

Workforce Development Opportunities

1. Last connection
Limited journeymen to do the full job; Plug-in already licensed (?)
Laborers to do mechanical assembly work
2. Standardization of training between electrical/plumbing and solar
3. Provide incentives for electrical journeymen to do solar; Subsidize employment of journeymen by solar contractors
4. Review ratio requirements for solar installers
5. Centralized guide for training and employment opportunities.
6. Distance learning programs.
7. Make \$100K/yr. available to bring Ryan Mayfield on full time.

Manufacturing Opportunities

1. Economic Development - - Jobs
2. No R&D Presence – so, no manufacturing jobs produced in Oregon; Foster R&D
3. High cost of equipment

Marketing and Education Opportunities (Demand Side)

1. Residential – New Construction
Barrier: Convince developers to build homes with solar components
Solutions:
 - Target builders and developers
 - Tax credits to builders
 - Tax credit mandates and building codes for new homes – at state and local levels
 - Carbon legislative mandates – possible to “sticker/brand” new construction for rating

- Market the demand – quantify carbon credits/impact (non-monetary value/rating)
- Reach realtors to market green homes and the value of installed renewable energy
- Branding for environmental quality, similarly to Energy Star for homes with PV, thermal and passive solar

Barrier: Roof designs not conducive to solar installations

Solutions:

- Design guidelines and standards that encourage solar-friendly roofs
- Protecting solar resource for solar roofs
- Address city/planning design codes

New construction market accessed through:

HBA; Realtors; Lenders; Architects; Building suppliers

Role Models: Earth Advantage; green architects; Energy Star programs; EWEB/HBA Solar Tours; Incentive programs that address builders

2. Residential Construction – Remodel/Retrofit

Barriers:

- Do-it-yourselfers – loose ETO incentive; What % of market is this?
- Up-front costs – lending opportunities/bridge loans; create urgency around tax time
- Utility loans (like EWEB)
- Accessibility/information technology – who do they call?
 - o Solution: Possible to make it very mainstream (Home Depot availability)?
- What to do when a water heater fails
- Lack of awareness that solar works in Oregon:
 - o Solutions: Need marketing, outreach, education, public service announcements – Visibility of Message. Can do home & garden shows; solar booths at conferences, fairs. Focus on the next generation – school kids; living laboratories; let kids educate parents.

3. Commercial

Barriers:

- Lack of awareness about great tax incentives that are available
 - Lack of contractors focusing on commercial solar applications
- Solutions: Communicate information through City licensing; direct mail

4. Agriculture

Barriers:

- Lack of awareness
 - o With increasing conventional fuel costs for irrigation, there is an opportunity for solar application
- Tax appetite
 - o Third party ownership model – matching tax liable partners with those without liability; create an “online tax matching” service

Policy Opportunities

1. Taxes and Incentives

A. Players: Legislature; ODOE; ETO; COUs; Feds; OSEIA, more

B. Specifics

Redirect fossil fuel windfall profits into alternative energy

Coherent residential program that is easy to understand

If RPS bill passes – move money into small projects

Solar loan/financing packages

BETC pass-through – working with industry, utilities, agencies to get out the word on new net metering rules

C. Barriers:

Low energy cost - no recognition of peak power cost

Low ROI

Tax codes

Incentive programs don't all mesh well

Property tax for 3rd party owners and utilities

2. Labor, codes and licenses

A. OSEIA, BCD, IBEW, NECA, OUS, IECO, AOC, LOC, City of Portland

B. Specifics

Solar-ready facilities

Electricians being pushed beyond their roles

Statewide solar access code

Earmarking workforce development money for solar

C. Barriers:

Legislation and rules dictated by strong groups, lobbies

Current building codes

Permitting cost standardization

Everything must be done by electrician

Absence of competent technological capability engineering

Solar hot water connections must be done by plumber (not solar contractor)

3. Utility regulatory environment and collaboration

A. Players: OSEIA, OPUC, utilities, BPA, ODOE
B. Specifics
RPS could be configured to have peak power component
Time of use metering and rates
Aggregation of meters
COUs to collaborate on policies, programs and interconnections
Solar needs to be considered in portfolio modeling to value peak metering
Consideration of resource lives
WREGIS
C. Barriers
Interconnection issues
Disconnect requirements Subsets of interconnection
Separate REC meter
Net metering rules only apply to PGE and Pacificorp

Policy Opportunities: Prioritize and Clarify - - Develop the concept:

1. Extend property tax exemption to 3rd party owners, including utilities, of solar systems.
2. Simplify and streamline residential incentive programs.
3. Extend current PUC net metering policies statewide.
4. Allow solar thermal license holders to complete 100% of solar thermal system installations.
5. Utility resource planning is required to consider solar energy as a peak demand resource.
6. Create motivating solar loan financing packages.
7. Pass legislation that establishes a statewide solar access code.
8. Standardize permitting and inspection.
9. Clarify licensing rules to allow roofing work associated with solar installation to be accomplished by non-licensed individuals.

Some Other Ideas:

10. Install solar on all new State-owned buildings (HB

