

FEDERAL UTILITY PARTNERSHIP WORKING GROUP SEMINAR

November 7-8, 2018
Herndon, VA

Financing Resiliency Projects

Hosted by:



Speakers



Joe Oliver

Joe is a Managing Director with Deloitte's Global Infrastructure & Capital Projects practice, specializing in energy and utility advisory services. He has over 20 years' experience at leading transaction advisory, capital raising, P3, utility restructuring and strategic consulting projects for public and private sector clients.



Ryan Daly

Ryan Daly, Manager with Deloitte's Government & Public Services energy practice, focuses on building the resiliency of power sectors – both domestically and internationally – by improving electric utility performance and fostering growth in innovative technologies.

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100%

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Deloitte is a true global organization with energy professionals working in over 60 countries

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20 of 30

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Deloitte serves two thirds of Fortune Global 500 power companies

96%

of Global Fortune 500 Energy companies served

> \$15B

Public and Private Energy Investments Mobilized

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FEMP
Federal Energy Management Program

Dominion Energy

Agenda

- i. Market Trends
- ii. Financing Energy Security
- iii. UESCs and Energy Security

Market conditions for energy security projects



Changing generation fuel-mix



Flattening demand and prices



Growth of distributed energy resources (DER)

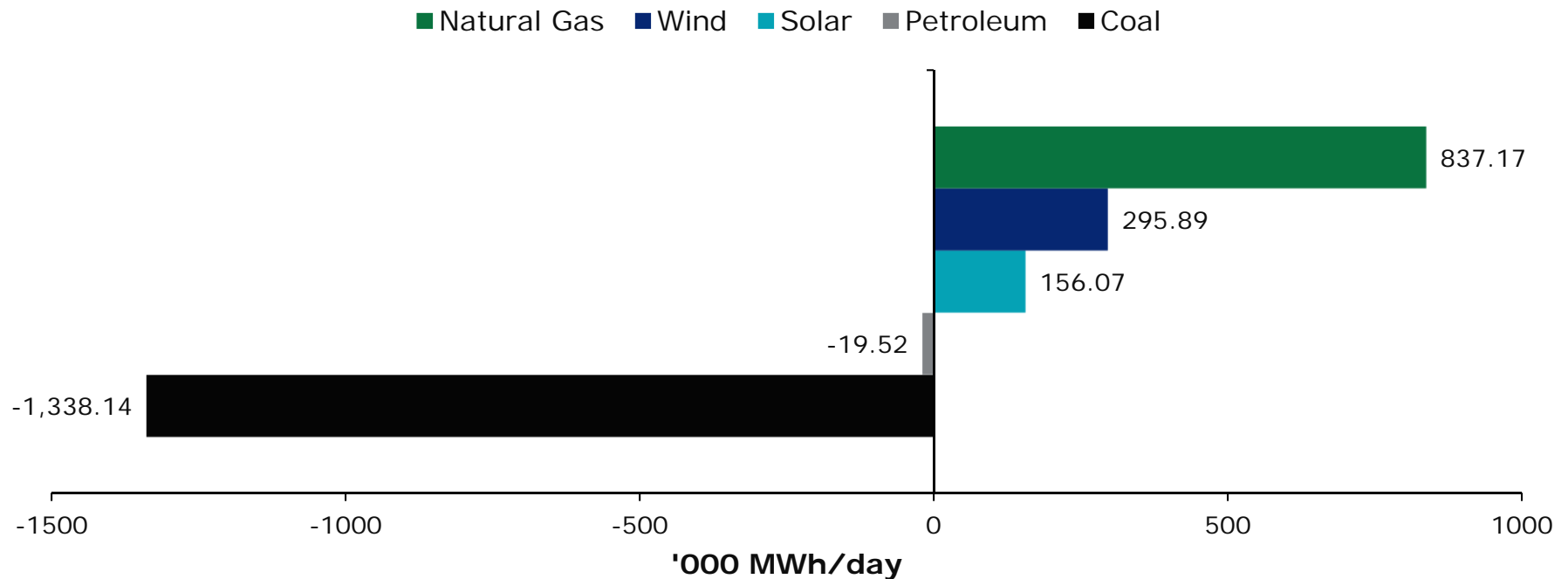


Increased threats from cyber and physical security risks

Changing Fuel Generation mix

Wind, solar thermal and photovoltaic, and natural gas have seen huge growth in recent years, while more costly fuel sources have seen a net decrease in capacity.

U.S. Electricity Generation, Cumulative Change in MWh Generated by Source 2014-2019 (Real and Projected, EIA)



IPPs, large consumers, and utilities are shifting their generation sources placing pressure on the grid to adapt to difference between sources.

Source: EIA

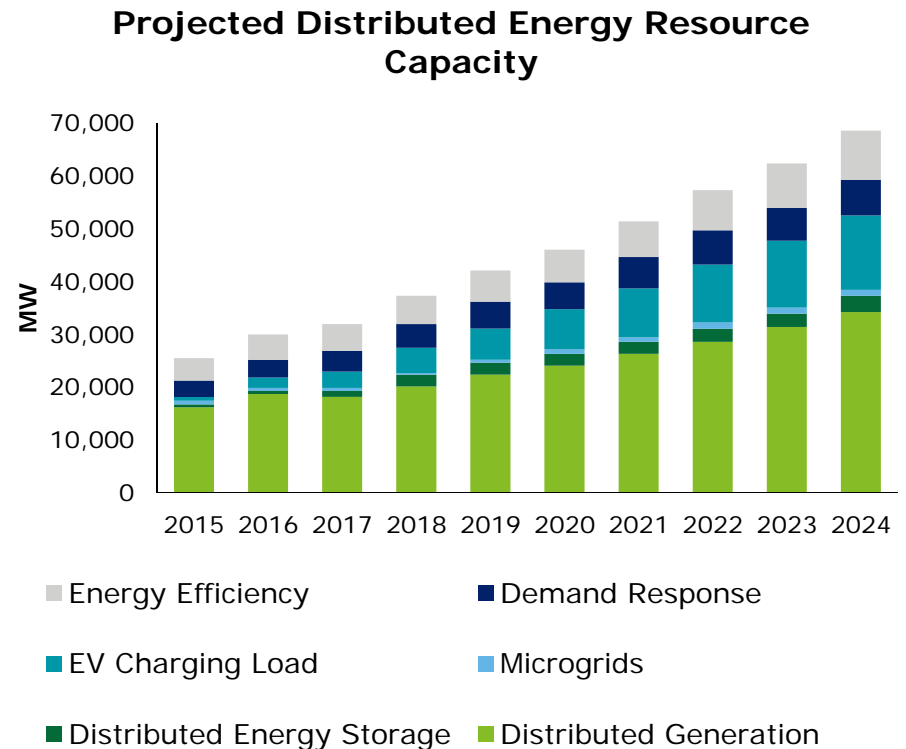
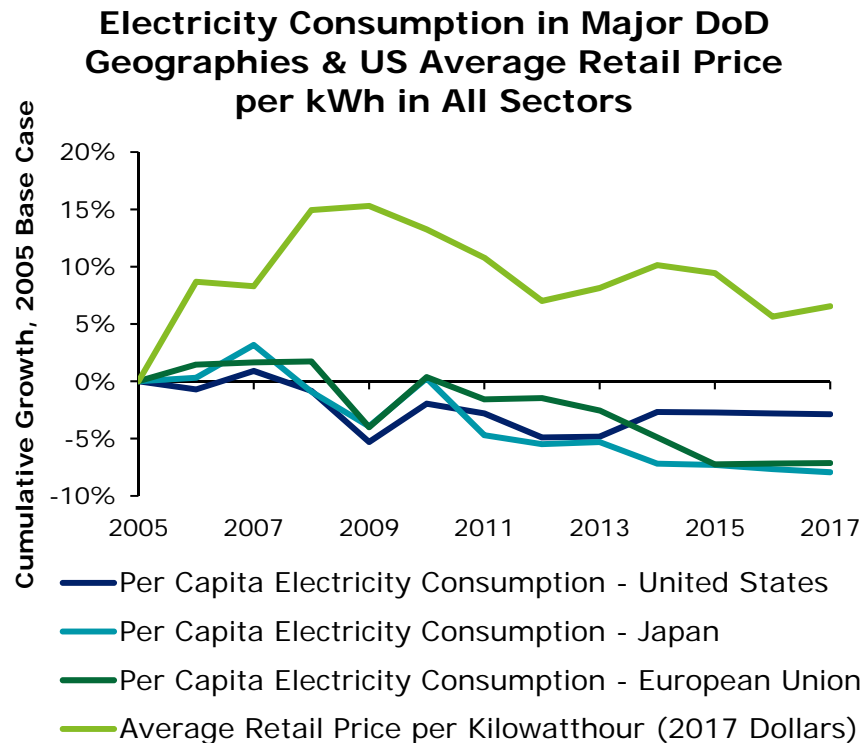
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Flattening Demand + Retail Prices + DER

Traditional utility models are under pressure to adapt to more efficient electricity use, commodity price stagnation, and rapid growth in power previously considered non-economic.



Utility business models are being disrupted, the DoD – a credit worthy, resiliency demanding, large consumer – may appear an attractive partner.

Source: Bloomberg New Energy Finance, World Bank, Bureau of Labor Statistics, FERC, Navigant, Deloitte Analysis

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Cyber and Physical Threats

Threats to the United States – and its ally's – power grids have caused significant private and public damage over recent years by a number of threat actors.

Threat Actors		Recent Events		Motivations
Foreign Intelligence	>>>	"Ukrainian Attack" <i>More than 230,000 residences lost power, including disabling of back-up power resources</i>	>>>	 Industrial Espionage
Terrorists				
Insider Threats	>>>	"Shamoon Attack" <i>Saudi Aramco had 35,000 computers partially wiped or totally destroyed... unable to pay, transportation halted</i>	>>>	 Foreign Intelligence / Cyber Warfare
Contractors/Vendors				
Cyber Criminal	>>>	"Antwerp Port Hack" <i>Drug traffickers hacked computer networks controlling shipping at the port of Antwerp to traffic narcotics among legitimate cargoes</i>	>>>	 Material Gain
Activists				

Utilities have recognized the need for secure (cyber and physical) electrical infrastructure in order to maintain resilient domestic electricity supply.

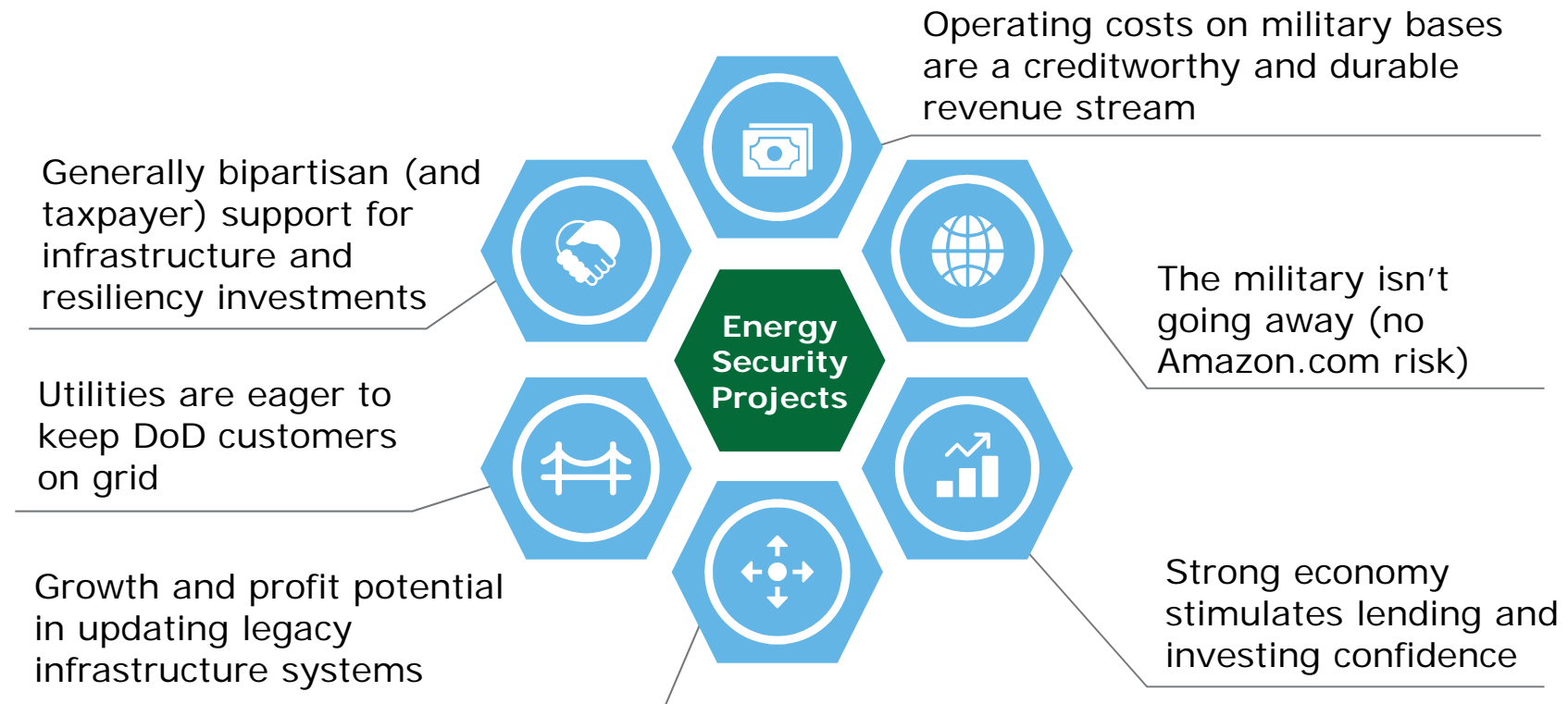
Source: Deloitte Analysis

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Bankability Considerations

Resiliency projects are attractive to commercial contractors and financiers because they contain much of the upside sought after in the private sector.



Financier Due Diligence

Financiers and contractors conduct project due diligence by asking questions about the project developers, the project stakeholders, and the project plan.

About Developers/Stakeholders

- Who are the different parties involved? Experience?
- Is the offtaker creditworthy?
- Has the developer completed these types of projects before?
- Do they have a strong chance of winning the work?

About the Project Plan

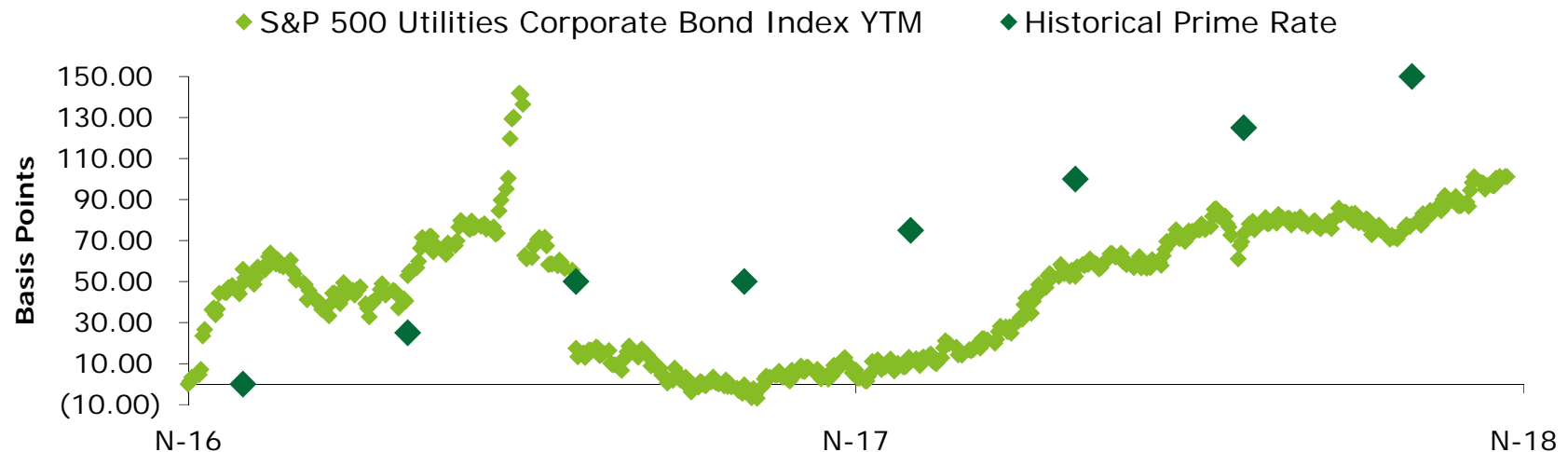
- Are project cash flows sufficient to repay capital?
- How long is the repayment period?
- Are projections realistic?
- What are contracting risks and cancellation clauses?
- Are there permitting or environmental risks?
- Are there risks to asset ownership?
- Are there tax impacts?

UESC Financing Costs

UESC financing costs are impacted by the terms of the project, macroeconomic conditions, and the stakeholders involved.

Stakeholder Impact	Financing Requirement	Project Type
Utilities borrow at relatively low costs.	Amount and tenor (length) impact financing costs.	Project complexity + contractor's experience impact financing costs.
Building & Performance Risk	Contract Terms	Relevance to Mission
Generally, more difficult execution will increase risk profile for financing projects	Variety of contract terms impact financing costs	Projects that are relevant to the mission may allow for contract terms helping limit financing costs

Change in Utility Bond Yields & Prime Rates ('16-'18)



Source: S&P Global, Federal Reserve

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Minimizing UESC Financing Costs and Performance Risks

UESCs are attractive because there are many actions available to minimize the financing costs and the performance risks.

Minimize Cost

- Competition improves results
- Participate in financing discussions with utility partner
- Include reasonable prepayment clauses if acceptable to parties
- Ask for details on transaction/financing fees

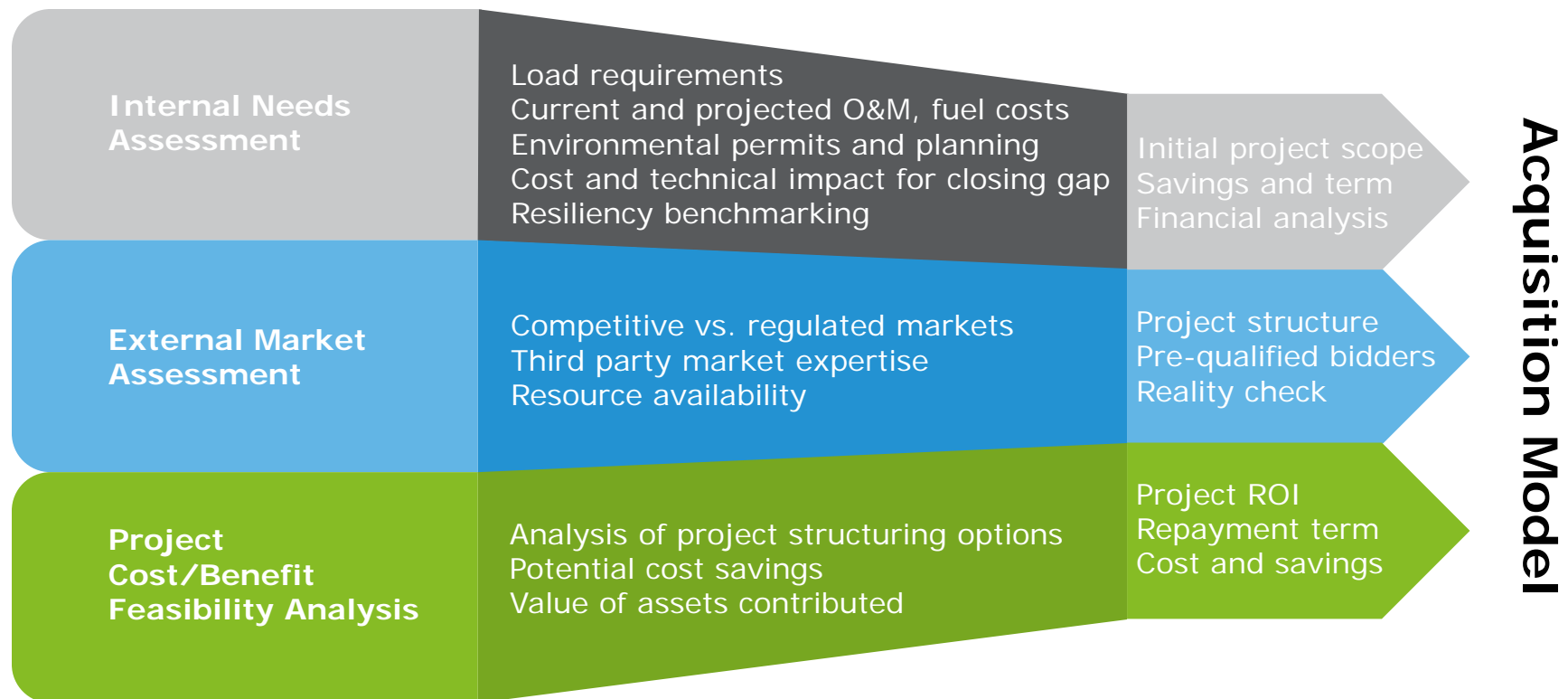
Mitigate Performance Risk

- Work with experienced reliable partners
- If necessary, subcontract to DOE-approved list of ESCOs
- Minimize and be aware of contract conditions and risks for financing party

**UESCs Become
Less Costly
&
Less Risky**

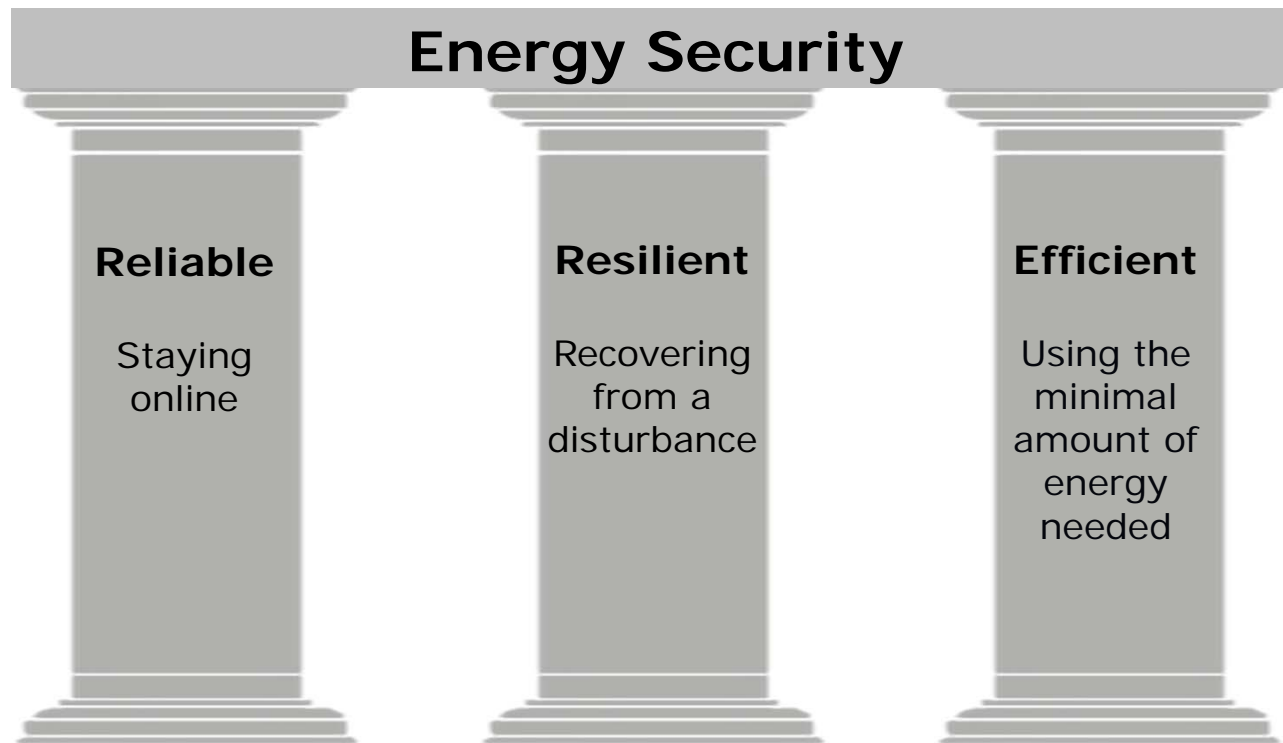
Designing Bankable Resiliency Projects

Designing bankable resiliency projects and determining an acquisition model has three phases from the base assessment, the analysis, to the outputs.



Energy Security in the UESC Context

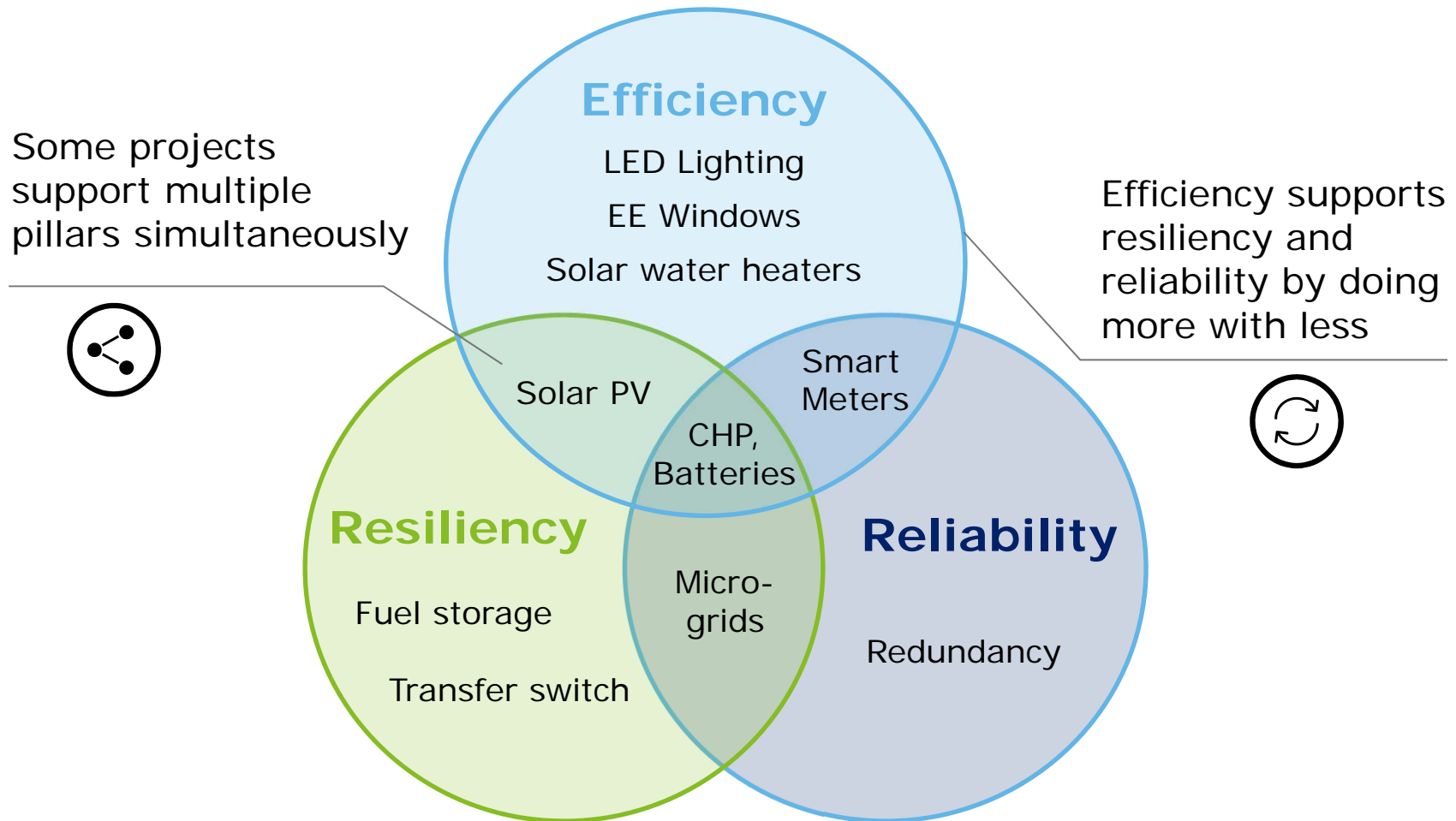
The DoN conceptualizes energy security supported by three pillars with clear mission goals.



Utilities are challenged with designing creative ways to structure projects to support each pillar and the DoD mission of energy security.

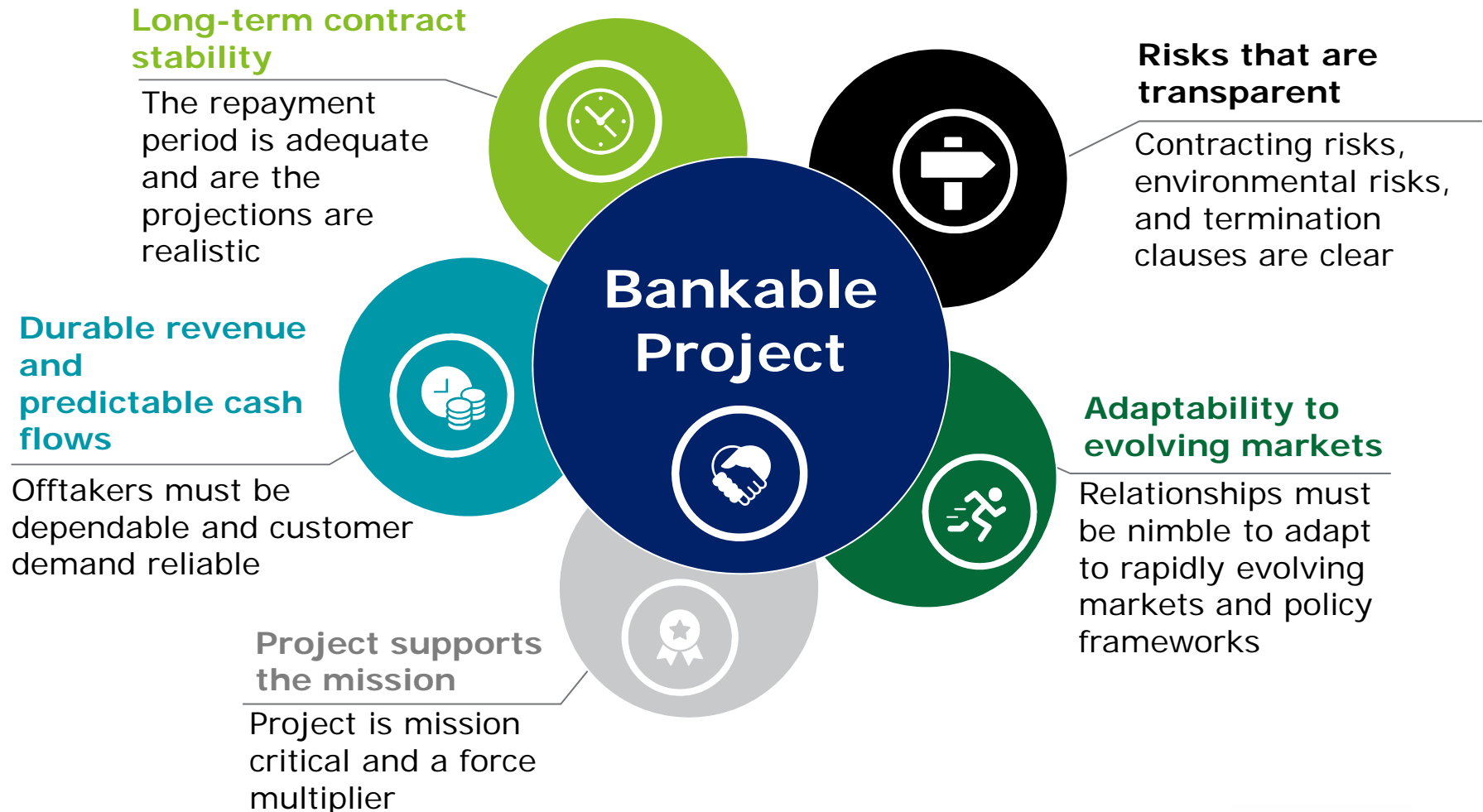
Projects Support Energy Security

Different project-types support each of the 3 pillars of energy security.



Keys to Financially Successful Projects

Financiers consider projects to be bankable if they have long-term stability, transparent risks, durable and predictable revenue streams, and are adaptable to changes.





Joe Oliver
Managing Director
Deloitte Global Infrastructure
& Capital Projects



Ryan Daly
Manager
Deloitte Government
& Public Services