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## 2014 OFN CONFERENCE


OCTOBER 14–17, 2014 • THE SHERATON DOWNTOWN DENVER, COLORADO



### CDFIs in the Solar Energy Landscape

<p>Melissa Malkin-Weber Self-Help Credit Union</p> 	<p>DeWitt Jones Boston Community Capital</p> 	<p>Wyllys Mann Affordable Community Energy</p> 
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## What does solar look like to you?



Credits: Sunraised Farms, Raleigh  
Dennis Schroeder / NREL

## Solar Mission Impact

1. *Jobs (construction, wider industry)*
2. *Entrepreneurial growth*
3. *Tax base to low-income areas*
4. *Revenue to array owners and hosts*
5. *Manage future energy costs*



## Solar and Low Income Communities

- Integrated with better buildings criteria
- Luxury, discriminatory or beneficial?
- Energy Affordability—no volatility
- Resiliency—storms, black outs
- Forward looking
  - Allow for electrification of heat and transportation
  - Mitigate future climate regulations
- Landlines or cell phones? Uber or taxis?
  - Included in or excluded from future policies?



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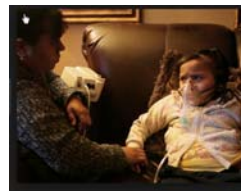
## Solar Advantages

- 53% of new installed electricity capacity in US in first half 2014
- Least volatile, most predictable source of electricity
- Costs are falling quickly
- Easiest for local generation, siting
- Battery and storage will change everything
- Democratizing energy

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Photos:  
Benji Burrell, Appalachian Voices  
Peter Essex, National Geographic  
U.S. Environmental Protection Agency

## Clean Energy for Resilience

- Coal and environmental justice
- Energy uses scarce fresh water
- Community adaption to climate change



## The Fundamentals Matter

- What are we talking about?
  - What a PV system is made up of
  - Where they go
- Where does the money come from
  - Capital
  - Revenue
- Location Matters
  - Sunshine
  - Pricing
  - Incentives



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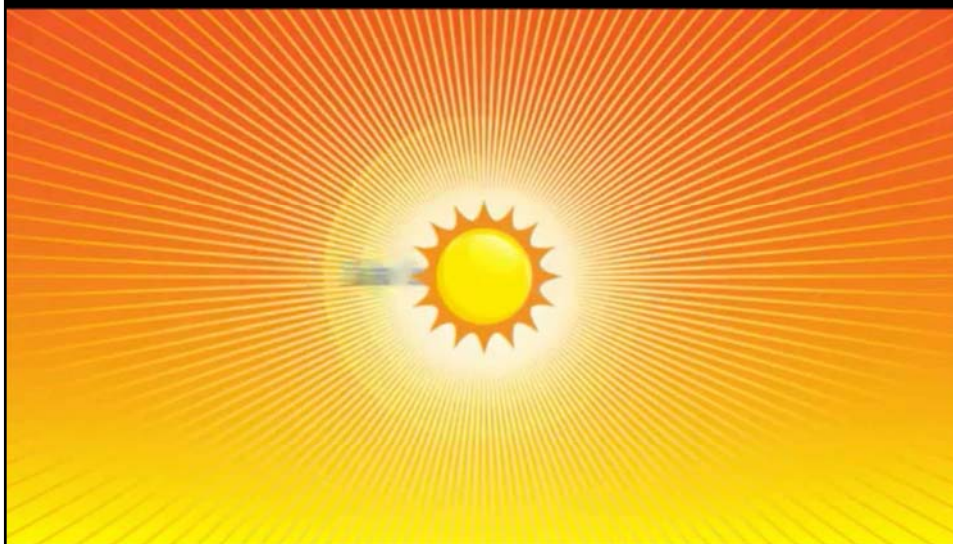
## What are we talking about?

- How does it work?
- What are the components?
- Where do they go?
- How do they Connect?

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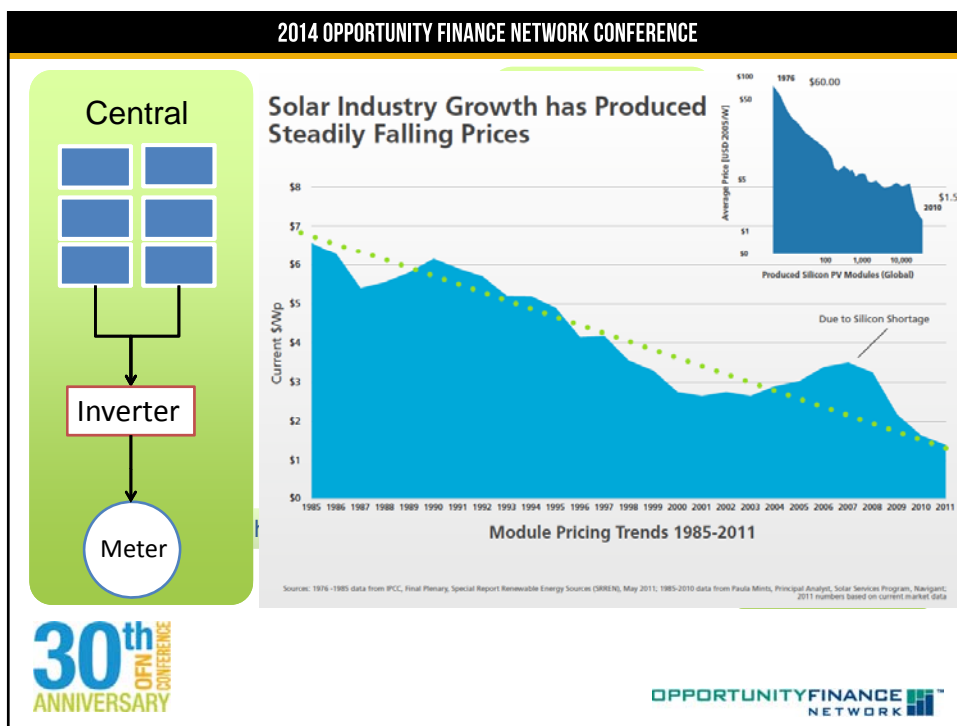
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## Where does the money come from?

- Whose Money?
  - Owner/Operator
  - 3<sup>rd</sup> Party
- Capital
  - Tax Credits
  - Grants
  - Utility Incentives
  - Loans
- Revenue
  - Electricity Produced
  - SRECs



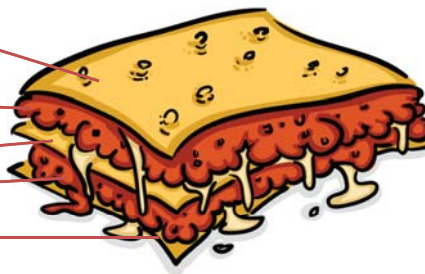
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## Capital

- Investment Tax Credits
  - Federal
  - Local
- Grants
- Utility Incentives
- Loans
- NMTC & LIHTC



*If you haven't already, go to: <http://www.dsireusa.org/solar/>*

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## Revenue

- Electricity Produced
  - Who pays for it?
  - Sunshine
  - Net Metering
- Feed In Tariffs
  - SRECS
  - Utility Feed In Tariffs



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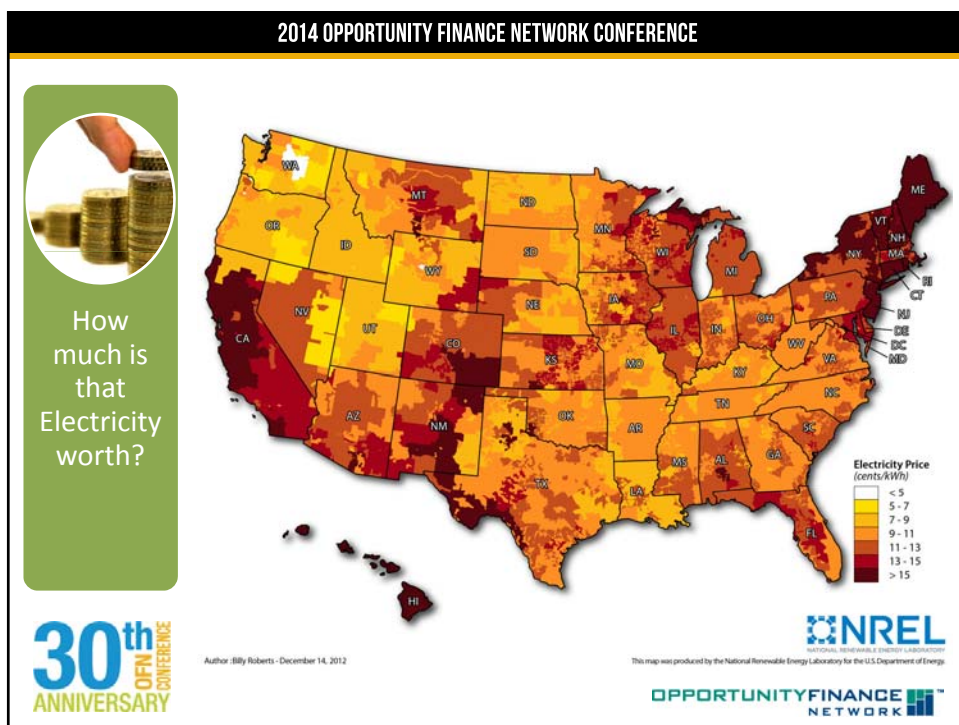
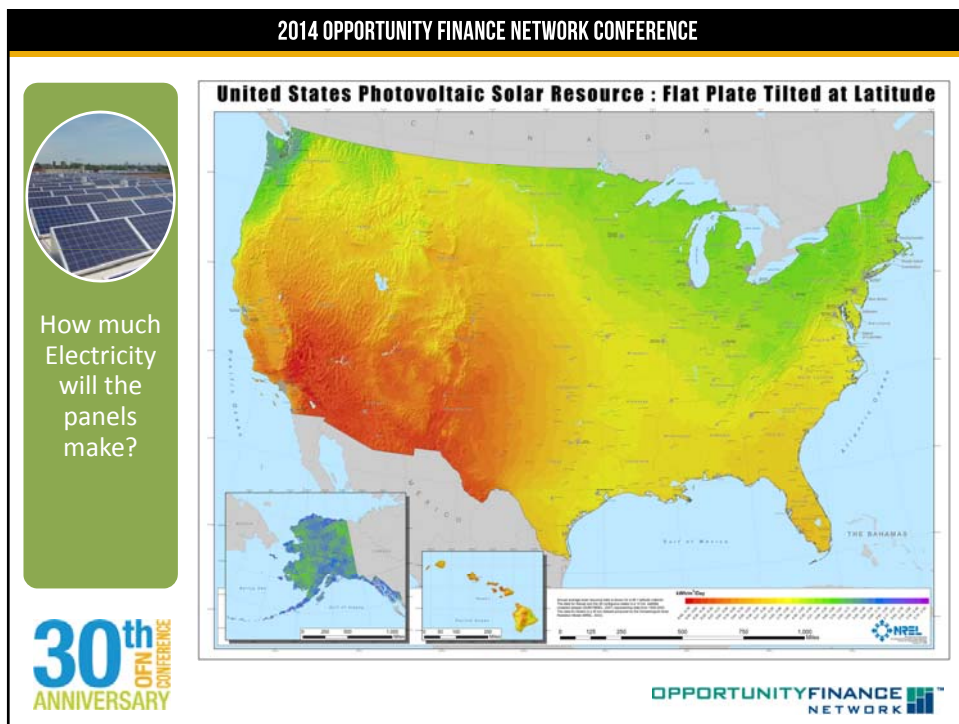
## Location Matters

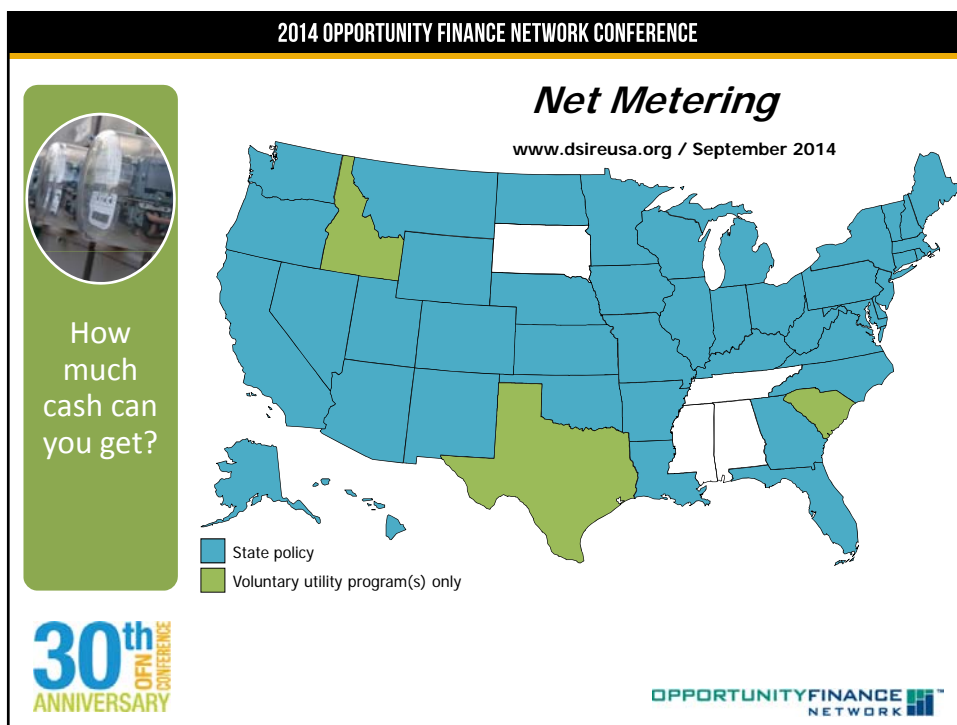
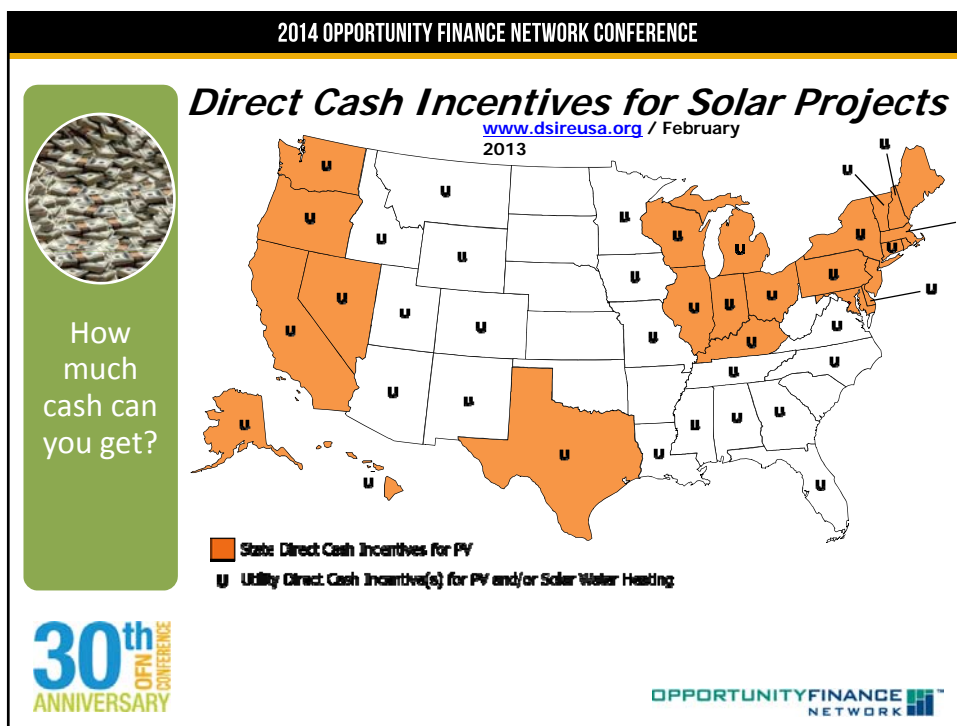
- Sunshine
- Price of Electricity
- Utility and State Grants
- Rules for interconnection and Net metering
- Feed In Tariffs (aka SRECs)
- Permitting

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## Location Matters

- ~~Sunshine~~
- ~~Price of Electricity~~
- ~~Utility and State Grants~~
- ~~Rules for interconnection and Net metering~~
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## Here's Where it is Happening

*"It always seems impossible, until it's done"*  
Nelson Mandela



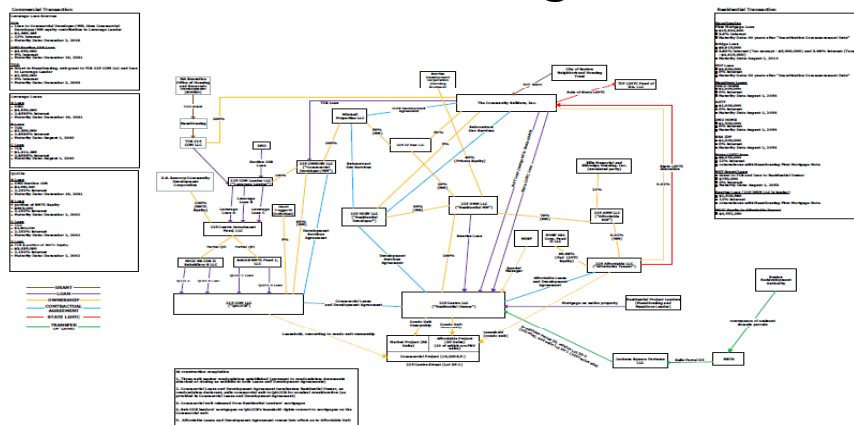
Map courtesy of Solar Energy Industry Association

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## Solar Challenges



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- Proven technology  
~willing to learn new technologies
- Reliable EPC parties
- Tier 1 equipment
- 3<sup>rd</sup> party engineer and QC

- PPA rate and terms
- Importance of REC's to cash flow?
- Reserves
- Capital strength of parent
- Business model and source of future working and development capital

Technology risk

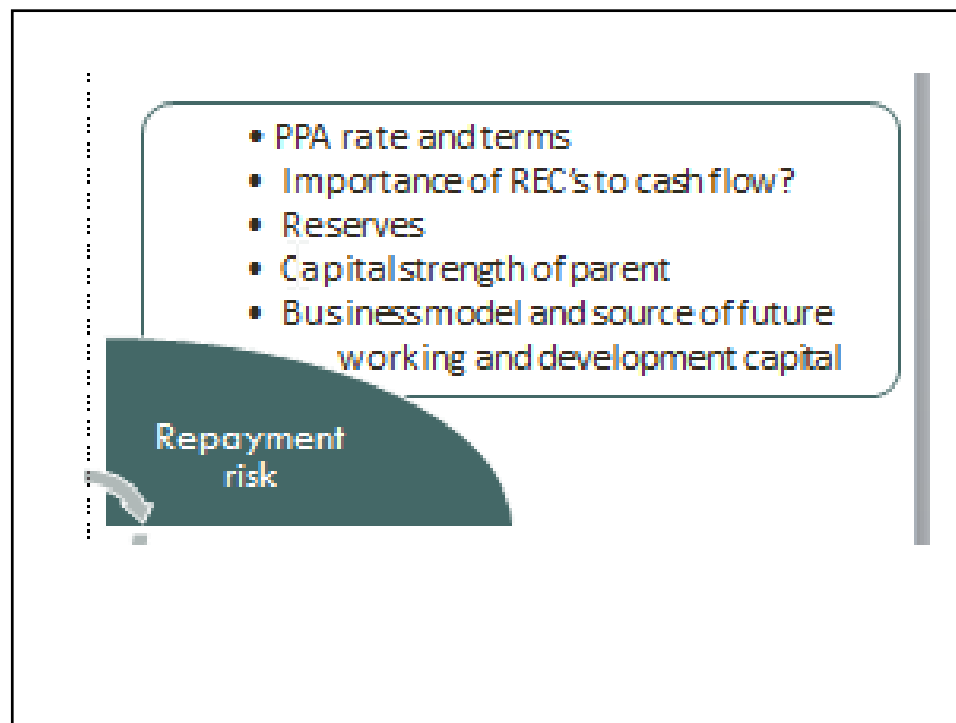
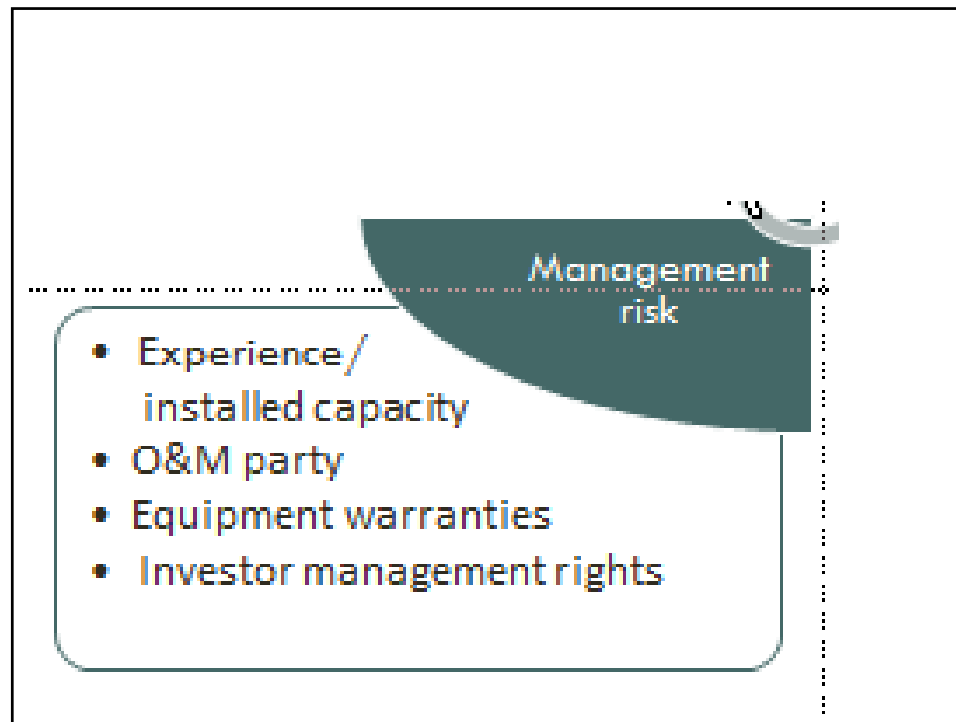
Repayment risk

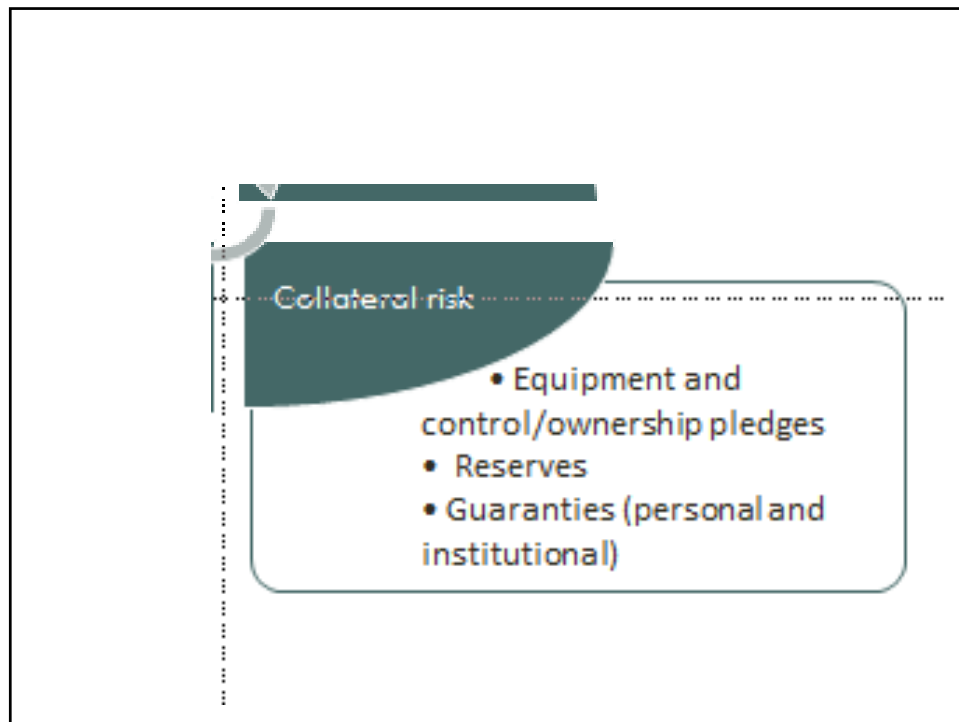
Management risk

Collateral risk

- Experience/  
installed capacity
- O&M party
- Equipment warranties
- Investor management rights

- Equipment and control/ownership pledges
- Reserves
- Guaranties (personal and institutional)





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### Who's' the cast of characters?

- Borrower/Facility owner (sometimes lessor)
- Lessee / operator
- Developer Sponsor
- EPC
- O&M
- Equity investor
- Lenders
- Premises owner/landlord

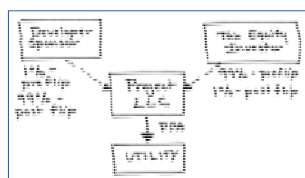
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Accountants, legal, appraiser, engineering

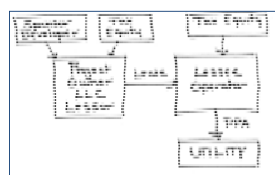
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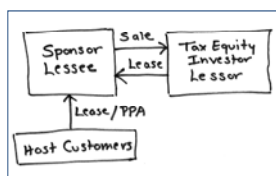
## Renewable Energy Tax Credit Structures Bonus Slides



Partnership flip



Sale leaseback



Inverted lease

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## Roll up your Sleeves

### – 3 scenarios

- Current price of electricity
- Local incentives RPS, grants, etc.
- Regulatory net metering environment
- Capital cost of system (?) look at what makes sense for scenario
- Offtaker – why solar for them, what their motives are

- When incentives are all brought to bear, how does the CDFI fill the gap

- Participants identify risks & thoughtful underwriting questions

- Timing of utility grants, funding caps
- NMTC
- Subordinated debt
- Other?
- USDA

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# BREAK

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## Working group scenarios

**Rooftop multifamily**

(Wylllys)

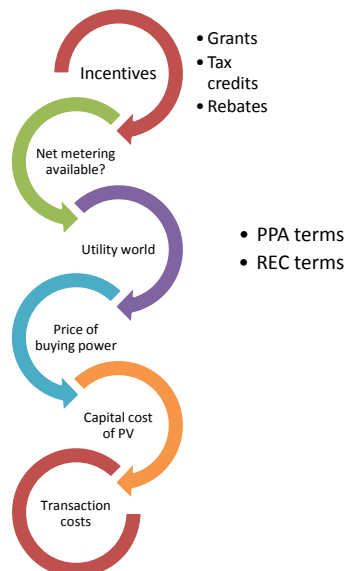
**On-Farm PV**

(Melissa)

**Community Net Metering**

(Dick)

## Deal “ingredients”





## Shared Solar Attributes

- 80% not suitable sites for solar
  - Shading or orientation
  - Structural or roof age
  - Tenants
- Move beyond “lucky winners”
- Simpler and more economic
- No messing with roof or site
- Size for electricity need
- Opportunities to integrate with grid
- Highly regulatory dependent

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## Community or Shared Solar

- Developer builds large solar facility, pays for all capital costs, monetizes tax benefits
- Generate electricity at one site
- Deliver electricity to utility
- Receive net meter credit for electricity
- Assign or sell net meter credit to other electricity customer
- Customer uses net meter credit to offset electricity bill

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## Risks and Realities

- Regulatory risk—incentives change
- Market risks
- Technology risks
- Operating expenses
  - Taxes, insurance, servicing
  - Monitoring
  - Capital needs, decommissioning
- Disruptive to incumbent utilities

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## Future for Solar

- Value solar for itself not its tax or incentives
- Applications—storage, resiliency
- Integrate with grid
- Location but also state specific
- Complement or replace LIHEAP, AMP, discount rates
- Broaden beneficiaries (and constituencies)
- More volatility in energy markets

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## Roles for CDFIs

- Intermediaries of more than debt
- Capital
  - To property or developer
  - Tax equity
- Risk Mitigation
  - Credit support on owner, technology, incentives
- Expertise
  - Development
- Policy



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## Contact Information

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## Bonus Slides

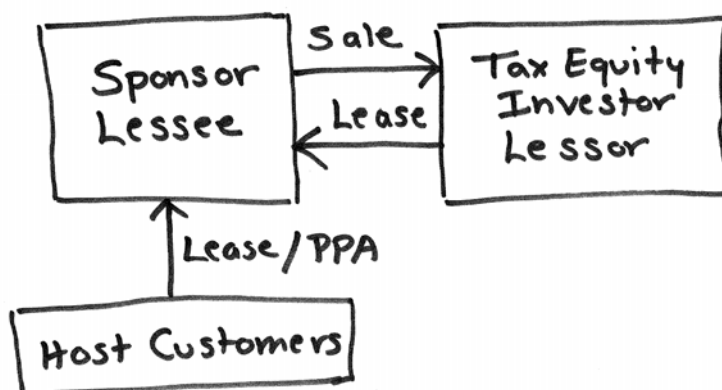
Common project structures used with tax credit equity investors

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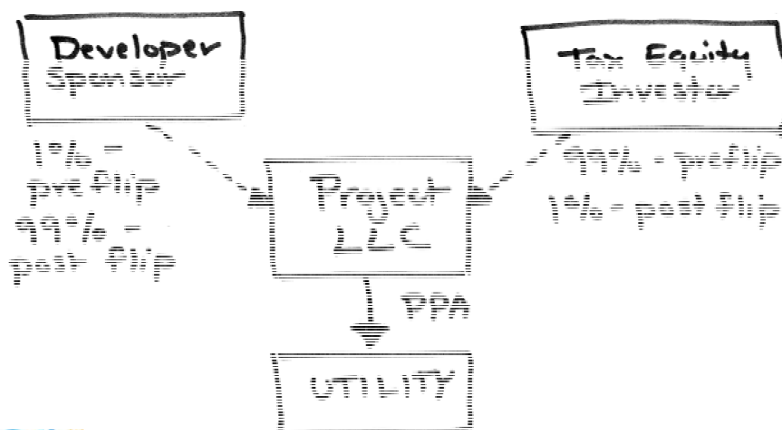
## Sale Leaseback Structure



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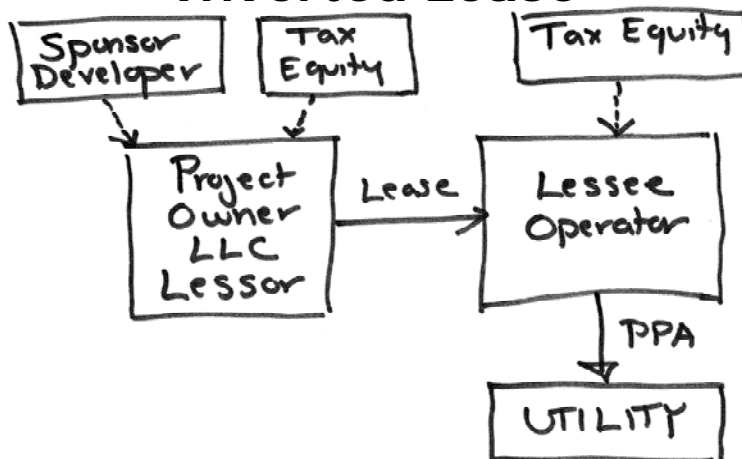
## Partnership Flip



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## Inverted Lease



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