

# Addressing Jobs as a Non Energy Benefit of Clean Energy Policy

**Carol Zabin**

Center for Labor Research & Education

Donald Vial Center on Employment in the Green Economy

[irle.berkeley.edu/vial/](http://irle.berkeley.edu/vial/)



# Concepts

- Energy policy is not employment policy, but has an impact on jobs
- Non energy benefits (NEB) is a useful framework to understand and measure jobs benefits
- Not just quantity of jobs, but also quality and access





- Clean Energy Policy

- Public and Private Investment

- Jobs



# Clean energy tends to produce more net Jobs

## Fossil Fuel Energy

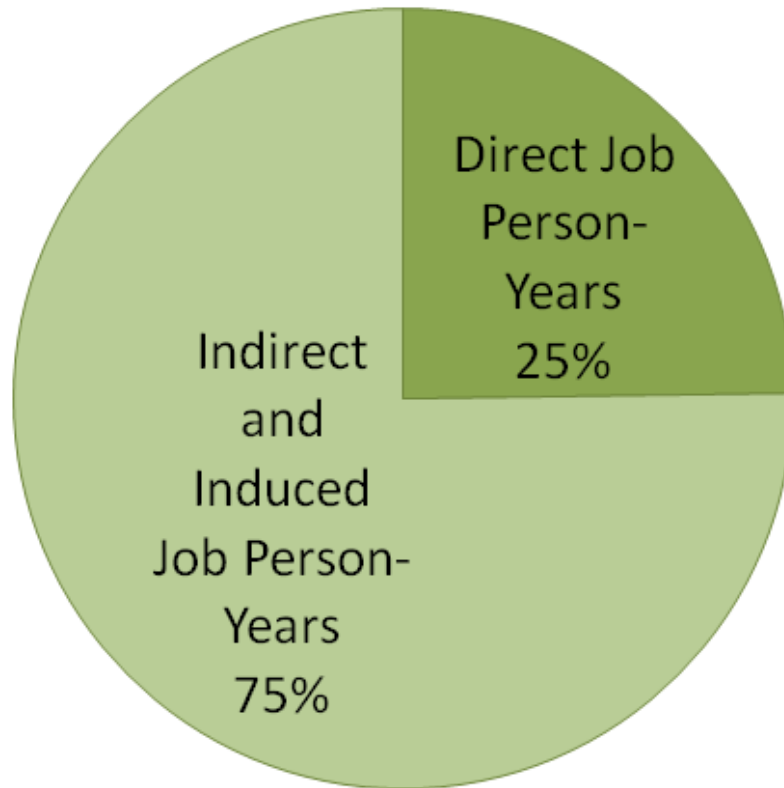
- Imported oil
- Big power plants

## Clean energy

- Efficient buildings
- Distributed generation



# Total Job Creation from Policy



- Direct Jobs, e.g.,
  - Construction
  - Engineering
  - Architecture
- Indirect Jobs, e.g.,
  - Manufacturing
  - Accounting
- Induced Jobs, e.g.,
  - Grocery stores
  - Apparel

Total = 200,000 job person-years from 11 billion induced by CA EE policies in 2020



# Total Jobs by Industry from EE Policy

| Industry/Occupation Group                         | Full-Time Equivalent |               |
|---|----------------------|---------------|
|   | 2015                 | 2020          |
| Residential Building Construction                 | 5,072                | 7,104         |
| Nonresidential Building Construction              | 5,342                | 6,924         |
| Electrical Contractors                            | 319                  | 1,649         |
| Plumbing, Heating, and AC Contractors             | 4,859                | 9,407         |
| Drywall and Insulation Contractors                | 451                  | 840           |
| Manufacturing                                     | 51                   | 574           |
| Advertising and Related Services                  | 956                  | 1,794         |
| Engineering Services, Architectural Services, etc | 2,118                | 4,026         |
| Management, Public Administration                 | 1,231                | 2,449         |
| Office Administrative Services                    | 2,021                | 3,958         |
| All Other Industries                              | 108                  | 212           |
| <b>Total</b>                                      | <b>22,528</b>        | <b>38,937</b> |



# Measurement

## Prediction:

- Modeling is necessary because of indirect and induced effects and need for net not gross job creation
- IMPLAN, CGE

## Measurement

- Have to start collecting data from contractors
- Number of jobs, compensation, and demographics
- Payroll reporting already in place for prevailing wage and EEOC



# Work quality & demand for skills



Incentives target equipment, not quality

- 30-50% of new HVAC systems installed improperly
- 85% of replacements not done to quality spec
- <10% of residential HVAC work done with a permit



# Which path will we take?

## Competition on quality

- Real energy savings
- High quality workmanship
- Highly skilled workers
- High wage jobs with benefits
- Real career pathways

## Competition on cost

- Lost energy savings
- Low quality work
- Low skill jobs
- Low wages and no benefits
- High worker and firm turnover
- Few opportunities to advance



# Summary

- Jobs are important NEB
- Need to predict net jobs, but total stimulus
- Most job creation induced by policy not “green jobs”
- Need to predict through modelling, measure through data collection
- Quantity, quality, and access
- Synergy between good jobs agenda and clean energy agenda

