



ECA

Power Purchase Agreements: Federal Agency Solutions

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Questions



What is a Power Purchase Agreement and why are they important to energy projects?

What is a long term PPA and why is it important to SMR and Renewable Energy Development

Why are we focusing on financing and legal authorities?

How can federal agencies purchase the power from a SMR or a large renewable project?

Can the government purchase power from a project on federal land?

Federal Agencies are the Largest Purchasers of Power in the United States



“Given the magnitude of power purchases by federal users, **federal PPAs have long been cited as a meaningful method to spur the siting and development of power projects using innovative technologies.** By providing a contractual commitment to purchase power from a plant, certain business risks associated with the project are reduced, thereby **improving the financial profile of the project for private investors.** PPAs may be attractive from a public policy perspective because: (i) power supply is essential to the day-to-day operations of federal facilities and represents an expense that will be funded regardless of the source of supply, and (ii) **purchases under a PPA would align the federal government’s energy expenditures with federal policy objectives under a near budget neutral profile**”

Links Provided below:

[2017 DOE Report Provides Guidance to Federal Agencies on Purchasing Power](#)

[2021 American Bar Association -- Roadmap to Implementing Climate and Resilience Goals: Federal Agency Solutions](#)

Carbon Free Power and 24/7 Availability

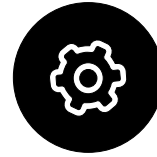
Energy needs and priorities of the New Administration and Federal Agencies



Climate Change

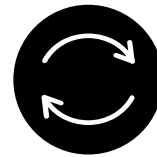
Carbon Free power is a goal of the New Administration

Promote Clean Energy Development



Resilience

On site power production and self sufficiency at certain sites for mission critical activities (especially defense sites)



24/7

Power Available at all times

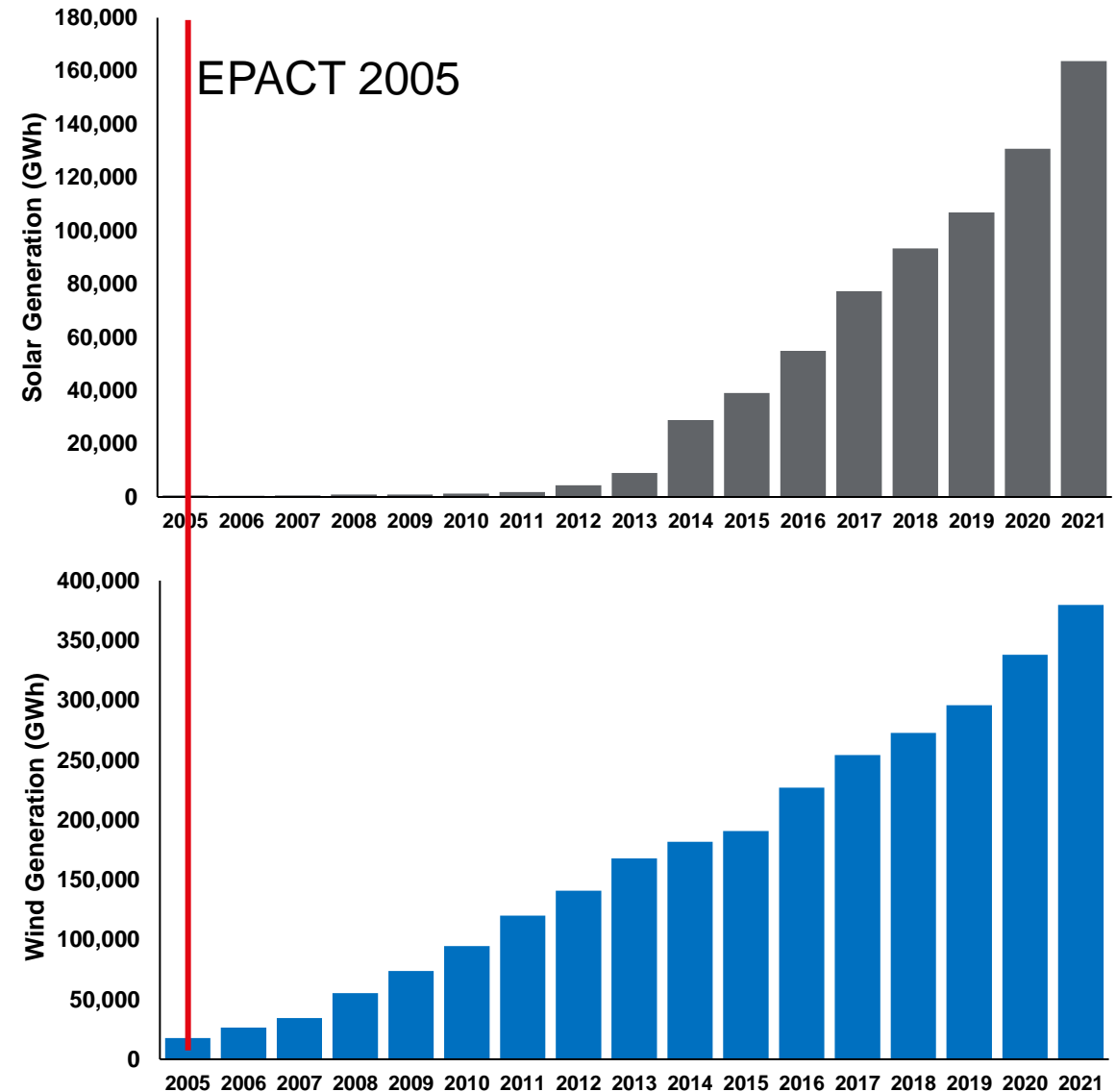
Federal Government Can Create and has Created the Market for Less Expensive Power Through Development, Purchases and Incentives

Federal Hosting of Energy Facilities

Federal Purchasing of Power

Federal Incentives

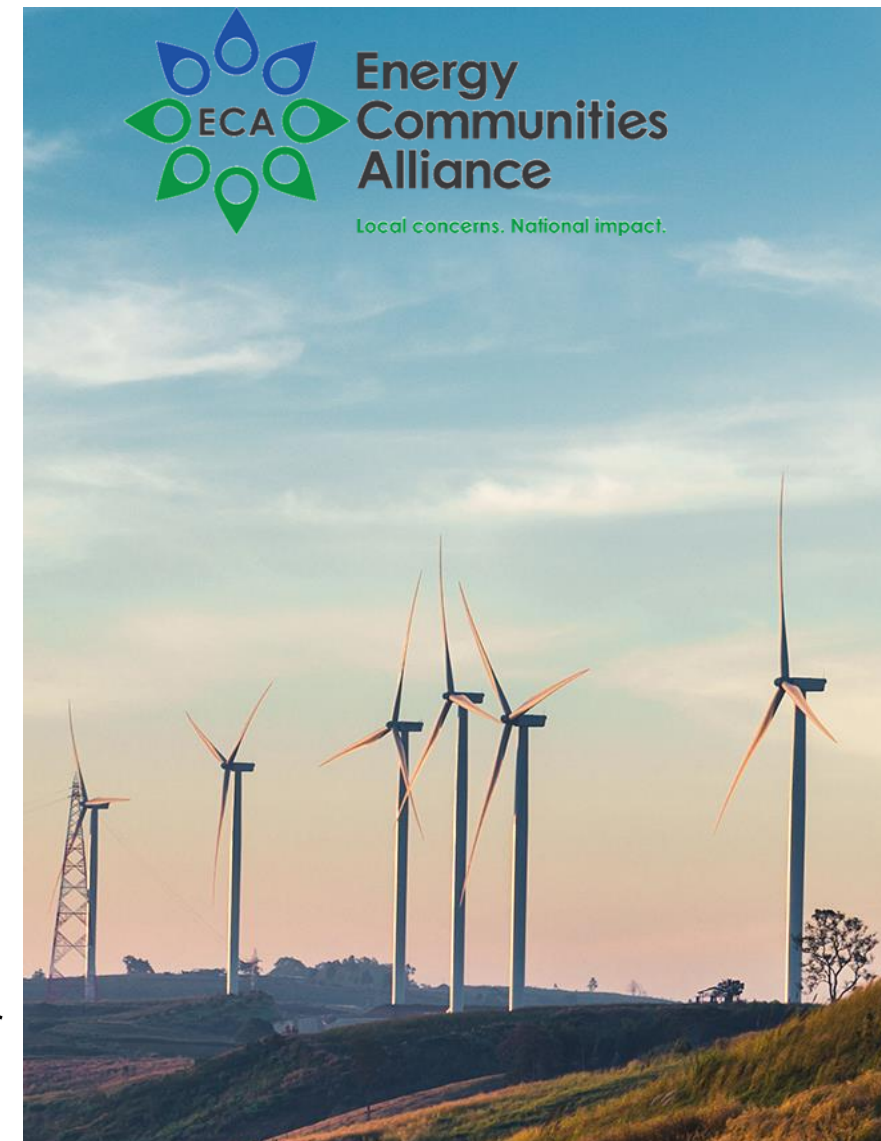
Tax (ITC, PTC, Depreciation, etc), Grants, Direct Purchases, Other



Background

Federal Agency Contracting Options

- **Appropriated Funding** – Pay for it upfront
- **Power Purchase Agreements – GSA Authority (40 U.S.C. 501 / FAR Part 41) -- Up to 10 years**
- **2922a - DOD Authority** – (10 U.S.C. 2922a) – Up to 30 years
- **“2667 Leases”** – (10 U.S.C. 2667)
- **Energy Savings Performance Contract (ESPC)** – (42 U.S.C. 8287)
 - Contracts for the sole purpose of achieving energy savings and benefits ancillary to that purpose. **Period not to exceed 25 years.**
- **Energy Service Agreements (ESA)**
 - ESPCs can incorporate the purchase of on-site renewable energy, if the result is lower energy consumption and costs. ESPCs with an ESA, requires OMB Review.
- **Utility Energy Service Contract (UESC)** – (42 U.S.C. 8256 and 10 U.S.C. 2913)
 - DoD may enter into UESCs **for up to 25 years.**
- **Utility Conveyance/Privatization** – (10 U.S.C. 2688)
 - Enables a Secretary of a military department to convey a utility system, or part of a utility system, under the jurisdiction of the Secretary to a municipal, private, regional, district, or cooperative utility company or other entity. (up to 50 years).
- **WAPA** – Several authorities including using Section 9(c) of the Reclamation Project Act of 1939 (43 U.S.C. § 485h(c)) (Reclamation Act) and the Economy Act. Long-term **contracts up to 40 years.**
- **Other** - (10 USC 2916, 10 USC 2917, 10 USC 2662, 40 USC 591, DoD Instruction 4170.11, DoDI 4165.70, etc.)
- **Special Legislation** – Atomic Energy Act and Specific Projects



Typical Federal Agency Contracting for Utilities

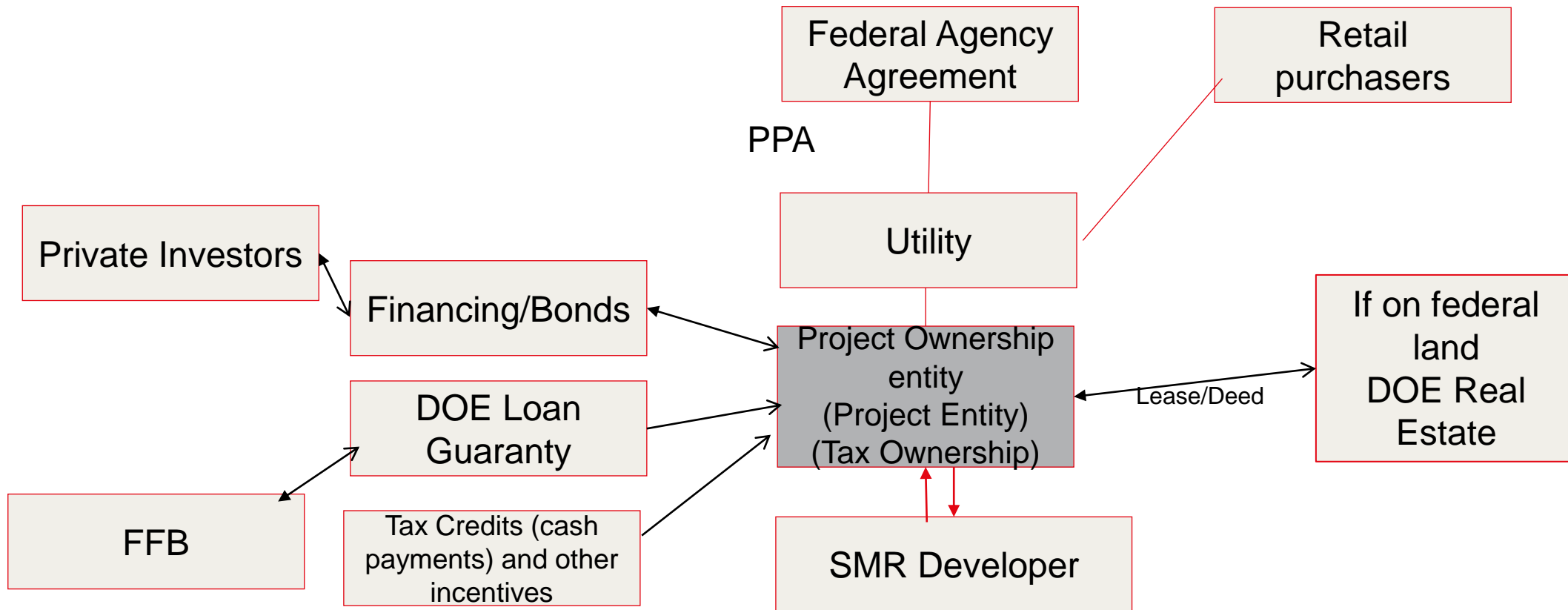


Federal Agency

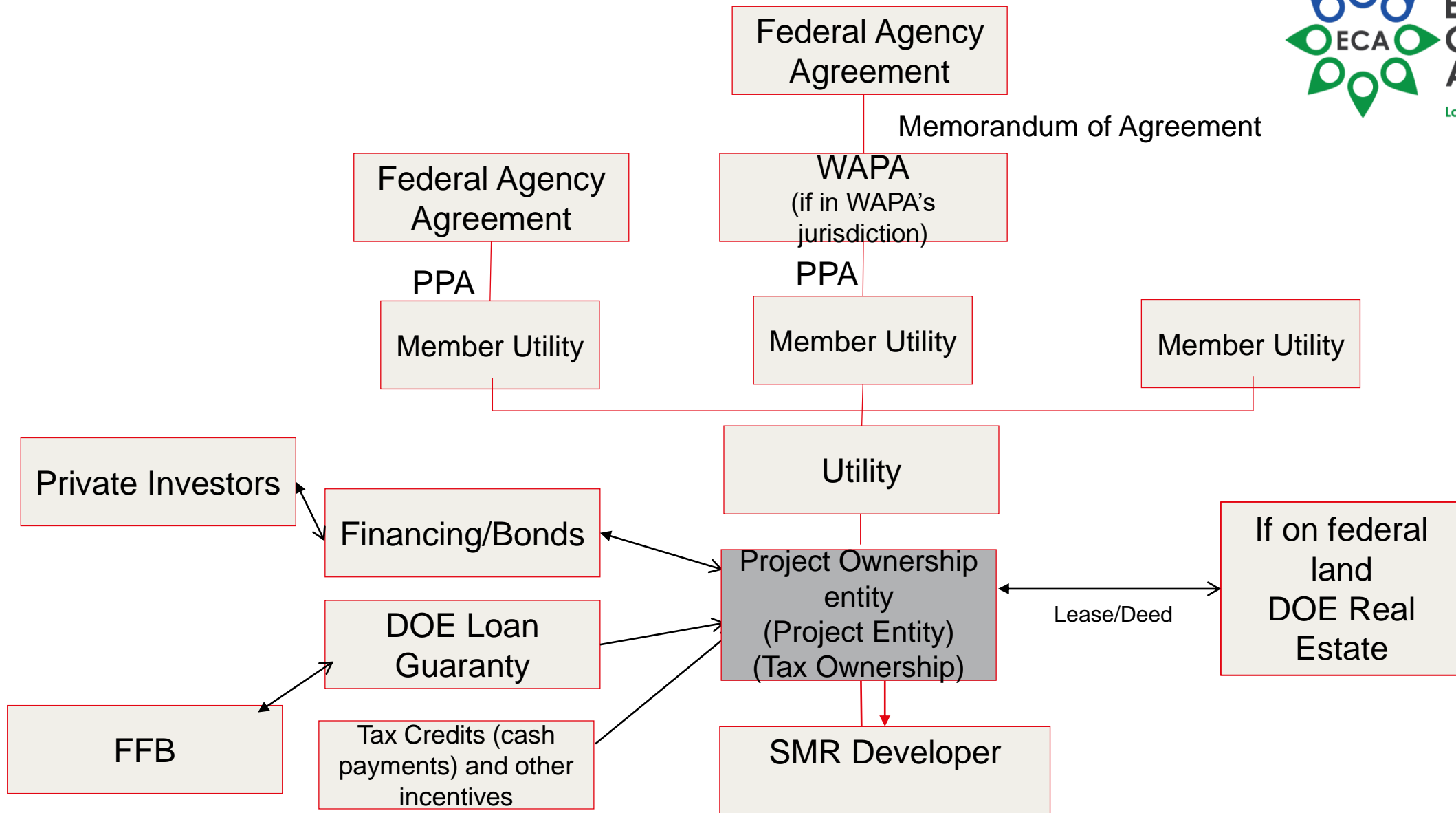
Power Purchase Agreement
40 U.S.C. § 501
5 to 10 year agreement

Utility

Potential -- SMR STRUCTURE 1 with direct sale to federal agency



Potential -- SMR STRUCTURE



History of Financing Energy/Resilience Projects

Options Deployed

- Upfront Appropriations
- Power Purchase Agreements (2022a)
- REC Purchases
- UESC's
- ESPC
- Enhanced Use Leases
- Utility Conveyance
- Energy Service Agreements
- WAPA
- Conventional power buys

Outcomes Achieved

- Market Evolved where DOD/Private Sector created a Market – Renewable Energy Gigawatt Challenge
- Decreased Cost of Borrowing
- Decreased Time to Execute Project
- Project Proceeds Increased
- More could be built

Challenges – Federal Agency Issues

Site Perspective

- Interest at site / installations for energy production / resilience project?
- Mission Impact
- Term of Contract
- Contracting entity's ability to execute agreements
- Site budgeting and budgetary scoring
- Long-term cost – unpredictable project economics
- NEPA
- Out-grant processes
- Executing a Contract Prior to licensing for first of a kind projects

Issues Confronted

- Cost as compared to current energy supplier
- CERCLA
- Politics
- Withdrawn Land Complexities – Interagency Agreements
- Limited Transmission Line Access
- Long Project Lead Times
- Market History
- DOD's long-term commitment
- Approvals
 - Long term PPAs – OSD
 - Scoring issue – OMB
 - 2667 (long term lease notifications)

While significant progress has been achieved, Federal purchases of renewable energy remain “one-off” processes

Recommendations for Federal Agency Leaders



Prioritize

Prioritize carbon-free energy

Create

Create accountability measures for meeting carbon-free energy goals
Create teams and develop expertise to implement carbon-free energy projects

Acknowledge

Acknowledge that carbon-free energy may cost more than fossil fuels in the short run

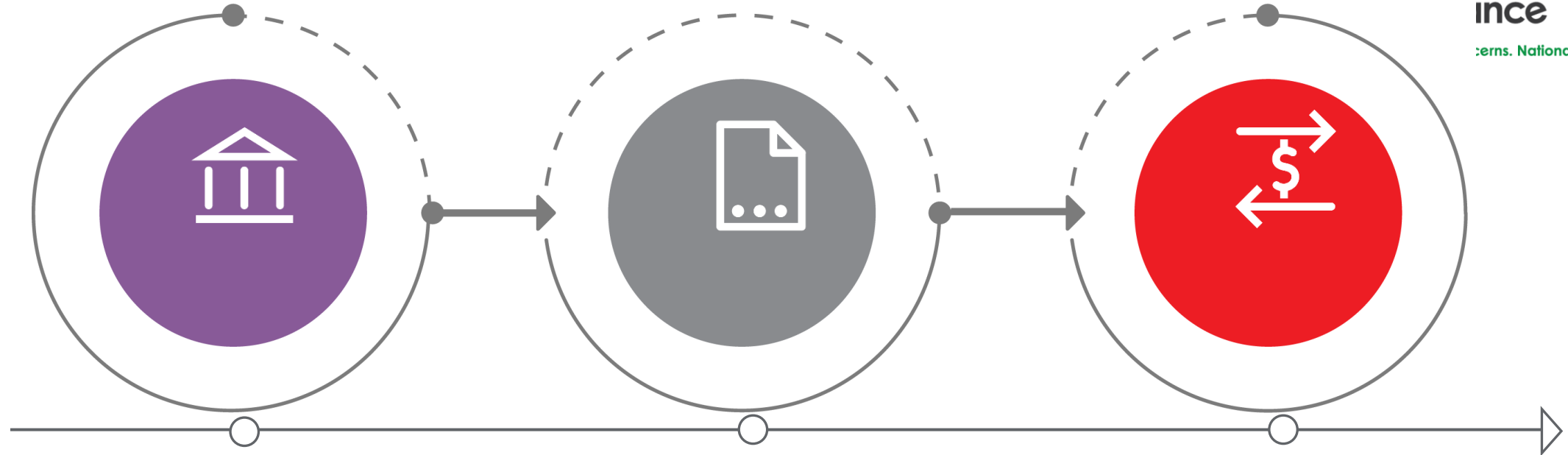
Utilize

Utilize Agency offices that actually purchase the power and manage the real estate to implement the programs.

Take Action

Focus on what can be done – not what can't; be creative.

How to Move Forward



POLICY DECISIONS

Policy Decision to Promote Large Scale Power Purchases of Any Technology will create the demand and likely lower the cost to other purchasers over time.

- Federal Agency Direction to all large power purchasers must be clear and direct. (For example SMR PPAs)
- Leadership in the agencies need to make this a priority
- Accountability for Meeting the goals
- Recognize Costs may be more expensive in the short run

LEGAL AUTHORITIES

Legal Authorities Exist but Improvements Are Needed

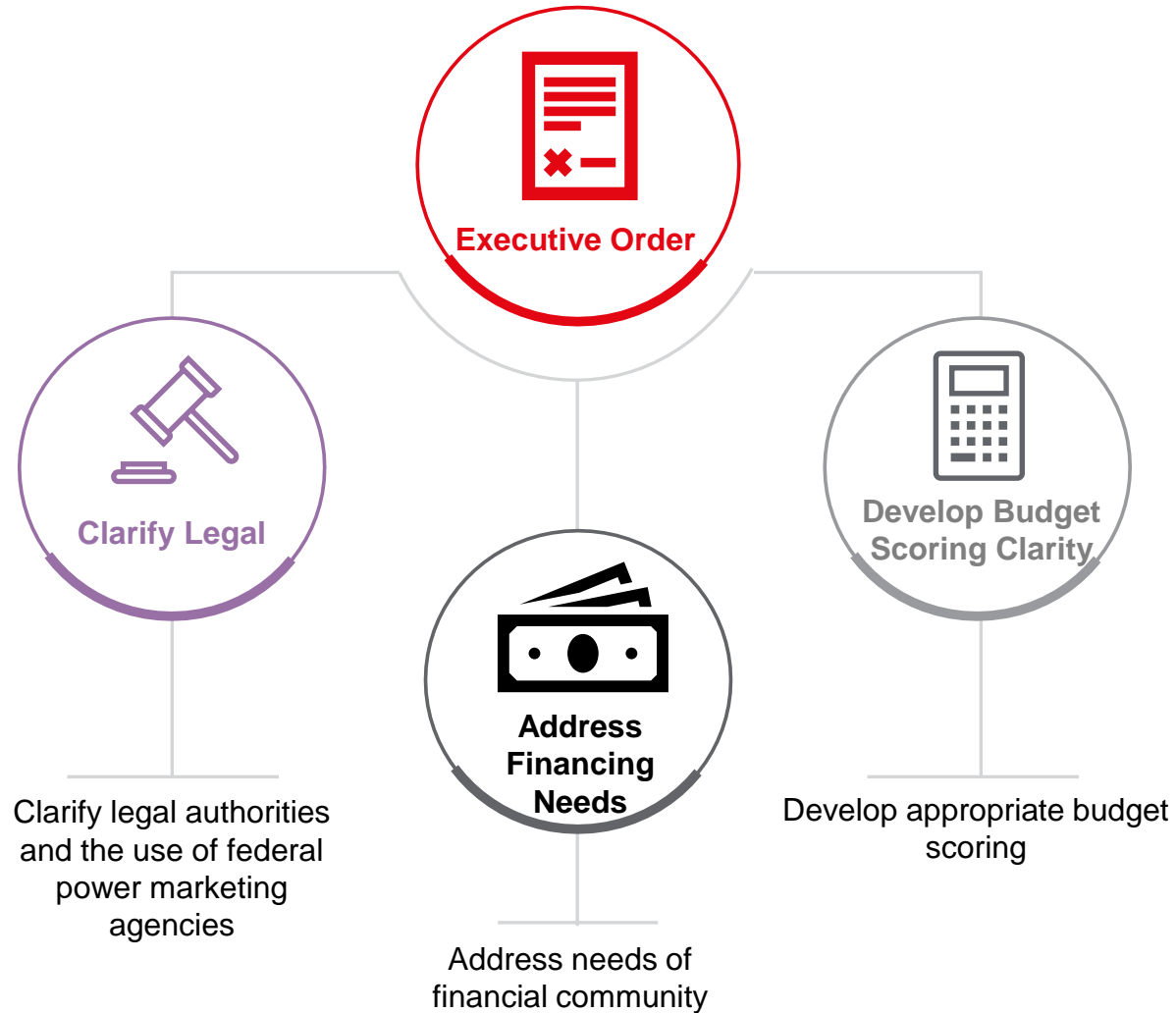
- Longer term PPAs (DOD has 30 year authority – Provide same or longer authority to GSA and DOE – proposals have been up to 40 years)
- Use Existing Authorities Now

FINANCIAL INCENTIVES

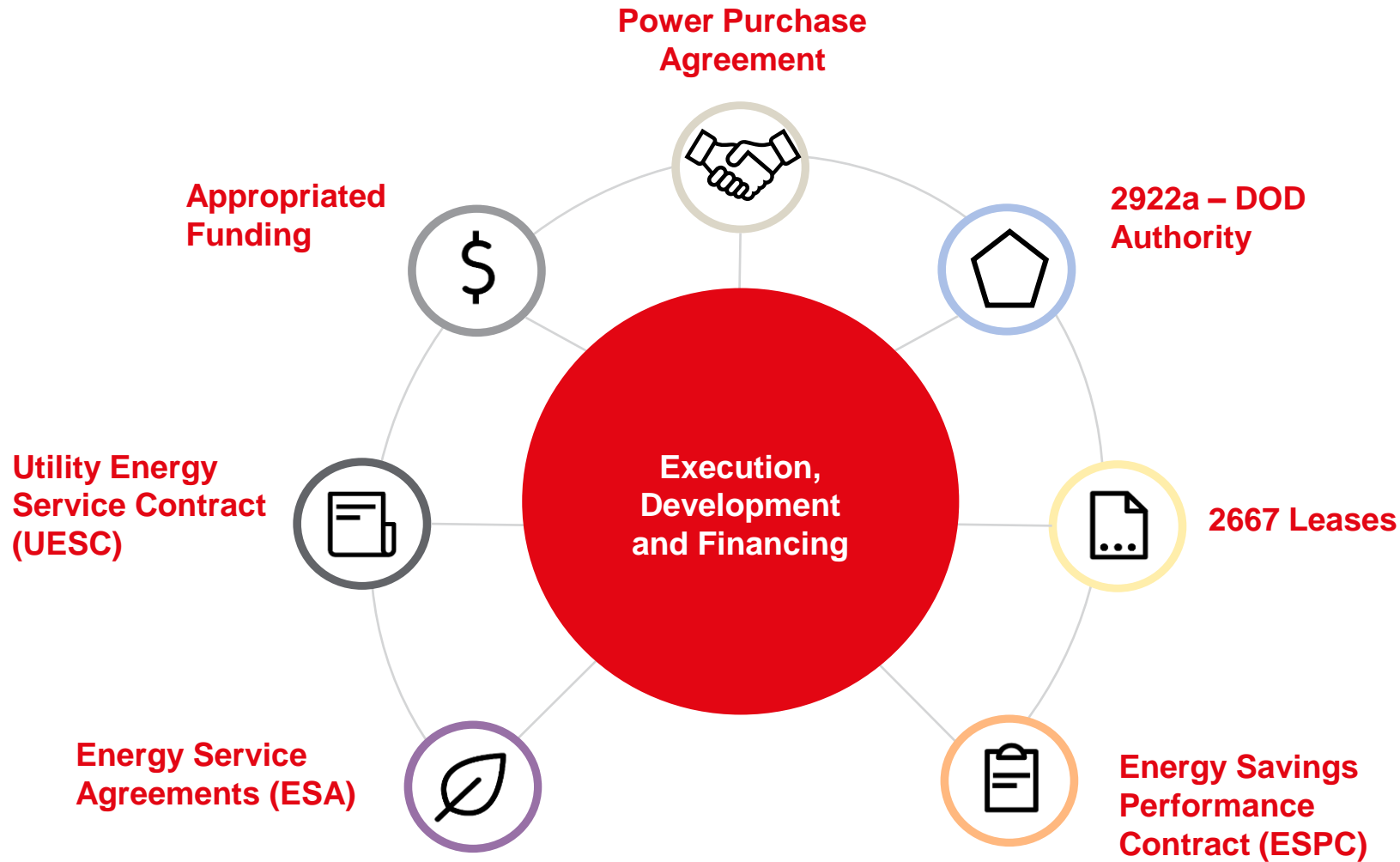
All power sources in the US have incentives – focus the incentives on the goals

- Tax Credits/Cash Payments and other incentives (ITC, PTC, Accelerated Depreciation) have worked well in the energy market
- Direct Support for FOAK

Empower Agencies Through Executive Order



Key Challenges for Each Authority Option



Don't forget WAPA and Power Marketing Authorities

Recommended improvements to legal authority



01

Empower GSA and DOE to authorize agreements for up to 30-40 years

02

Enable current authorities to execute virtual PPAs

03

Enable all Federal agencies to authorize PPAs

Proposals to Date

1. GSA asking for 30 year Authority for all federal agencies – CBO scored high
2. DOE asking for similar authority to DOD (10USC 2922a) for Defense Facilities
3. Other

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Backup Slides

How can a Virtual PPA work for the Federal Government?



Minimal Load Profile Impacts

Virtual PPAs do not impact a Federal agency's load profile



Benefit

Purchase larger amounts of clean energy



Site Agnosticism

Does not need to be on site



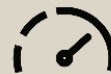
Legal Authority

(Military/Civilian)



Contract Payments

Term and Party



Risk

Can the Federal Government take Market Risk?



Delivery of Clean Power

What is the Federal Government Buying?



Manageable Budget Scoring

For a virtual PPA, the current rules should only score the expected value of differences over the contract term expressed in today's dollars—allowing for far more reasonable budget scoring and broader application across federal agencies.

Do Virtual PPA's Offer a Solution?



A Virtual PPA is a contract structure in which a power buyer (or offtaker) agrees to purchase a project's renewable energy for a pre-agreed price. In this agreement, the renewable energy project receives the market price at the time the energy is sold.

If the market price is greater than the fixed VPPA price, the offtaker / buyer receives the difference.

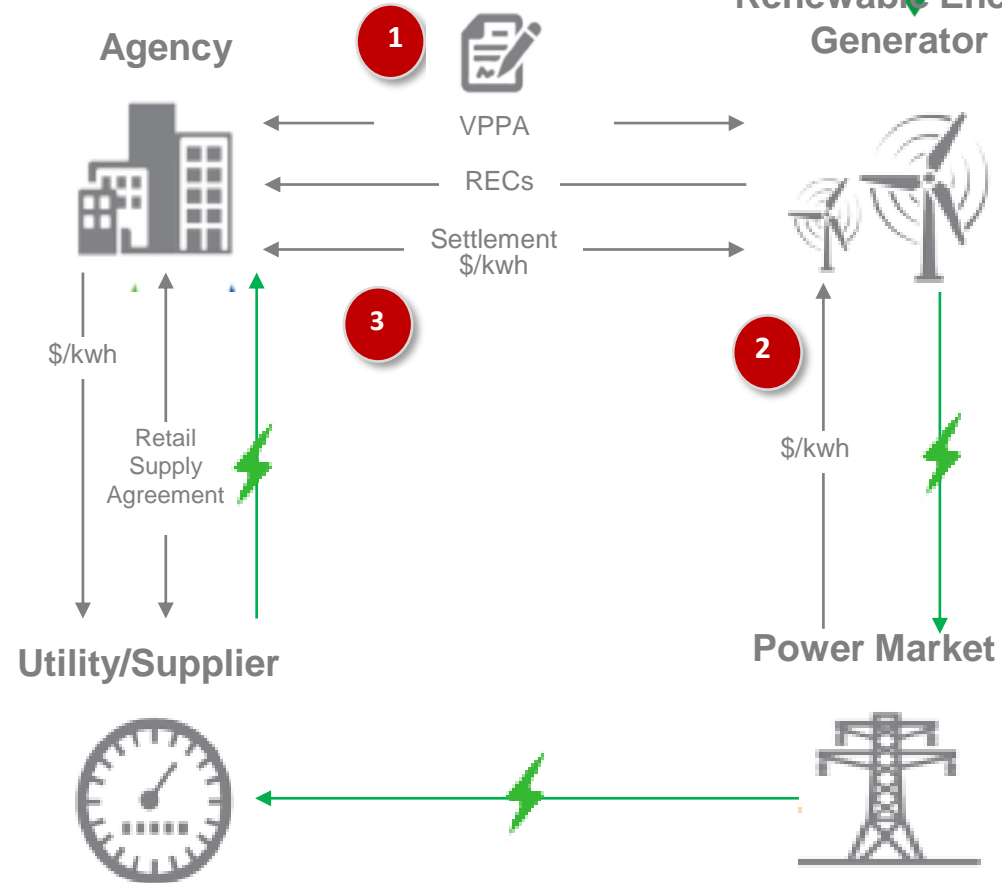
If the market price is less than the fixed VPPA price, the offtaker / buyer pays the project to make up the difference.

There is no physical delivery of power to the buyer's load centers. Purchases pay their utility bills as they always do.

VPPA Structure

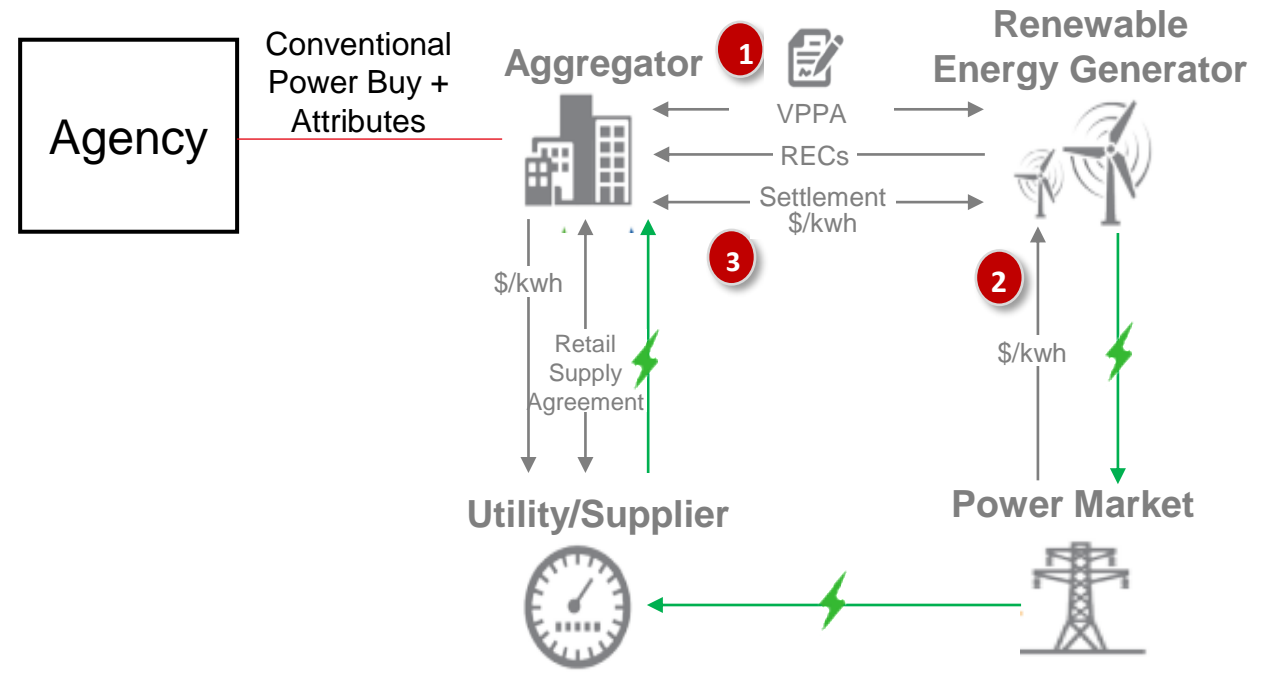


- 1** Agency signs VPPA with renewable energy generator, establishing the **strike price** for agency's purchase.
- 2** Renewable energy generator sells power produced into power market, receives market price and provides replacement RECS to Agency.
- 3** Renewable energy generator sends/receives settlement to/from Agency (*Settlement = wholesale price minus strike price*).





Is a VPPA a contract to buy energy?



It can be...