FINANCING THE BENEFITS

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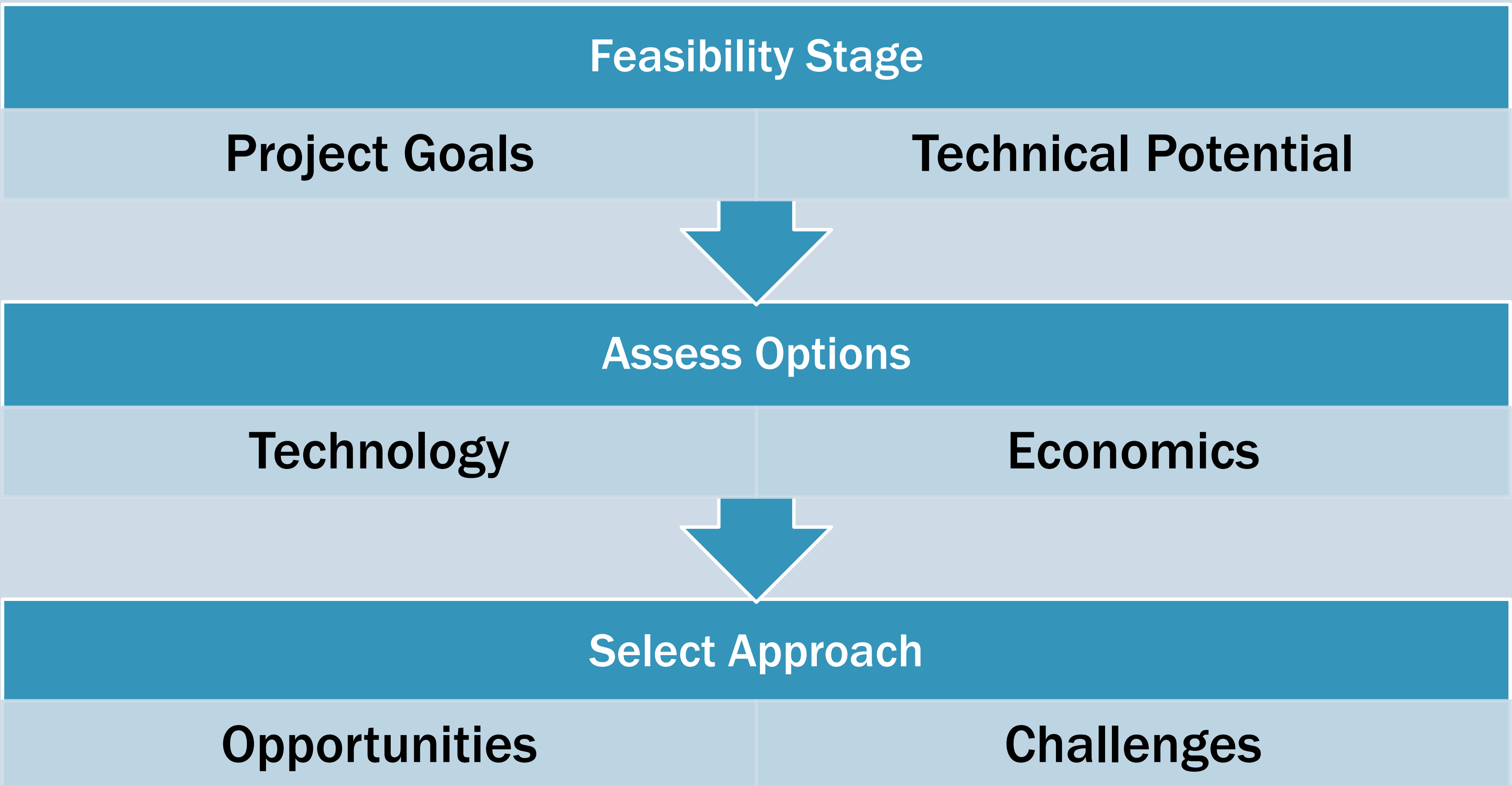
FINANCING DECISION PROCESS



UNDERSTAND THE GOALS.

- Energy goals.
  - Can save on costs.
  - Can have additional revenues (*like* REC markets).
- Resilience goals.
  - Can displace disaster response costs.
  - Back up generators.
  - Benefits to a secure place.
- Social goals.
  - Can lower energy costs for all.
  - Lowers emission and pollution.
  - Promotes economic development.

FROM ECONOMICS TO CASH FLOW

- Quantify the economic benefits.
  - Savings generated = lower operational costs.
  - Energy charge savings.
  - Demand charge savings.

- Quantify the economic costs.
  - Operations and maintenance.
  - Fuels and markets change.

- Hidden Benefits / Hidden Costs.
  - Benefits of new resilience opportunity.
  - Costs due to lack of action.

DIFFERENT SYSTEMS – DIFFERENT INCOME PROFILES

- The benefits (cost savings and revenue) can influence your choice.
  - Energy production creates savings or can be sold (depends on system, size, location and goals).
  - Renewable energy can yield Renewable Energy Certificate income (varies by state and market and class of energy).
  - Demand savings save user and can be aggregated as income.
  - Net metering.

- Changing markets.
  - Storage revenue streams are in rapid development.
  - FERC has ordered new markets for small-scale storage with multiple revenues.

RESEARCH THE FINANCING OPTIONS.

- Stating the results.
  - Investment and return.
    - Net present value.
    - Return on investment.
  - Non-monetary values.
    - Society-wide benefits.
    - Educational benefits.
    - Economic development benefits.
- Financing options.
  - Driven by goals.
  - Driven by credit.
  - Limited by law / reality.

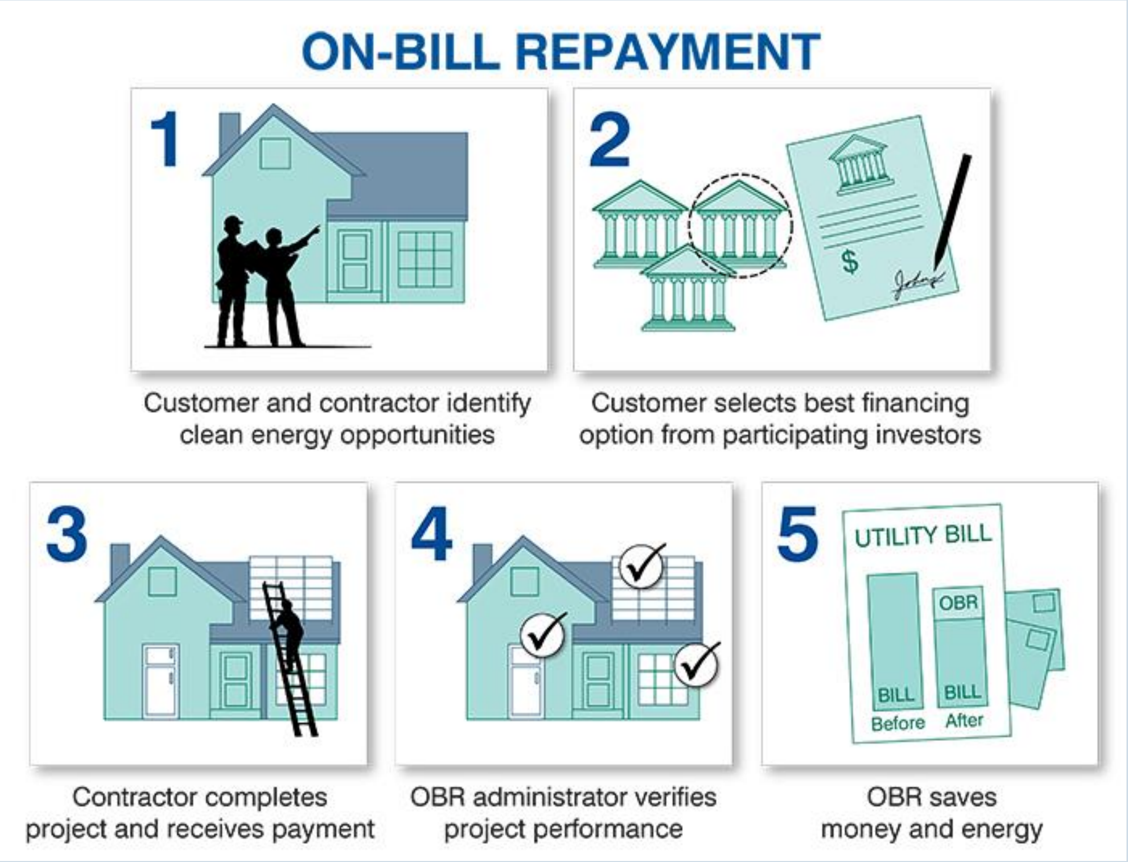
FINANCING PROCESS

- Are there utility incentives?
- Are there state program incentives?
- Are there tax incentives?

- Whose money do you want to use?
  - Who owns the system?
  - Who lends the money?
    - Bank
    - Utility
    - Other – may result in changed ownership model

ON BILL FINANCING

- Program specific.
- Concept is standard.
- "Debt" can stay with customer or meter.
  - Depends on program.

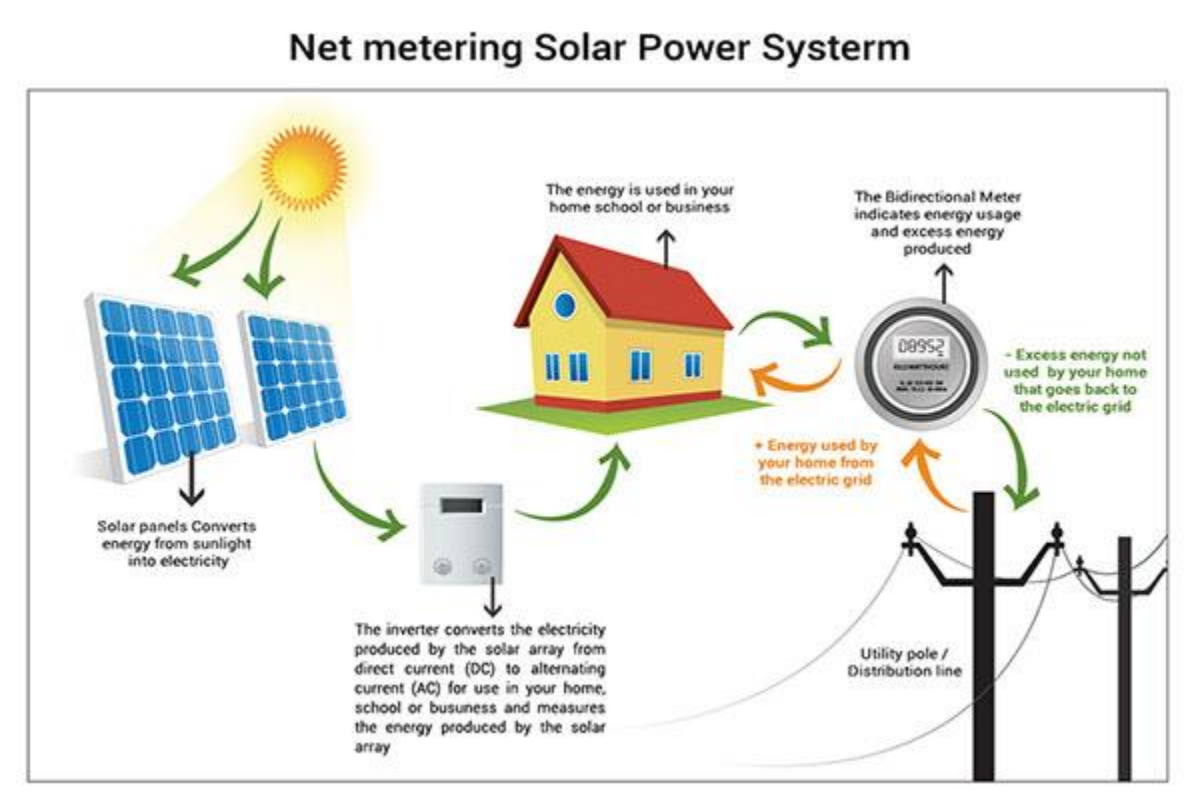


INCENTIVES

- Federal.
  - Mostly tax-based.
  - Some programs available.
  - USDA grants/financing.
  - Other programs.
- State.
  - Tax-based.
  - Rebates.
  - Other.
- Utility.
  - Rebates.
  - Financing.
  - Other.
- Tax.
  - Must be taxable and have income to offset.
  - Deduction / credits.
- Demonstration projects.
  - Very specific.
  - Requires innovation and stomach for some risk.
- Vendor.
  - Can offer leasing or other arrangements.

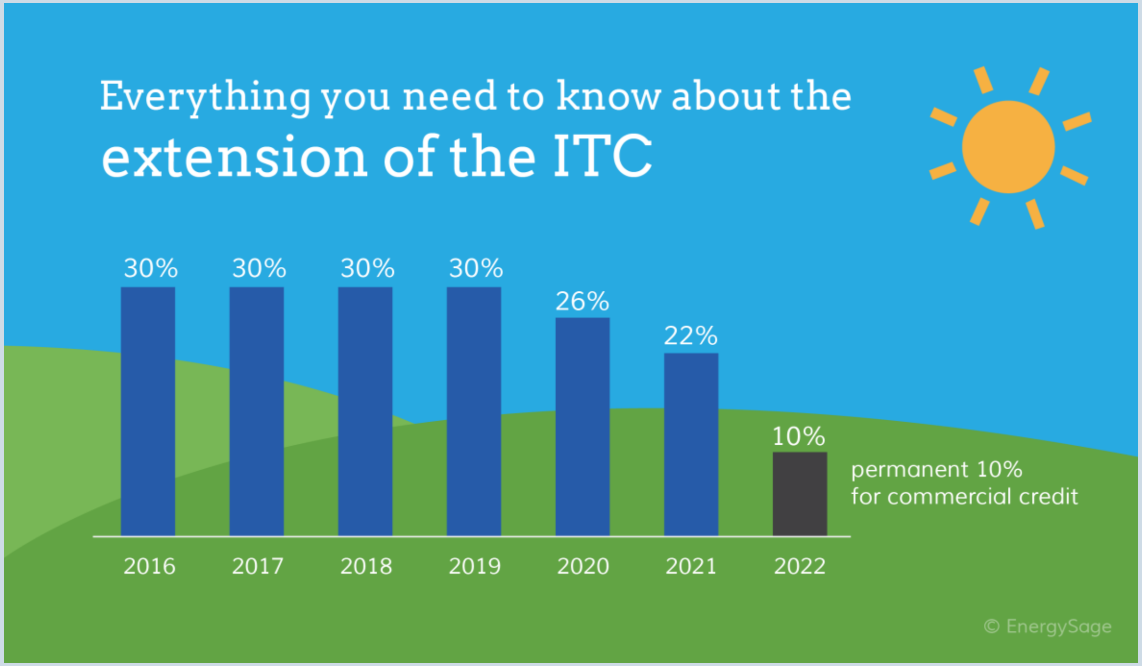
NET METERING

- Be aware of the “credit” rate and charges offset.
- Can be lower than retail.



TAX INCENTIVES

- Credit = dollar for dollar against tax owed.
  - Can "look back" 2 years.
- Deduction = commercial accelerated depreciation.
  - Bonus 100% in first year.
  - Basis = 85% of cost.

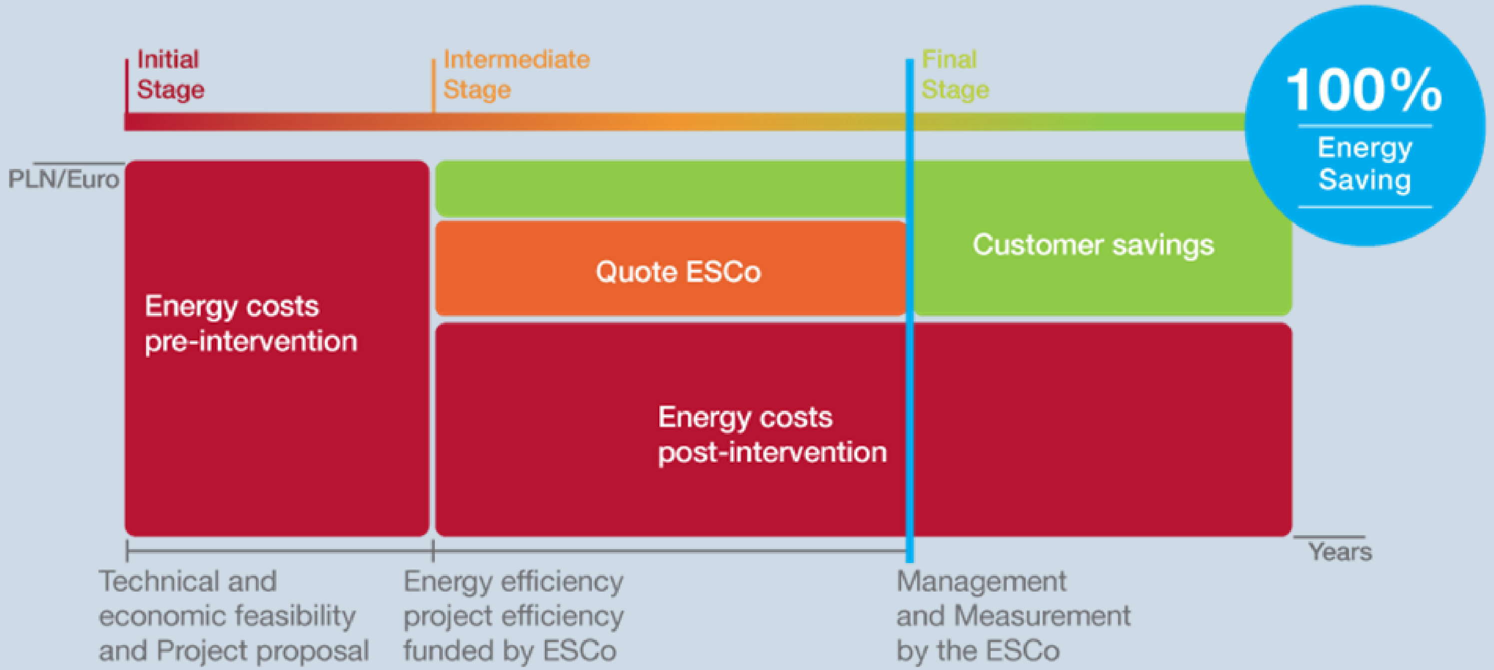


OWNERSHIP MODELS

- Outright ownership.
- ESCO.
- Lease/rental arrangements.
- Energy purchase agreements.
  - Power Purchase Agreements.

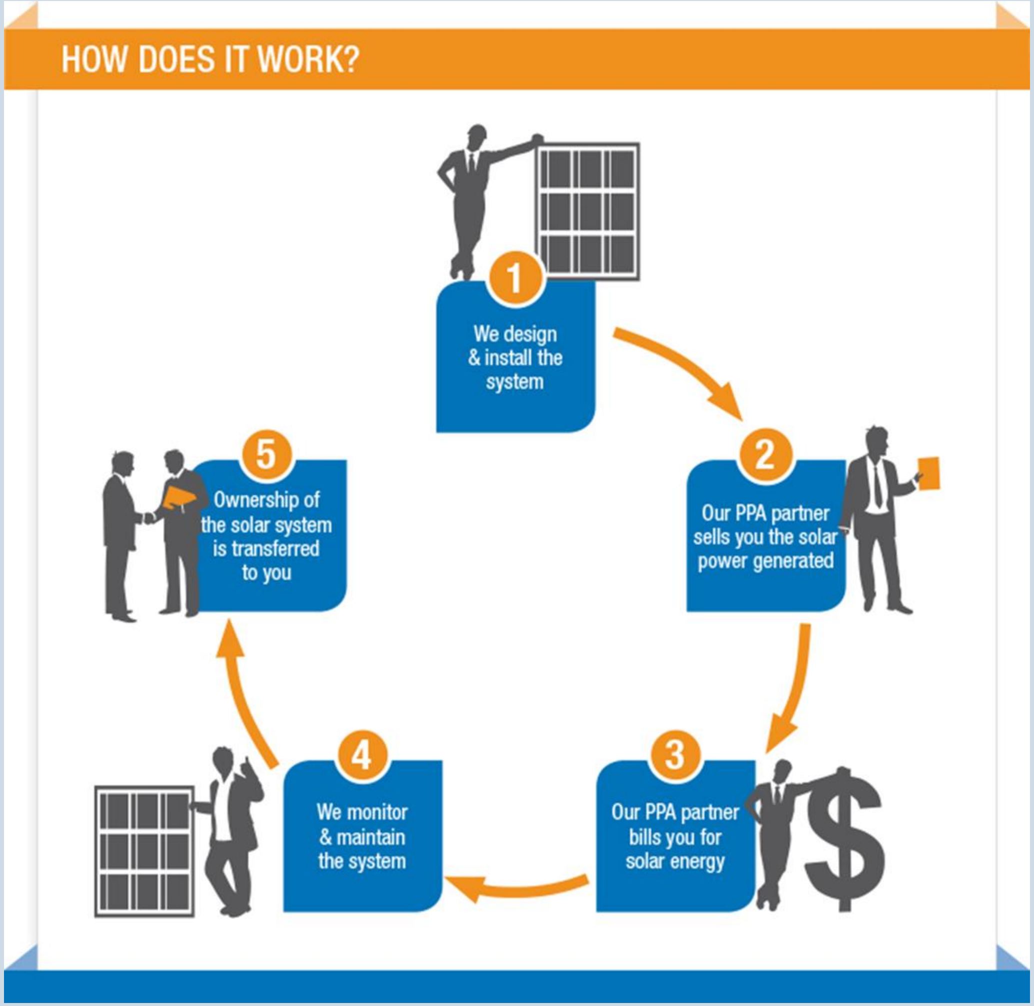
ESCO MODEL

- Sometimes called “shared savings”.
- No up front capital.
- Own the savings at the end.
- Way more than just efficiency.



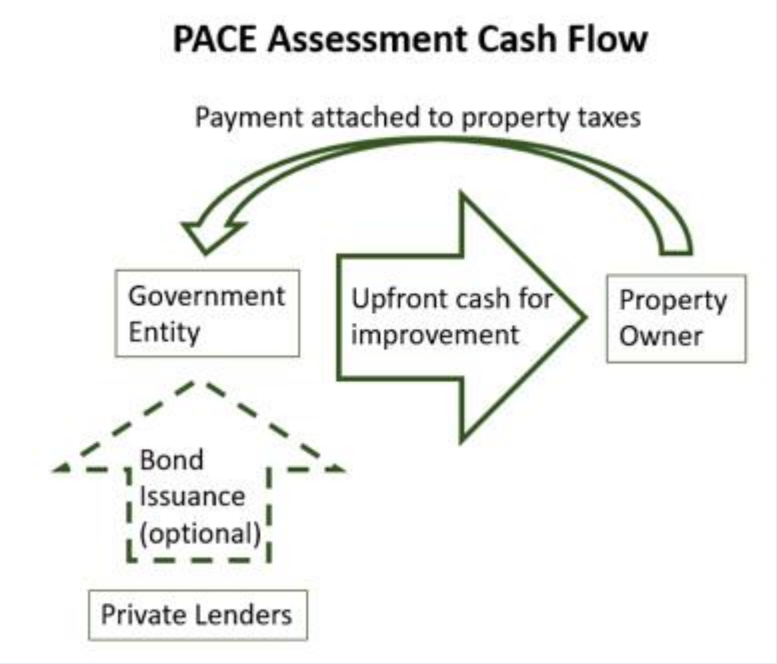
PPA STRUCTURE

- No upfront costs.
- Leverages tax incentives.
- O&M by Provider.
- Can be purchased along the way.
- Stable pricing.
- Can be more than solar PV.



PACE: PROPERTY ASSESSMENTS

- Must be enabled to municipality.
- Municipality must adopt the authority.
- Lending required – usually private partner.
- Some concern / limitation for residential.
- Obligation stays with property – benefit stays with property.



OWNERSHIP CONSIDERATIONS

- Tax – exempt?
  - Consider other taxable owners to leverage benefit.
- Public entity?
  - Consider mechanism to make expense “operational”
    - Be careful of long-term contracts that appear to be debt.
- Minimal staff and expertise?
  - Consider a lease or ESCO arrangement.
- No money but credit worthy?
  - Consider a PPA arrangement.

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Thank you