

PS1	192.1 kW
PS2	80.7 kW
EB	77 kW
FMBH	582 kW
SRTC	77 kW
FAB	138 kW
	955 kW

## 2 Types of capital in Proj. Finance

Loanship (Debt) - typically less expensive

Ownership (Equity)

## Structured Finance

↳ Non-recourse (investors have no access to balance, must go through asset holder)

↳ large infrastructure projects

## Tax Credits

↳ 30% investment (applied to proj. cap. costs)

↳ \$0.02¢/kWh

↳ 5 yr modified accel. cost recover sched. (MACRS)

PPA's are forms of financing - Lease rates in \$/mo (TPO)

- PPA typ in \$/kWh

PV

NPV (used to determine profitability)

IRR - discount rate at which NPV = 0. Used to measure value by investor.

## Project Financial Model.

Want to fine tune Unstructured & Partnership Flip

## Dashboard

- Want to tweak inputs to see what has highest impact on outputs.

this allows investors to reach goals.

try not to break rule. use

System Inputs come from PV analysis

↳ Feeds system costs.

Cost Conv. Power

↳ comes from utility bills

↳ Demand charges (trim w/ storage)

## Financing Info

- Const. Loan calc.

Proj. debt - When sys is running, you calc operating loan

- Partnership Flip data (manipulates whole)

[adjust to reflect current rates]

MACRS Table

ITC / ITC Add table

↳ calcs. ITC credit.

Research rates ↑

Tax Details

Termination Value

↳ can help boost IRR & NPV

## Income & Expense Projections

SRECS Applicable?

Prop & Equip Taxes (P&E for vs. non profit)  $\rightarrow$  <sup>tax rates</sup> 0 out if non-profit.

Site Costs (Univ. won't have to pay lease rate)  $\rightarrow$  0 out Lease Val.

Op Exp. (check w/ EPC for current rates)

$\rightarrow$  check if Cost/w goes below \$0.006.

Check w/ Lawyers & Accountants for costs. (closing costs)

Outputs (also summarize on model)

Get Right Project IRR (16% is outlandish)

Cash-on-Cash

Want Cash Flow to be pos over term  $\rightarrow$  model will show when neg.

$\rightarrow$  Change Federal ITC/PTC (w/ Inflation Red. Act)

PTC - numbers show up on cash line (not taxed)

Prod. Tax Cred.

ITC - if cash sale, results below income statement

Invest Tax Cred.

MACRS - few lenders do other bonuses

Taxpayer Marginal Rate - Talk to CFO of P&E for this.

Fed

Check state tax details.

Get forward curve for SREC pricing

Sales tax  
on PV origin?

## Unstructured Tab Basic Project Econ (Expanded Income Statement)

Sale Tax & Equip 835/836

↳ if financing for unit. can do PPA, but as owner under this structure they are paying taxes.

↳ O out Fund is owner. (e.g. Direct Pay w/ treasury w/ ITC & ignore deprec.)

## Debt Mgmt. Econ.

↳ Want AAP to zero out

↳ Also bear coverage ratios (cash to cover debt payments)  
10 years usually max, poss. 12

## Check if State & Fed tax eff.

First year w/ large dep., can sell w/ Partnership Flip

↳ Sell depreciation to state & fed.

IRR Targets

Maybe 10-12%, likely 6-9%

↳ net left over of ITC

↳ will net in ITC Cash sale

If taxpayer & selling ITC, there is a discount to purchase price (market buyers will pay less for credits)

## Partnership Flip. (time based flip) → try to start after ITC sales.

Ideally low repeated modeling.

When running PF; turn off debt

- Taxpayer, State/Fed, MACRS
- turn ITC cash sale off.

In data, - Mgmt Fee @ 95% is good

- Tax Equity @ 42%

Available cash for debt. Waterfall

1<sup>st</sup> Cash-on-Cash return to Equity Partner

2<sup>nd</sup> Dev Sponsor Fee (cap <sup>Mgmt</sup> fee)

3<sup>rd</sup> Some remaining balance req'd.

## To make money w/ storage

↳ Add capacity charge to PPA cost.

↳ include maint. in const. cost / watt

↳ don't charge flat rate, <sup>service</sup> Must be tied to PPA or performance  
avoids disguised lease.

- Can add input box for maint.

Find est. op/maint for maint.

8460 chart.

↗ how to manage

can clip demand charge w/ storage

Reduce system costs by adding interconnect.

Interconnection pts.

First w/ owner.

Non-Taxpayer & ITC & Debt

↳ tax-exempt financing.