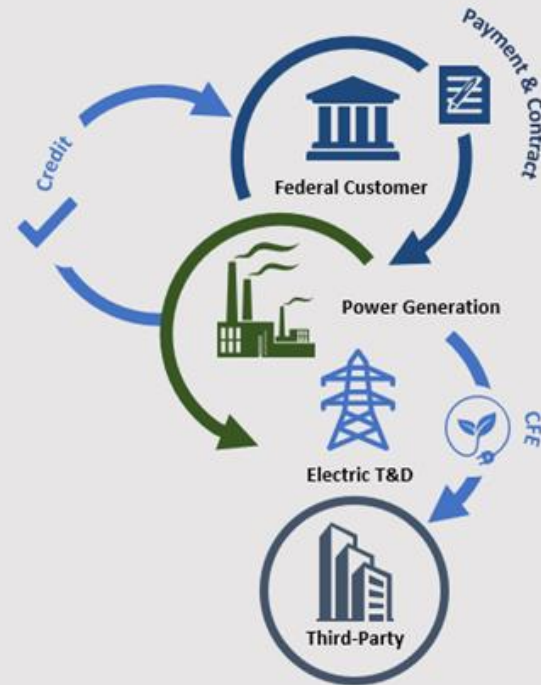
Source: [Clean Energy Buyers Association \(CEBA\) Deal Tracker](#) 17

Overview of RECs

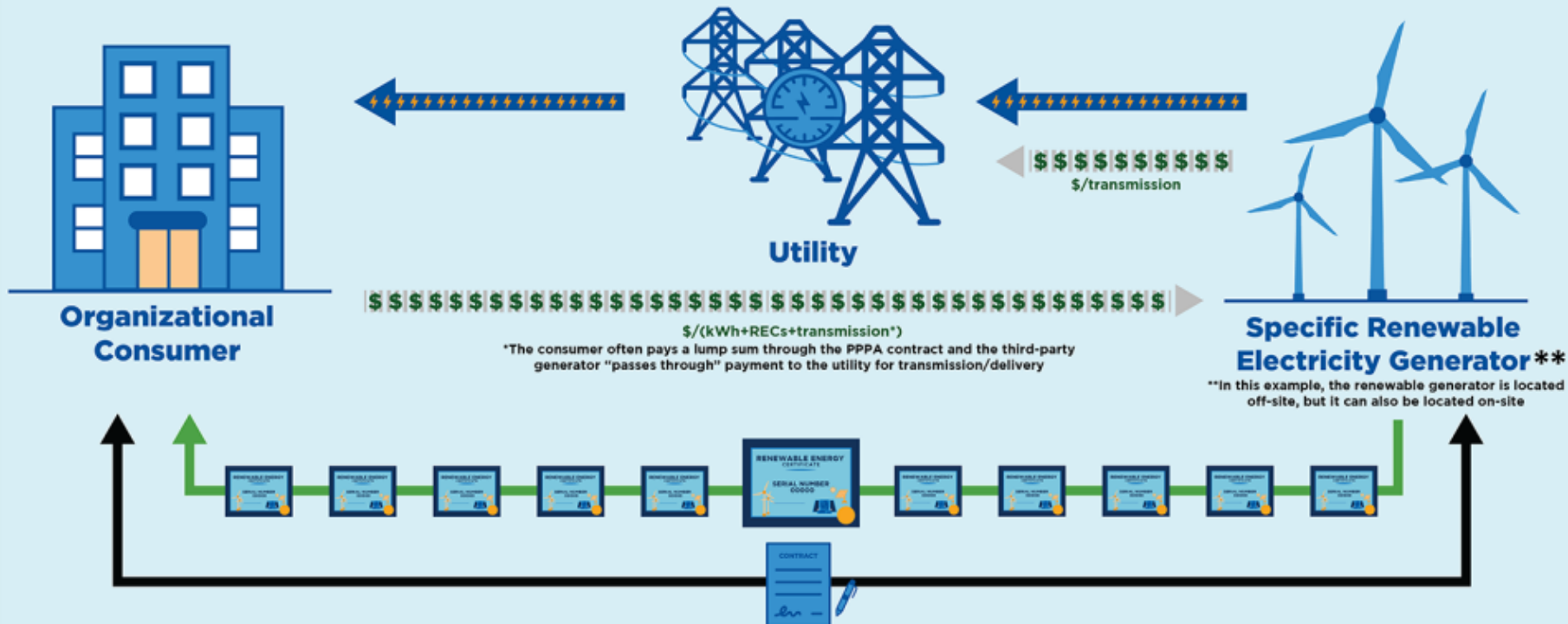
Bundled RECs



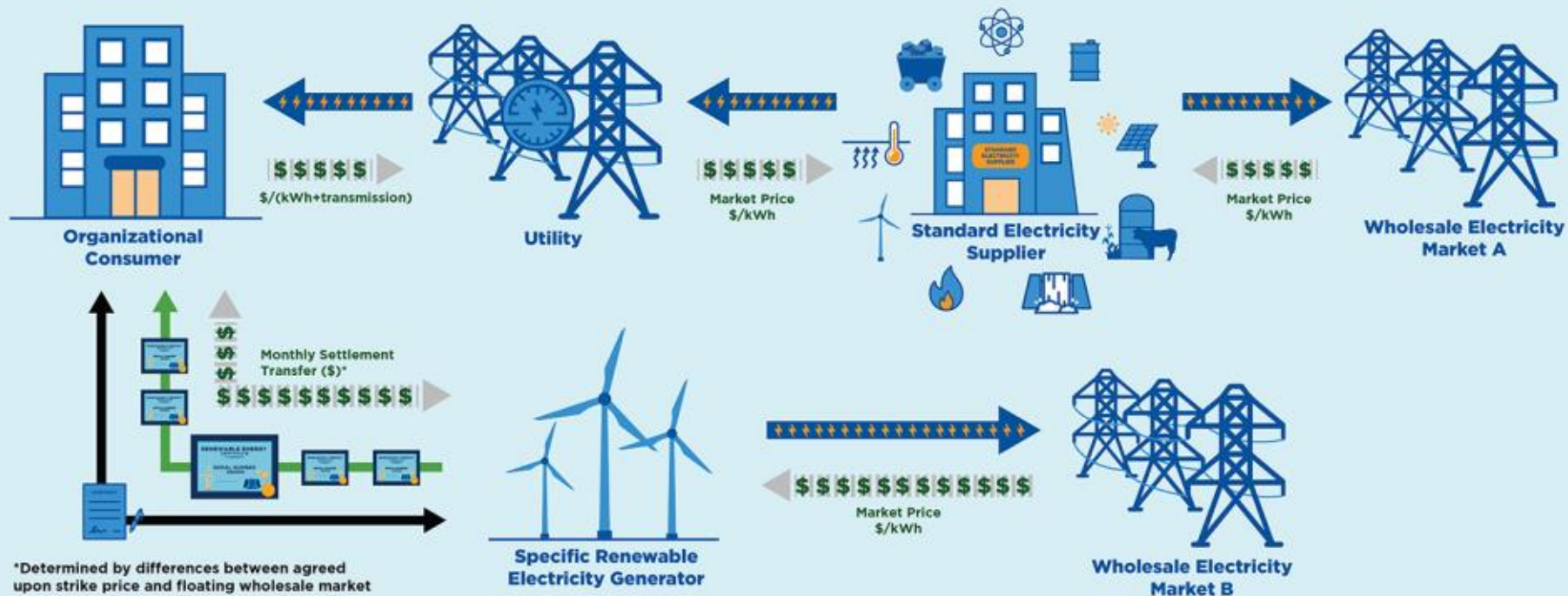
Unbundled RECs



PHYSICAL POWER PURCHASE AGREEMENT



FINANCIAL POWER PURCHASE AGREEMENT



*Determined by differences between agreed upon strike price and floating wholesale market price received by generator

DEFINITIONS

- Power Purchase Agreement (PPA) - *contract to buy power (including CFE EACs) **from a developer/generator directly** over a specified period of time (typically 12-17 years; however, could be 10-20 years), typically at a fixed price, **from a particular clean energy facility***
 - Can be used as a hedge against volatile electricity costs
- Retail Supply Contract (RSC) - *contract to buy power (including CFE EACs) **from a retail supplier** who has a portfolio of clean energy resources. In return, customer pays a negotiated price under a retail power supply agreement.*
 - Better risk mitigation, scalability to meet growing electricity demand over time, and enhanced decarbonization impact.