



# Use of Off-Site Renewable Energy to Achieve Operational Energy Strategy (OES) Goals

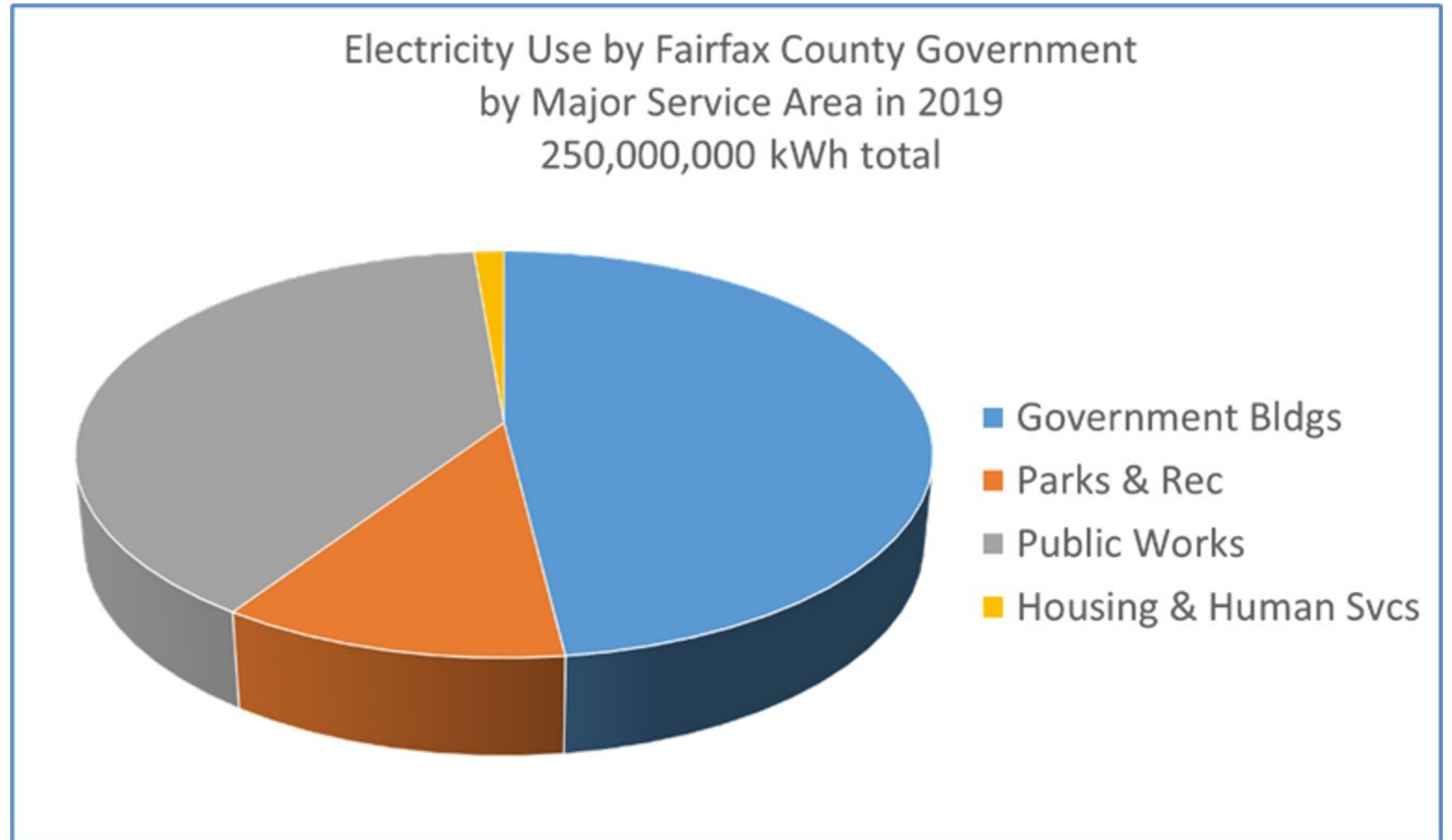
Information and Recommendation

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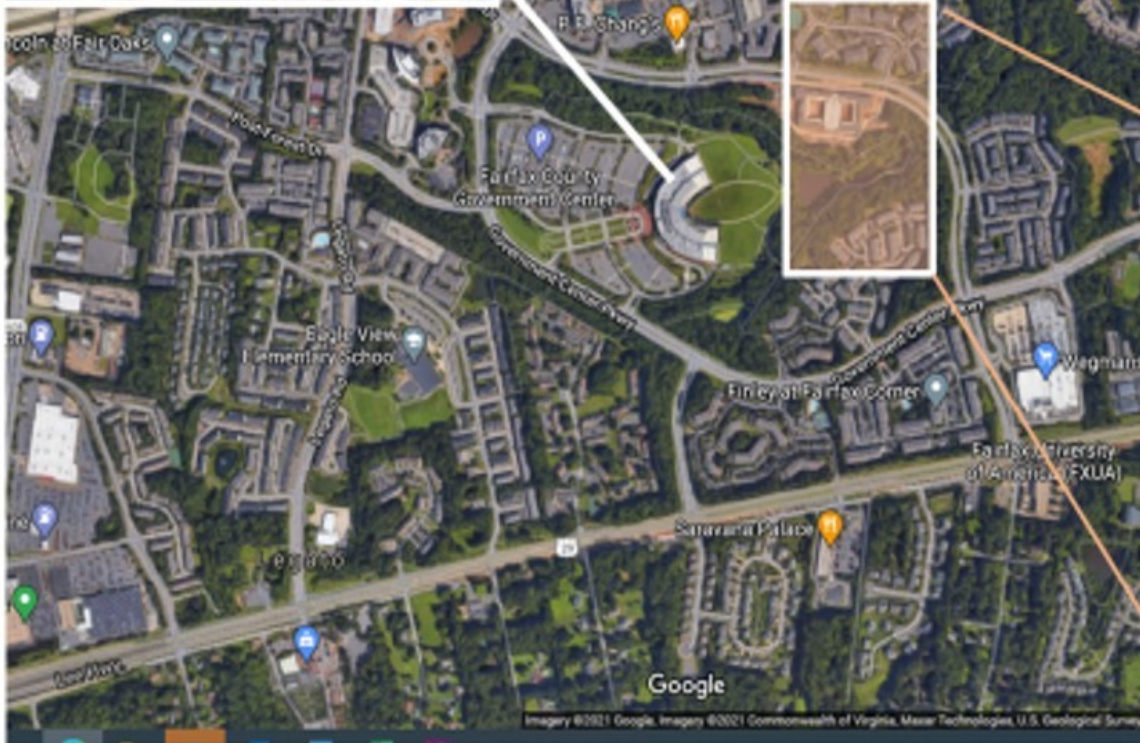
## Summary

- On-site renewable energy (RE) installations will not be sufficient to meet OES goals (25% RE for operations by 2030 and 50% RE by 2040).
- Increased energy efficiency helps toward the goal but increasing use of electricity for the vehicle fleet and building HVAC will offset efficiency gains.
- Contractual agreement(s) for off-site renewable electricity specific to Fairfax County can meet and surpass the OES goals at modest cost.
- Staff seek Board direction to pursue such agreements advantageous to county government.

# Annual Electricity Use by Fairfax County Government

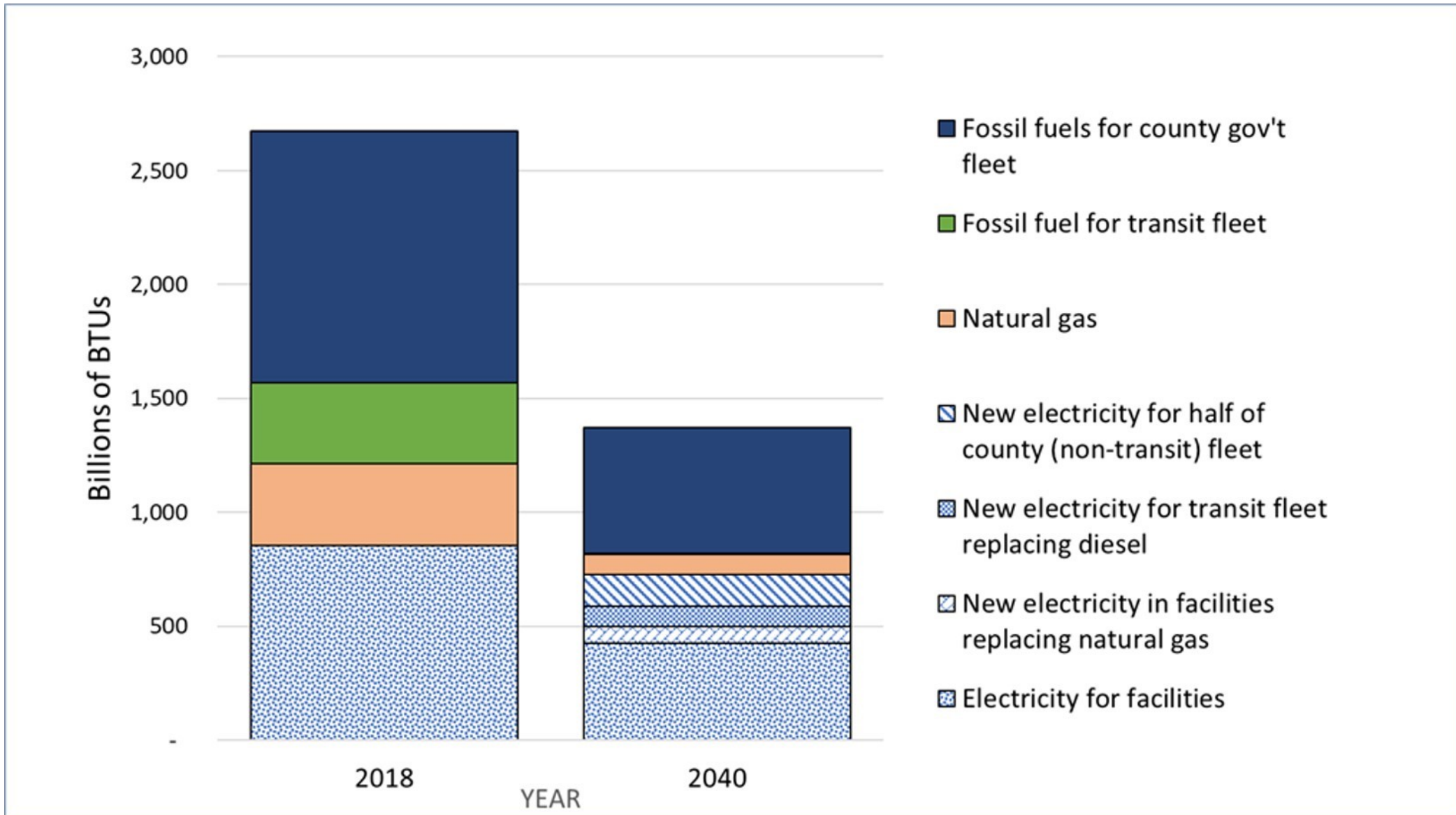


# Government buildings are energy-intensive compared to harvesting solar power



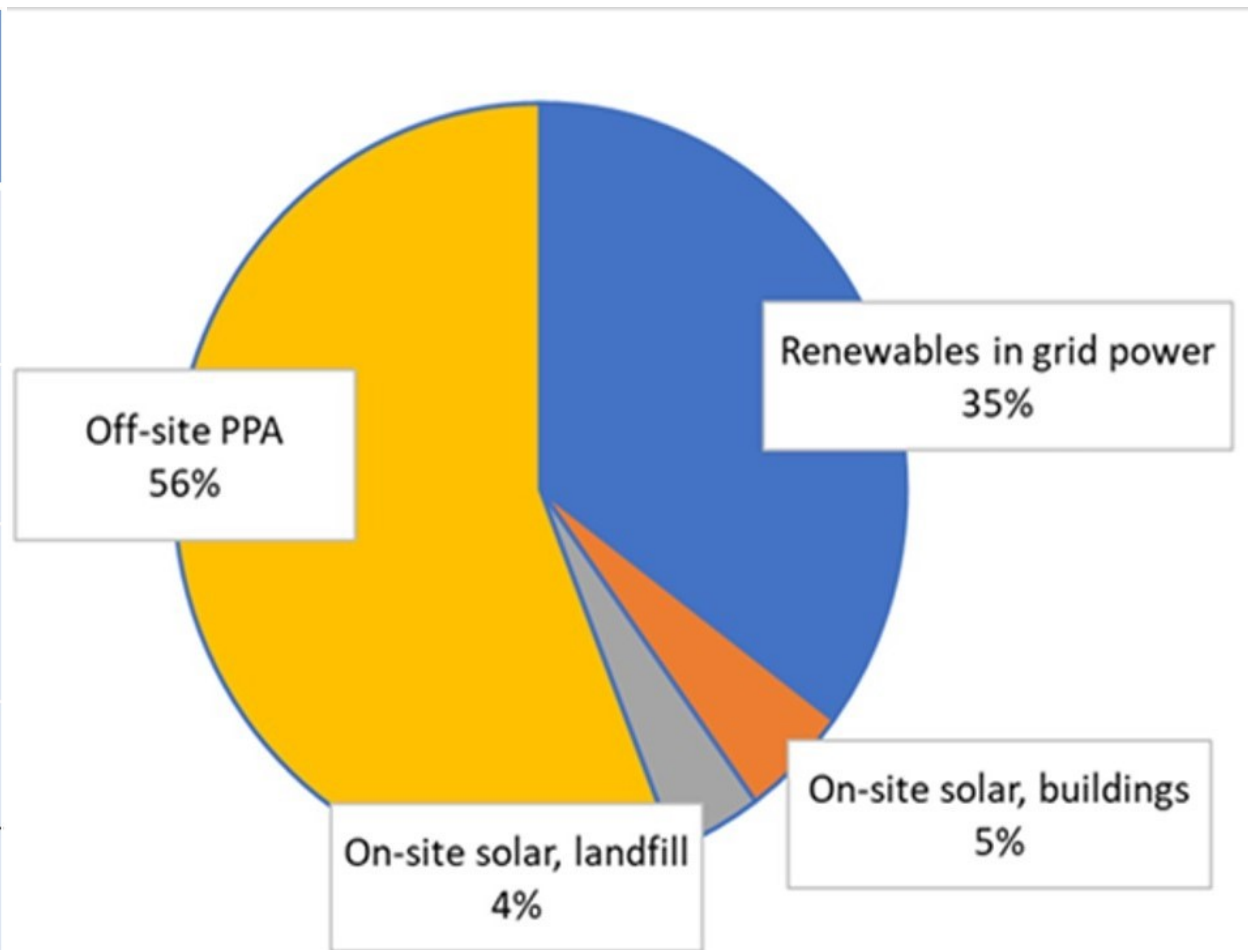
About forty (40) acres of solar panels would be needed to offset the electricity used at the Fairfax County Government Center. *This is after energy efficiency improvements have cut electricity use nearly 20 percent since 2011.*

# Electrification of fleet and buildings will offset gains from efficiency

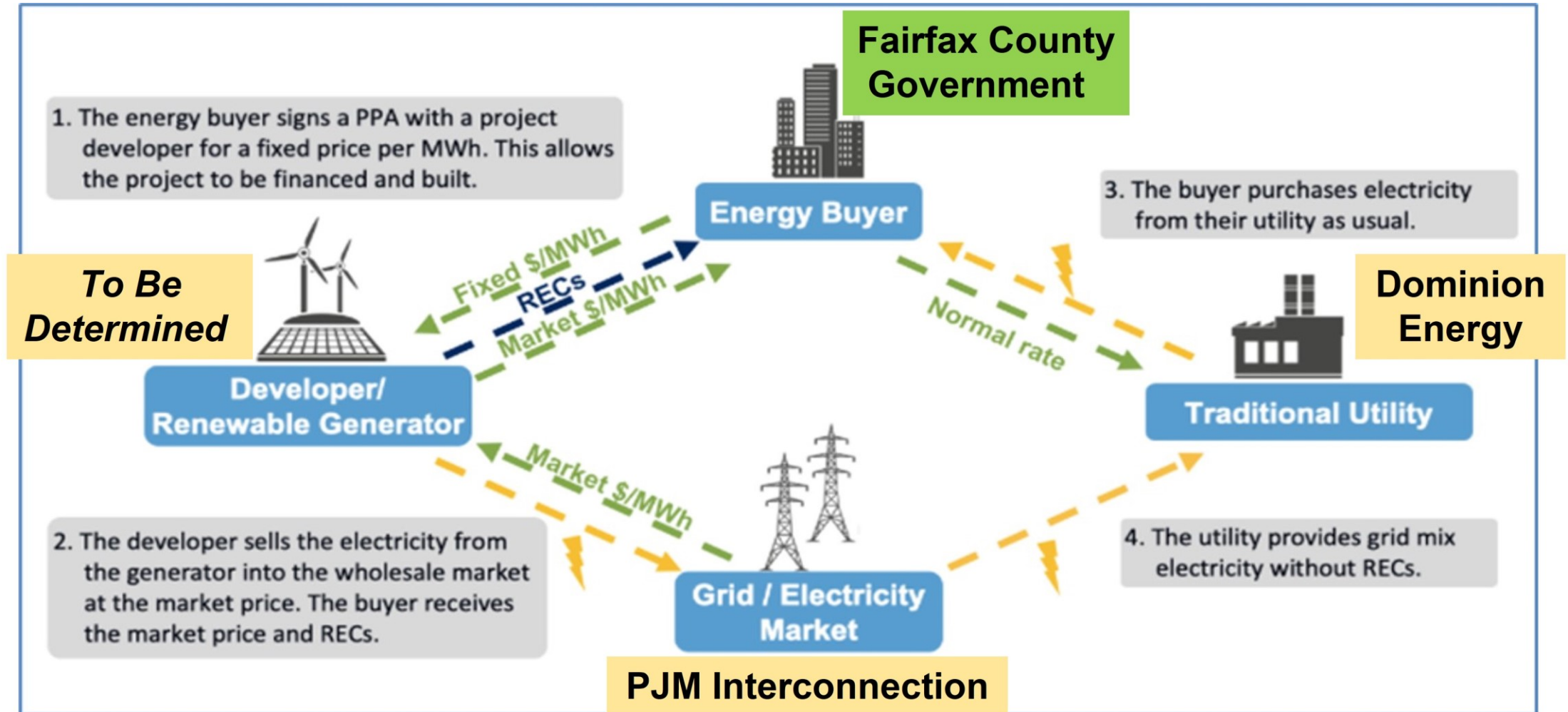


# Possible Mix of Sources to Achieve 100% Renewable Electricity

Source of Energy/RECs	Estimated 2030 volume (MWh)
On-site solar PPA at landfill	10,000
On-site solar PPA on government facilities	12,000
Utility generation (grid mix)	88,000
Off-site PPA	140,000
<b>TOTAL</b>	<b>250,000</b>

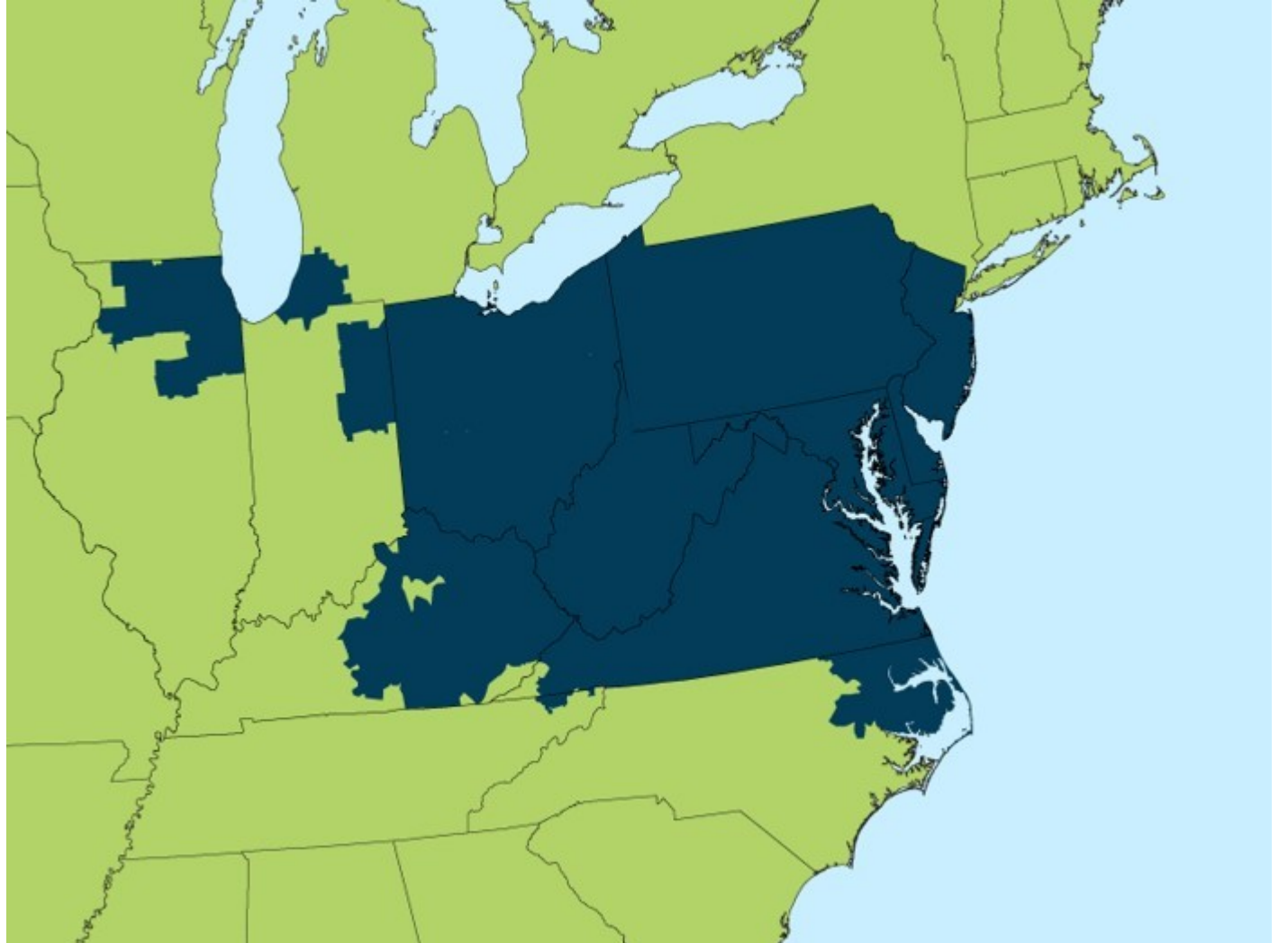


# Illustration of an Off-Site PPA Transaction



# What do we mean when we say “grid” or electricity market?

The PJM Interconnection is the regional transmission organization that coordinates the movement of wholesale electricity in parts of 13 states and Washington DC.  
*(area shaded in blue)*





## Off-site RE procurement options

- Staff recommendation:
  - Explore a collaborative approach with Dominion Energy Virginia, similar to the agreement Arlington County reached in 2020 with the utility, and
  - Prepare and issue a Request for Proposals for competitive procurement to meet county requirements.
- Regardless of approach, the county must evaluate and weigh certain factors surrounding a potential site, including:
  - What social and environmental requirements does the county have?
  - A renewable electricity farm located in another PJM state may produce greater carbon reductions than a site in Virginia, or it may provide better financial returns. How much value does Fairfax place on purchasing renewable electricity from within Virginia?

## Next Steps

- The county will continue to pursue on-site solar energy systems at government facilities to maximize direct replacement of grid-supplied power with clean, locally-generated electricity.
- Staff seek direction from the Board of Supervisors to pursue an off-site renewable energy purchase in a manner beneficial to county government.
- Staff recommend exploring this matter with Dominion Energy as well as taking steps toward a competitive RFP.