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Distributed Hybrid Utilities

Business Development

Key trends in the US Power Market

- Three variables will keep on rising MWs prices: increase in demand, trade tariffs and grid congestion
- Natural gas supply most likely keep on being abundant (surpassing demand)
- Both transmission and distribution grids will keep on being congested

- Solar panels will keep on being cheaper
Batteries will keep on being cheaper with mass production (lithium is at low prices as a commodity)
- Technology will make possible matching and optimizing load

Key Trends
(medium term)

- State mandates will keep on driving the incentives
RECs will keep on being on demand in local markets
- Appetite for hedging Scope 1 and Scope 2 emissions will keep on the rise

- Coal will keep on being retired and substituted by nuclear, natural gas and renewables
- Federal fiscal incentives might be stalled in the medium term

Opportunity

Hybrid Utilities

Opportunity

Utility

- ✓ **Solar Roofs and / or Solar Canopies**
- ✓ **Batteries**
- ✓ **Small Natural Gas Generators**

Rationale: Build a utility behind the substation that combines solar, natural gas turbines and batteries to provide power inside a distribution network that allows the anchor user to hedge for long term price risk and avoid congestion additional transmission and congestion costs.

Business Advantages

- Building new co-located utilities across the distribution grid using an SPV design where the client – off taker co-owns the asset with a developer and a structurer.
- The co-located utilities can have the chance to sell power behind-the-meter to customers nearby or to the system operator.
- With multiple co-located utilities in a specific area, a Virtual Power Plant (VPP) can be built using computing, and trading operations can be performed by the off-takers.

Network Advantages

- This hybrid utility will provide voltage and frequency stability during the day and night.
- It will create an effective micro-grid that can isolate itself from grid or sell power to the grid.
- The battery can perform a 4-hour load shifting but can also operate as a backup (substitute to diesel).
- The natural gas unit can take the low-price natural gas of the region and transform it into power.

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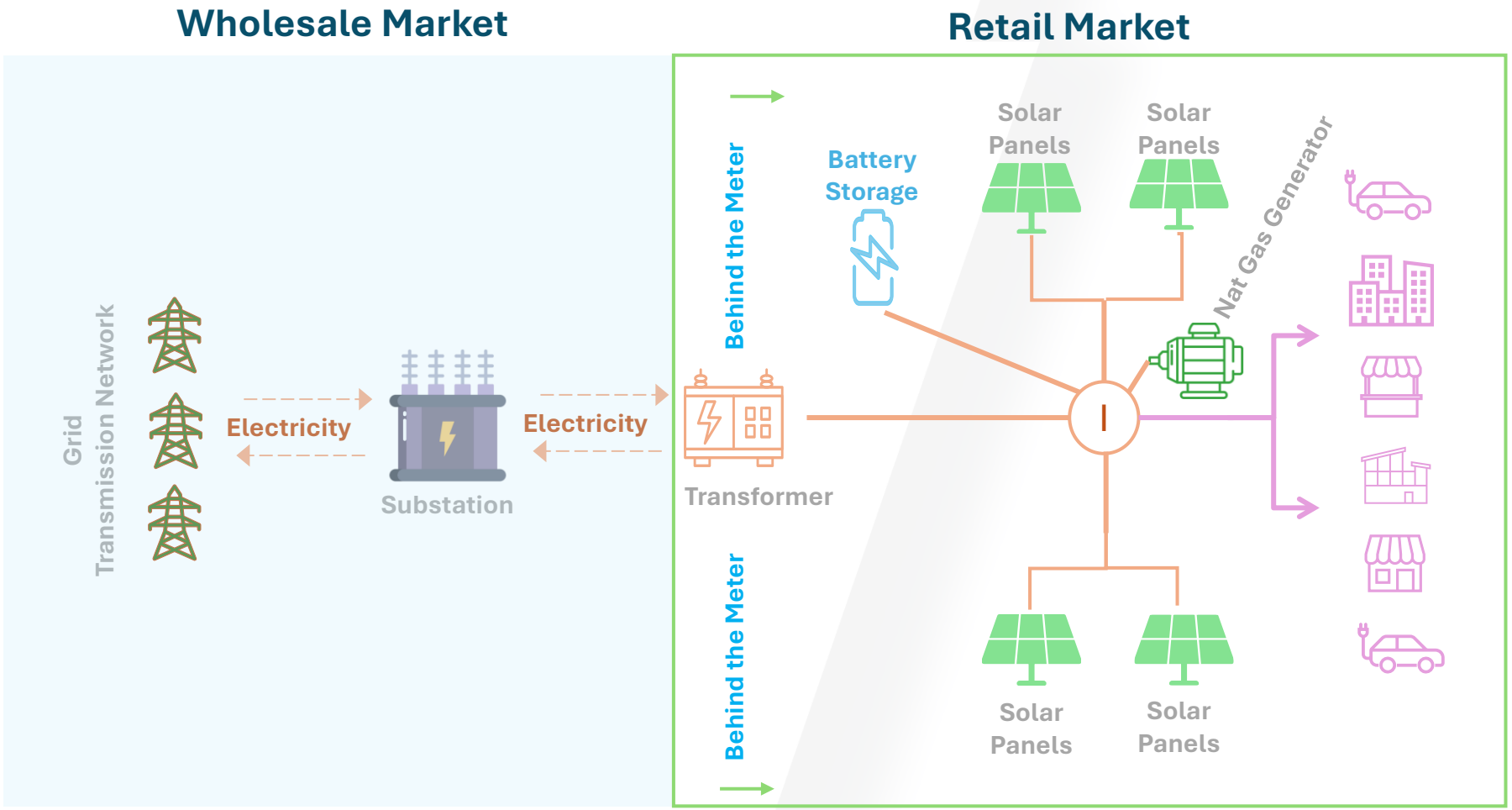
Technology Mix: Sola Panels – Battery - Thermal

Basic Design : Conceptual Design



Opportunity

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Project Stages

Analysis

- ✓ Remote Site Review
- ✓ Feasibility Study
- ✓ Financial Analysis
- ✓ Modeling Energy Consumption
- ✓ Regulatory reviews

- Analyzing the company goals, whether driven by cost reduction or by greening footprint.
- Doing remote site review using industry-leading solar design software.
- Matching insights against a financial analysis to prepare a tailored energy model.

Pre-Construction

- ✓ Site Walkthroughs
- ✓ Full engineering design
- ✓ Structural analysis
- ✓ Equipment identification
- ✓ Permitting

- Putting together a detailed engineering design, a structural analysis, equipment identification, and permitting feasibility and routing analysis.
- **Calculating cost-per-kilowatt metrics and assessments.** Analyzing the building structure, the roof and the electrical connection points to deliver an integrated cost per kilowatt or cost per kilowatt hour.

Procurement and Construction

- ✓ Materials and Labor
- ✓ Procurement
- ✓ Site Management
- ✓ Project Management

- The asset can be operated based on a service agreement with no upfront cost or cashed out (buying the utility) and delivered as turnkey installation including all costs, permits, and site management.
- Local teams can be trained on how to operate the new utility system, including monitoring software.

Operation

- ✓ Deliver the asset after its built
- ✓ Monitoring system
- ✓ Operation & Maintenance

- Building the utility and delivering it fully operational (including procurement, permitting, and site management) while also installing and training operators for the monitoring system.
- That is to say, we design and build utilities to deliver them into their operational phase.

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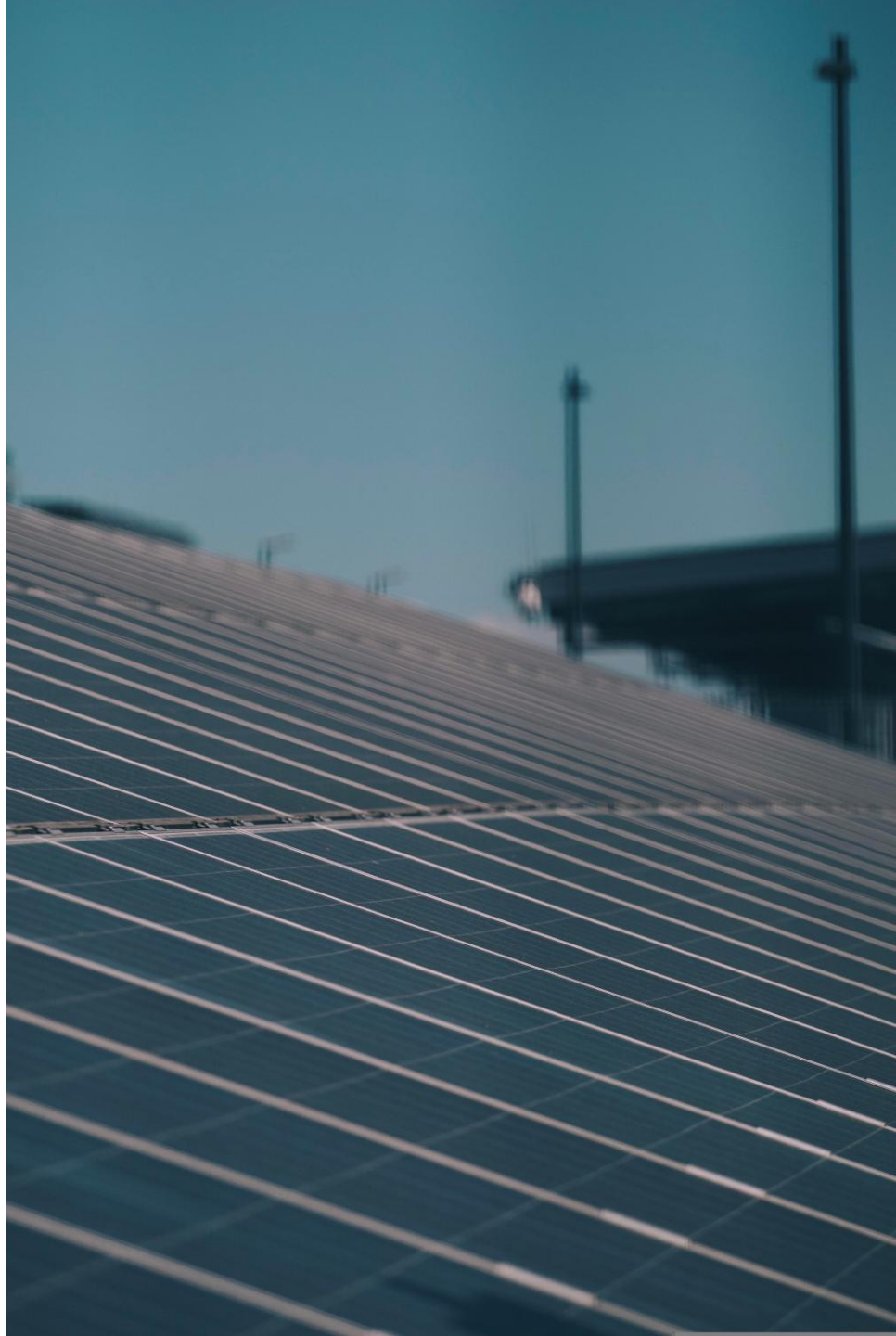
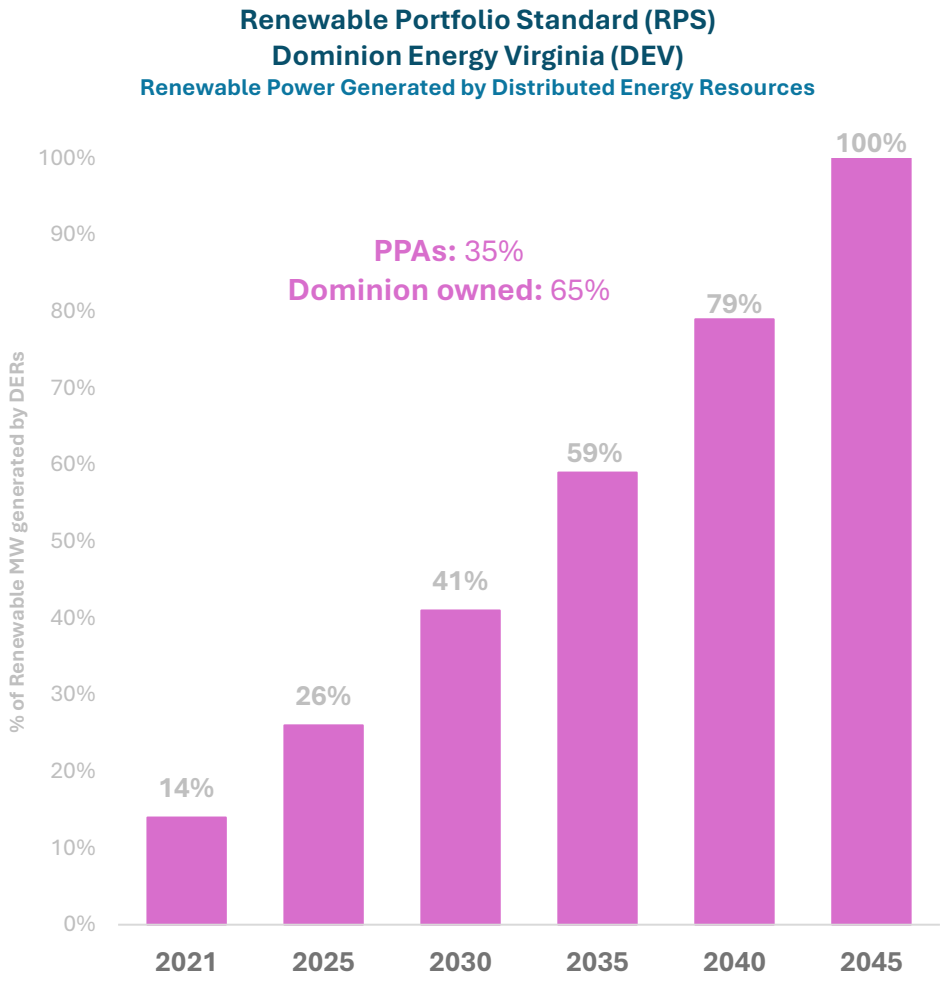
Opportunities Based on State Regulation

Virginia



State Regulation : Opportunities

Virginia Clean Economy Act of 2020 (VCEA 2020)



VCEA's Goals

- **Starting at 2025:** 75% of Renewable Energy Credits (RECs) must come from Virginia facilities.
- **By 2046:** the states is looking to reach 100% zero-carbon generation (reliability and protecting low-income customers).

Developing Zero Carbon Resources: 24 GW by 2036.

- **Off-Shore Wind:** 5.2 GW (3 GW by 2028)
- **Energy Storage:** 2.7 GW (35% PPAs, 10% BTM5)
- **Solar & Onshore Wind:** 16.1 GW
- **Solar <3 MW per project:** 1.1 GW (DER3)
- **Previously impacted sites:** 200 MWs (landfills, industrial)

Opportunities Based on State Regulation

Examples

Maryland

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State Regulation : Examples

Opportunities Based on State Regulation

IKEA in Maryland

- IKEA built a canopy system and a roofing system that allowed it to reduce it power bill by 80%
- Partially funded the project with a Grant from Maryland State.
- Built Electric Vehicles chargers for its customers.

Technology

- Small batteries are embedded into the solar power roofing system to do load shifting
- Small inverters can be installed to deliver power to your own customers

Key benefits

- Equipped with batteries.
- Electric Vehicles chargers installed.
- Not invasive and allow to keep trees around.
- Client company can use its land to produce power.
- We can find you the best contractual arrangement.
- Selling the power behind the meter at the retail market.