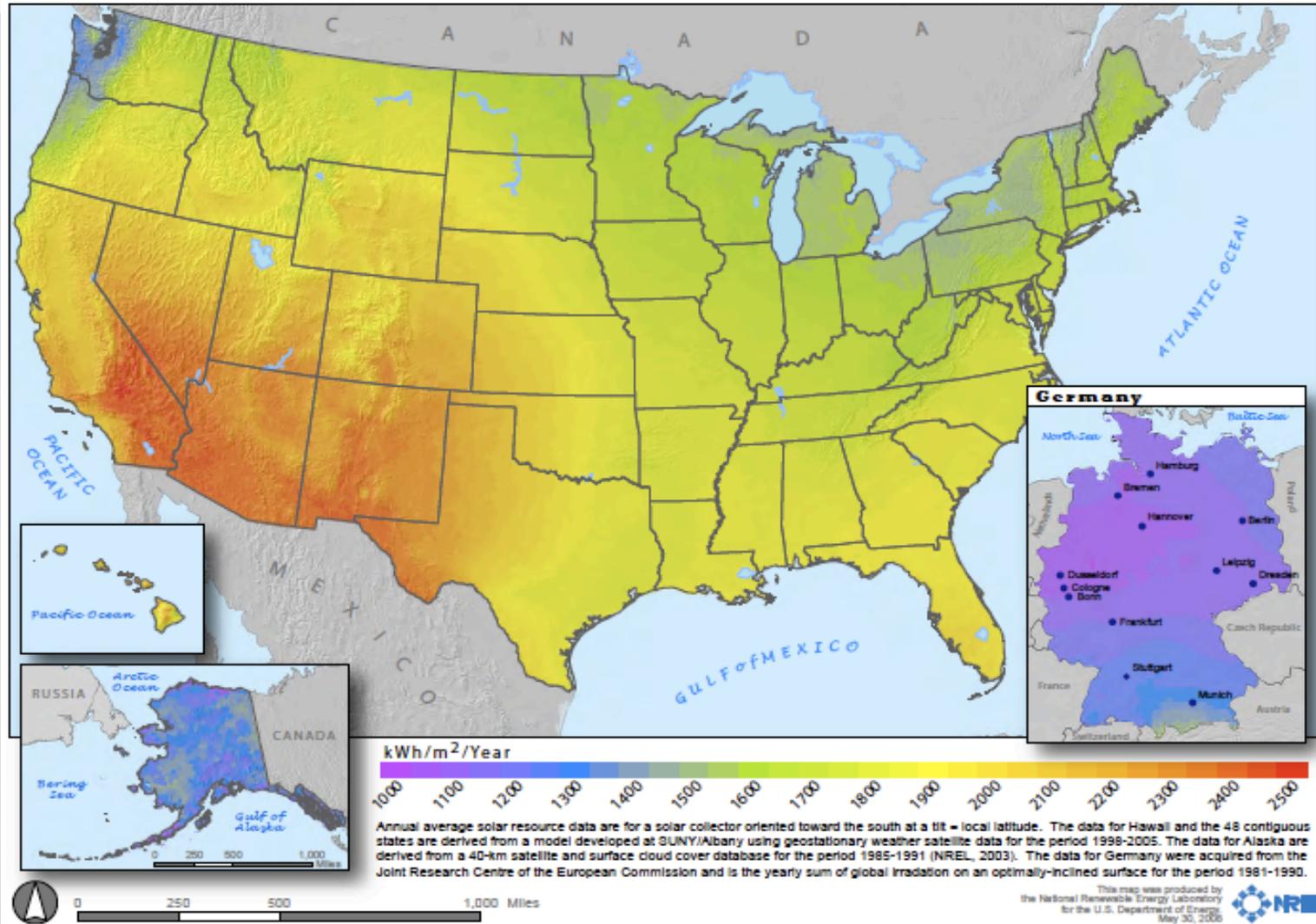


COMMERCIAL SOLAR IN WASHINGTON

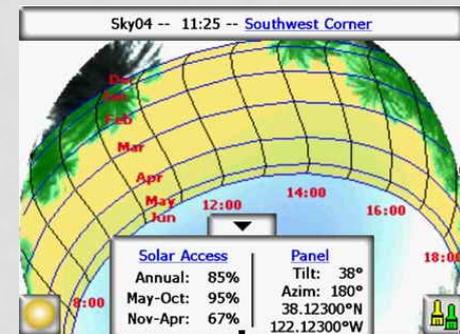
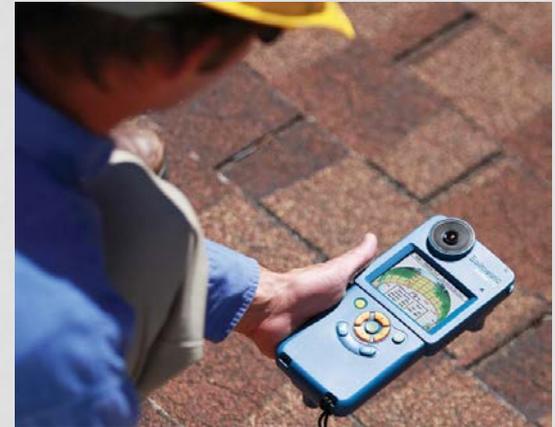


CLIMATE FOR SOLAR?



SITE CONSIDERATIONS COMMERCIAL ADVANTAGES

- SHADING
- ORIENTATION
- AVAILABLE SPACE
- ELECTRICAL CONCERNS
- ROOF/CONNECTION TYPE

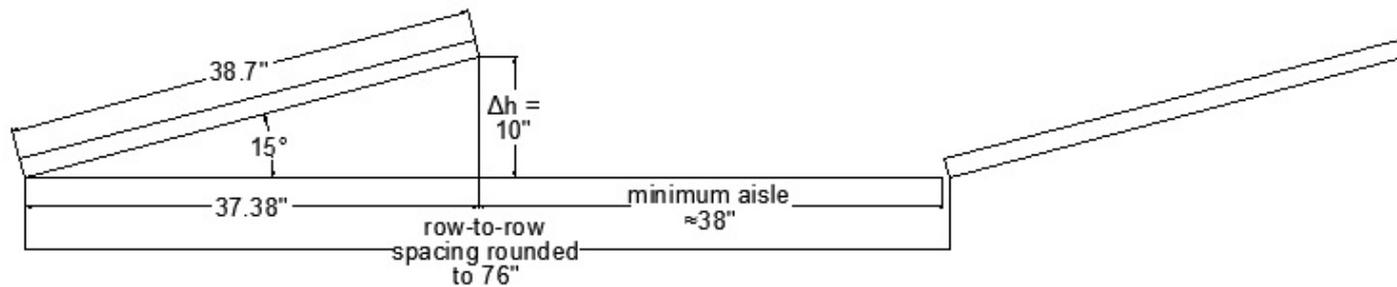


SHADING

- CONTROLLABLE

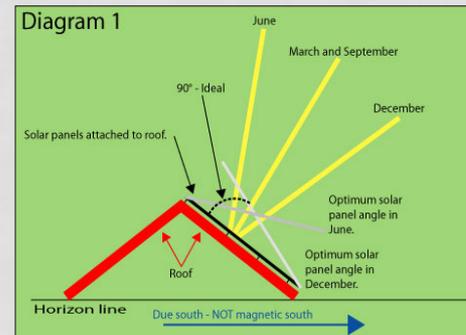
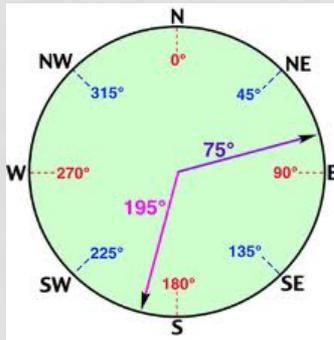


- SELF-SHADING



ORIENTATION

- IDEAL = 32° TILT TO THE SOUTH



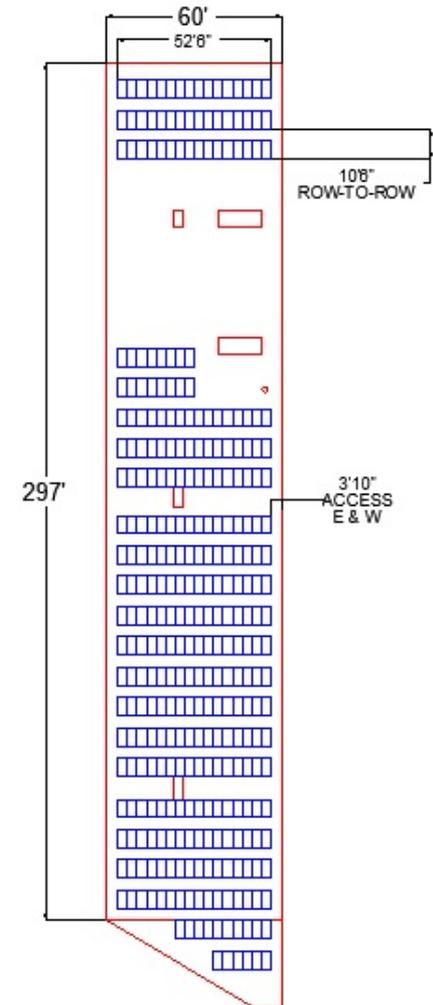
- <math><45^\circ</math> FROM TRUE SOUTH

@ $10^\circ T = 7.7\%$
LOSS



AVAILABLE SPACE

- AVAILABLE SPACE
 - OBSTRUCTIONS
 - SETBACKS
 - ACCESS
 - COVERAGE RATIO = 30-40%



ELECTRICAL CONCERNS

- **CENTRAL INVERTER**
 - CHEAPER
 - MANY GRID TYPES

- **HIGH USAGE**
 - DON'T GO OVER
 - METER AGGREGATION



CONNECTIONS

- MECHANICALLY ANCHORED

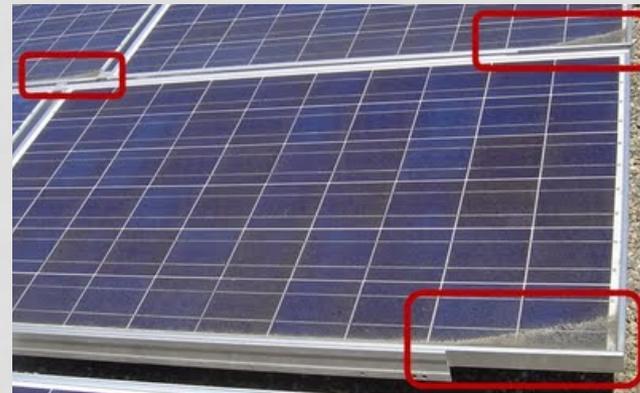


- BALLASTED

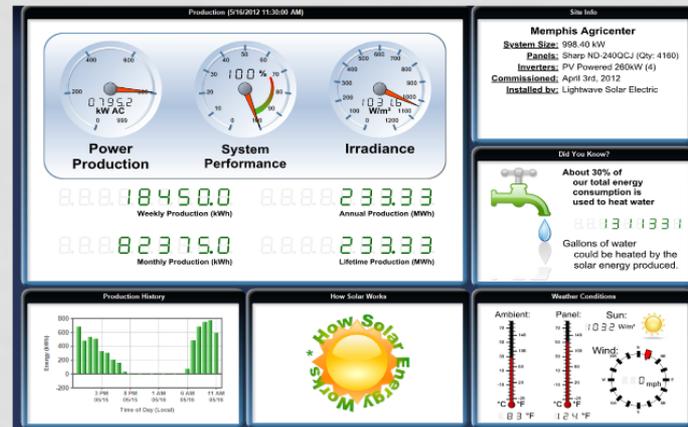


LOW MAINTENANCE

- REGULAR CLEANING



- ONLINE MONITORING



EXAMPLE 40KW SYSTEM



- 130 SOLAR MODULES
- 2600 FT²
- \$100,000

FEDERAL INCENTIVES

- INVESTMENT TAX CREDIT (ITC)
 - 30% UNTIL 2019
 - 26% IN 2020, 22% IN 2021
10% ONWARD
 - NO MAXIMUM



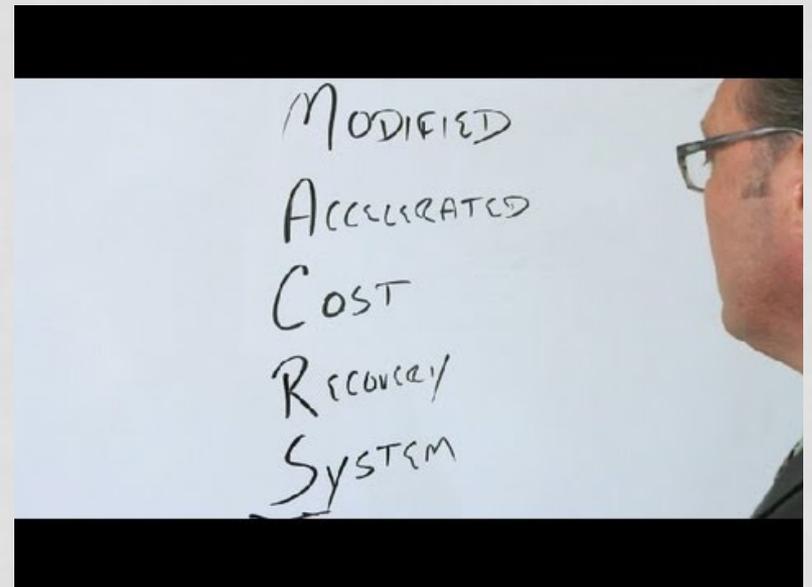
EXAMPLE SYSTEM: \$30,000 SAVINGS IN YEAR ONE

FEDERAL INCENTIVES

- ACCELERATED DEPRECIATION

- POST-ITC BASIS
- 25% TAX RATE

- 20%
- 32%
- 19.2%
- 11.52%
- 11.52%
- 5.76%



**EXAMPLE SYSTEM: \$3,500 SAVINGS IN YEAR ONE
(\$17,500 OVER 6 YEARS)**

FEDERAL INCENTIVES

- BONUS DEPRECIATION

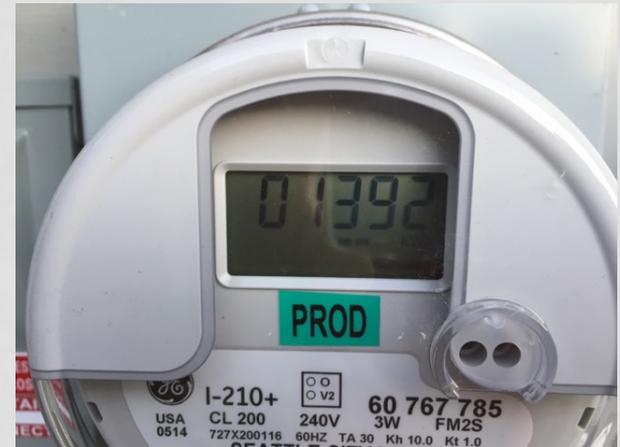
- 50% 2016, 2017
- 40% 2018
- 30% 2019



EXAMPLE SYSTEM: \$8,750 SAVINGS IN YEAR ONE

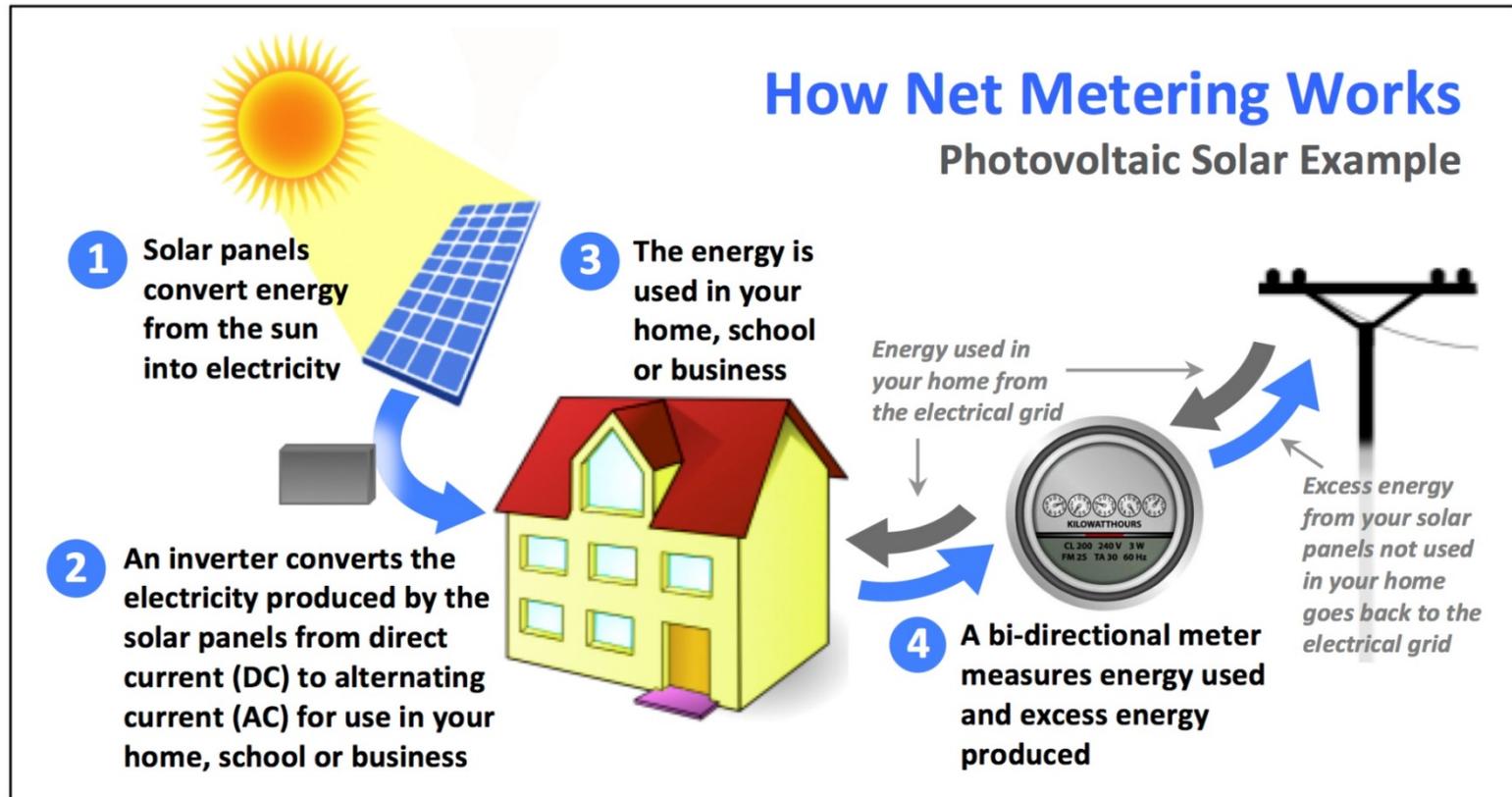
STATE INCENTIVES

- 75% SALES TAX EXEMPTION
- PRODUCTION INCENTIVE
 - \$5,000 ANNUAL MAXIMUM
 - UNTIL 2020
 - \$25,000?



EXAMPLE SYSTEM: UP TO **\$5,000 SAVINGS IN YEAR ONE**

UTILITY INCENTIVES



EXAMPLE SYSTEM: UP TO \$3,200 ANNUALLY

UTILITY INCENTIVES

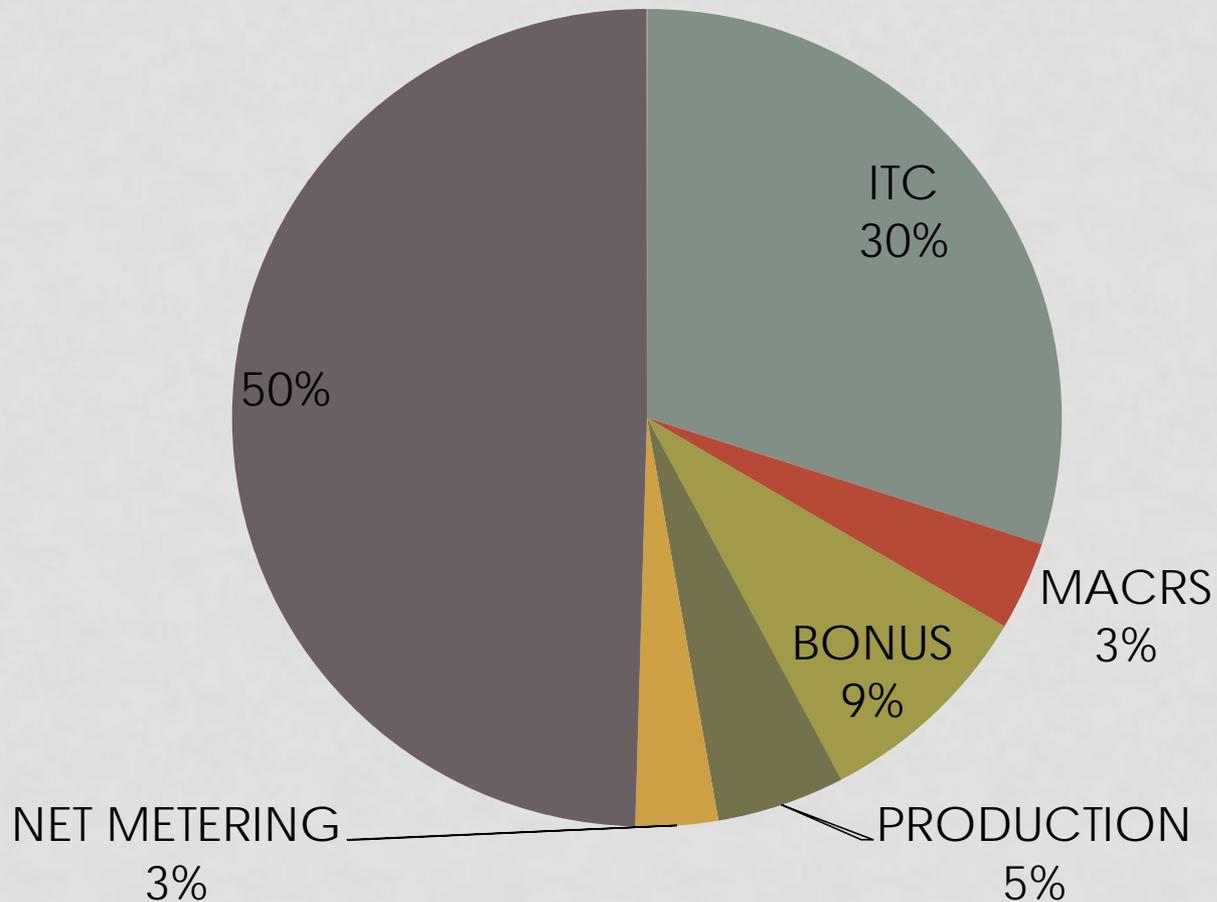
- 60+ UTILITIES IN WA
- DSIREUSA.ORG

- EXAMPLES:
 - SNOPOD
 - OKANOGAN
 - CHELAN

		Utility	Utility		
Renewable Energy Sales and Use Tax Exemption	WA	Financial Incentive	Sales Tax Incentive	05/18/2001	01/06/2015
Renewable Energy Standard	WA	Regulatory Policy	Renewables Portfolio Standard	11/15/2006	11/19/2015
Snohomish County PUD No 1 - Solar Express Rebate Program	WA	Financial Incentive	Rebate Program	03/27/2009	06/18/2015
Residential Energy Conservation Subsidy Exclusion (Personal)	US	Financial Incentive	Personal Tax Exemption	03/05/2002	05/26/2016
Residential Renewable Energy Tax Credit	US	Financial Incentive	Personal Tax Credit	08/10/2005	01/14/2016
Chelan County PUD - Sustainable Natural Alternative Power Producers Program	WA	Financial Incentive	Performance-Based Incentive	05/16/2002	06/19/2015
Orcas Power & Light - MORE Green Power Program	WA	Financial Incentive	Performance-Based Incentive	09/07/2011	06/19/2015
Net Metering	WA	Regulatory Policy	Net Metering	01/01/2000	12/01/2015
Grays Harbor PUD - Net Metering	WA	Regulatory Policy	Net Metering	10/10/2002	12/09/2014
Mandatory Utility Green Power Option	WA	Regulatory Policy	Mandatory Utility Green Power Option	09/24/2001	12/09/2015
Energy-Efficient Mortgages	US	Financial Incentive	Loan Program	03/21/2002	06/24/2015
Clark Public Utilities - Solar Energy Equipment Loan	WA	Financial Incentive	Loan Program	09/20/2005	02/05/2016

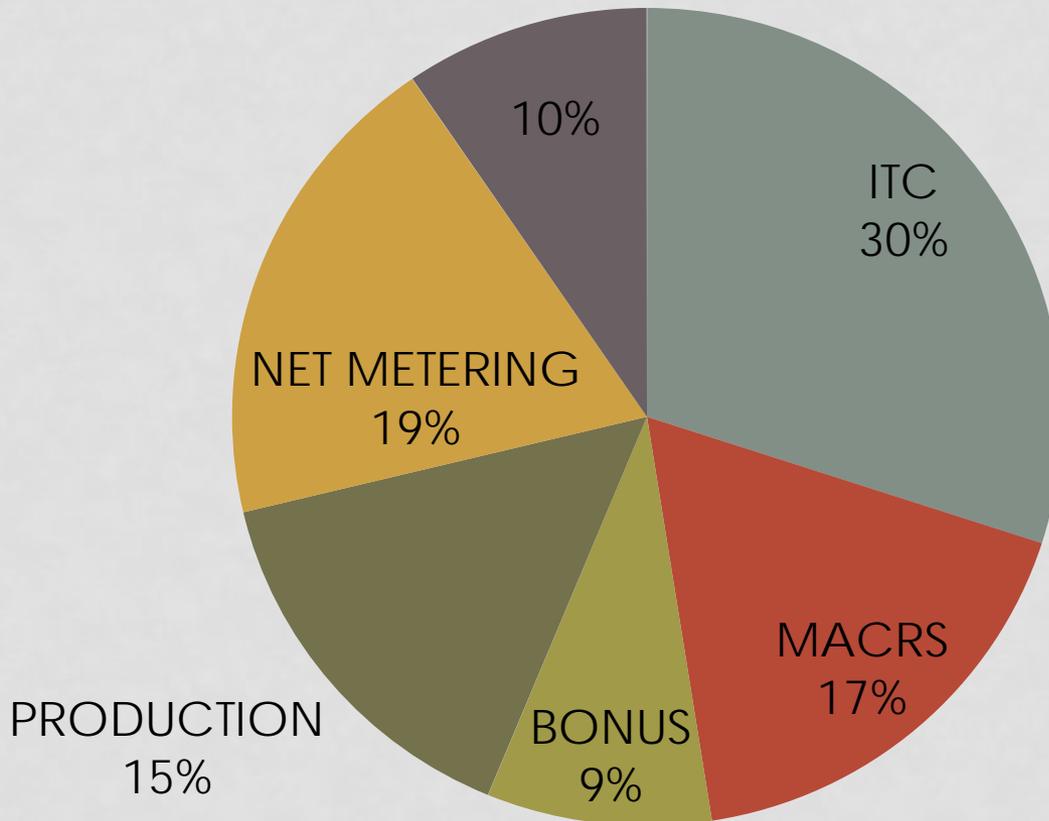
INCENTIVES OVERVIEW

MORE THAN 50% RETURN IN YEAR ONE



INCENTIVES OVERVIEW

MORE THAN 90% RETURN AFTER 6 YEARS



CONCLUSIONS

- **SUPERIOR SITE CONDITIONS**
 - SHADING/ORIENTATION
 - ECONOMY OF SCALE
- **MORE INCENTIVES**
 - FAST(ER) PAYBACK
 - UPFRONT PAYBACK
- **EASY CHOICE FOR WA BUSINESSES**