

Hawaii's Green Workforce

A Baseline Assessment



WDC Quarterly Meeting

Dept of Labor & Industrial Relations

December 2010

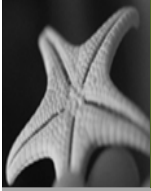


Jeff Matsu, Lead Researcher

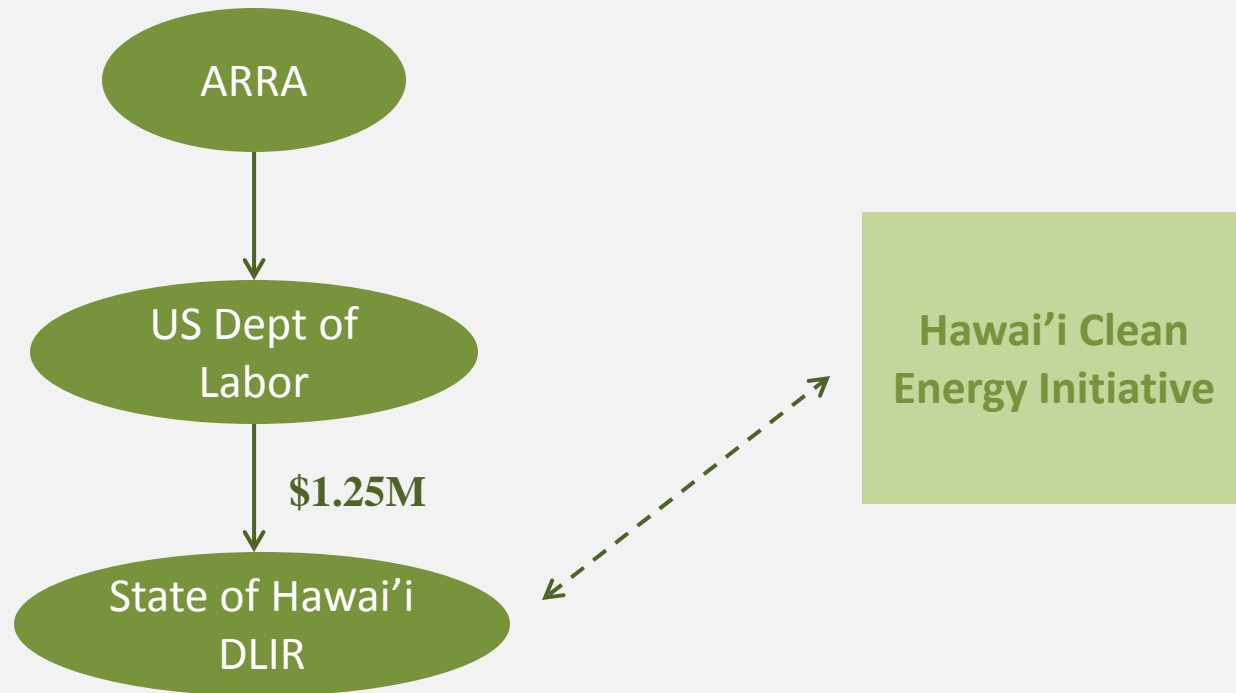
Hawaii Green Jobs Initiative

Research & Statistics Office

Department of Labor & Industrial Relations



Hawai'i Green Jobs Initiative





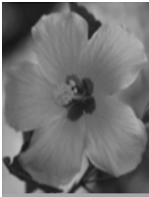
Defining Green Jobs

- There is no standard definition of what constitutes a “green” job.
 - **US Bureau of Labor & Statistics:** *“Green jobs are either: (1) jobs in businesses that produce goods or provide services that benefit the environment or conserve natural resources, or (2) in which workers’ duties involve making their establishment’s production processes more environmentally friendly or use fewer natural resources.”*
 - **Workforce Information Council:** *“A green job is one in which the work is essential to products or services that improve energy efficiency, expand the use of renewable energy, or support environmental sustainability.”*
 - **State of Hawai’i DLIR:** *“A green job is one that engages in economic activity that makes a positive impact on the environment or energy sustainability. When a job containing green responsibilities is performed on a part-time basis, it is considered green whenever that responsibility occurs on a recurring basis.”*

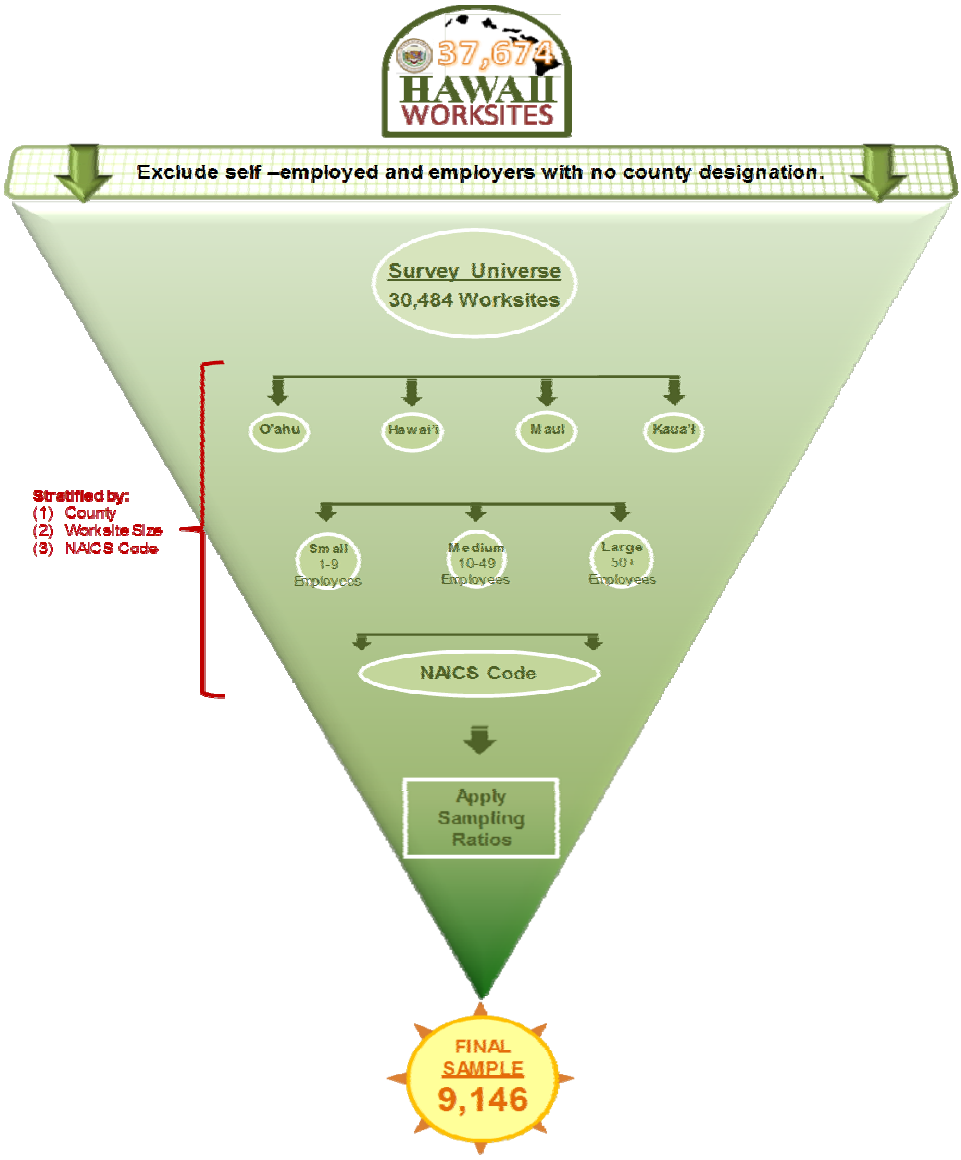


Five Green Core Areas

- **G**enerate clean, renewable, sustainable energy
- **R**educe pollution and waste; conserve natural resources; recycle
- **E**nergy efficiency
- **E**ducational, training and support of a green workforce
- **N**atural, environmental-friendly production



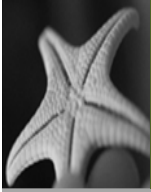
Statistical Sampling Methodology





Sample Size by Industry

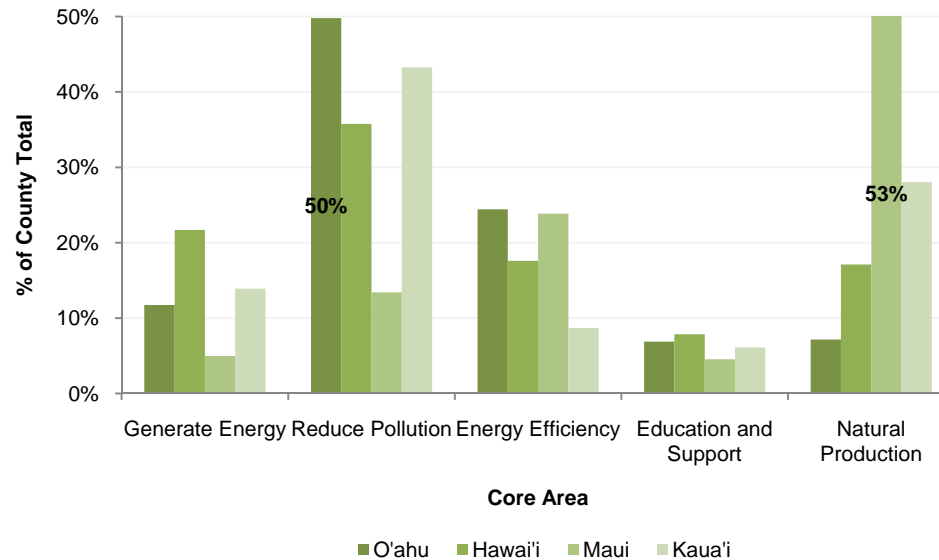
NAICS	Sample Size	Sample as % of Total
11 Agriculture	177	1.9%
21 Mining	16	0.2%
22 Utilities	65	0.7%
23 Construction	1,135	12.4%
31-33 Manufacturing	413	4.5%
42 Wholesale Trade	523	5.7%
44-45 Retail Trade	1,174	12.8%
48-49 Transportation/Warehousing	274	3.0%
51 Information	149	1.6%
52 Finance & Insurance	286	3.1%
53 Real Estate & Rental & Leasing	344	3.8%
54 Professional, Scientific, & Technical Services	1,038	11.3%
55 Management of Companies & Enterprises	118	1.3%
56 Administrative/Support/Waste Mgmt/Remediation Services	715	7.8%
61 Educational Services	241	2.6%
62 Health Care & Social Assistance	678	7.4%
71 Arts, Entertainment, & Recreation	179	2.0%
72 Accommodation & Food Services	836	9.1%
81 Other Services	785	8.6%
TOTAL	9,146	100.0%

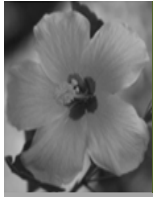


Current Green Jobs by Core Areas & County

County	Core Area					Total*
	Generate Energy	Reduce Pollution	Energy Efficiency	Education and Support	Natural Production	
O'ahu	806	3,419	1,677	472	492	6,866
Hawai'i	265	437	215	96	209	1,222
Maui	129	349	620	118	1,383	2,599
Kaua'i	64	199	40	28	129	460
STATE	1,264	4,404	2,552	714	2,213	11,145

*Column may not sum to due to rounding.



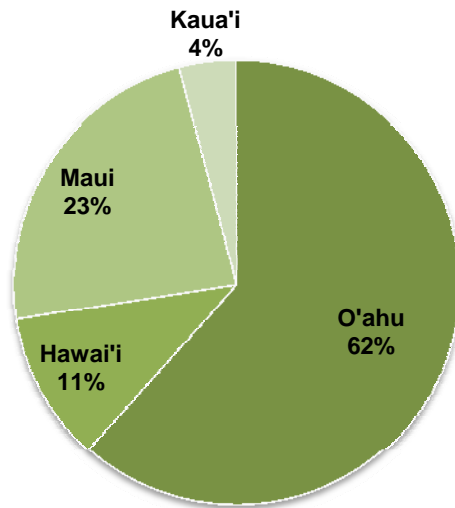


Current Green Jobs by County

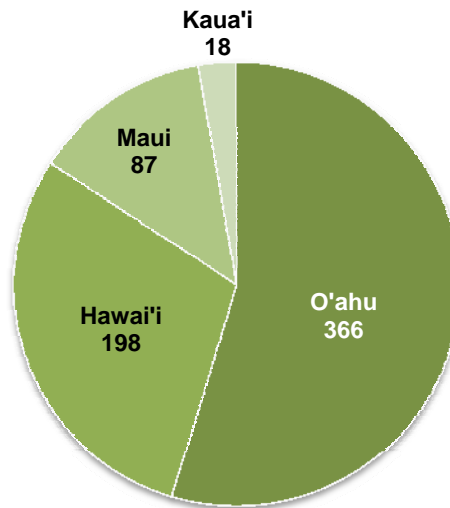
County	Green Jobs	Percent of Total Green Jobs	Total Jobs	Green to Total Jobs
O'ahu	6,865	62%	336,122	2.0%
Hawai'i	1,222	11%	49,749	2.5%
Maui	2,597	23%	56,184	4.6%
Kaua'i	460	4%	23,780	1.9%
Total:	11,145		465,835	2.4%

Current Green Jobs, Vacancies & Total

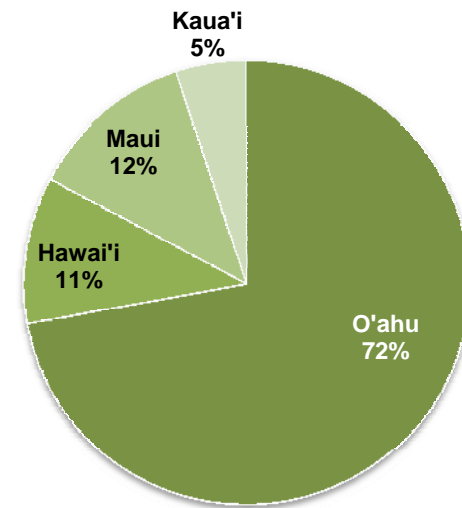
Green Jobs by County



Green Job Vacancies by County



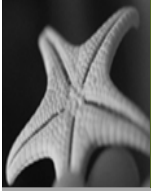
Total Employment by County





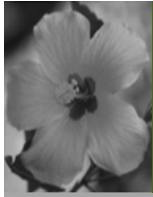
Current Green Jobs: Top Industries

Industry	Green Jobs	% of Total Green Jobs	Total Jobs	% Green to Total Jobs
Construction	3,327	30%	29,307	11%
Administrative & Support & Waste Mgmt & Remediation Services	2,979	27%	40,132	7%
Professional, Scientific, & Technical Services	945	8%	24,358	4%
Wholesale Trade	809	7%	17,572	5%
Retail Trade	685	6%	67,313	1%



Current Green Jobs: Top Industries by County

O'ahu				
Industry	Green Jobs	% of Total Green Jobs	County Total Jobs	% Green to County Jobs
Construction	2,246	33%	21,382	11%
Administrative & Support & Waste Mgmt & Remediation Services	1,528	22%	31,010	5%
Professional, Scientific, & Technical Services	780	11%	20,817	4%
Hawai'i				
Construction	488	40%	3,444	14%
Agriculture, Forestry, Fishing, & Hunting	183	15%	2,329	8%
Wholesale Trade	158	13%	1,570	10%
Maui				
Administrative & Support & Waste Mgmt & Remediation Services	1,219	47%	4,411	28%
Construction	516	20%	3,009	17%
Manufacturing	115	4%	1,070	11%
Kaua'i				
Administrative & Support & Waste Mgmt & Remediation Services	161	35%	1,843	9%
Arts, Entertainment, and Recreation	87	19%	933	9%
Construction	77	17%	1,472	5%



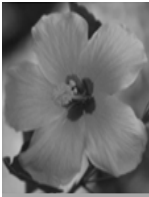
Current Green: Jobs by Worksite Size

Worksite Size	Green Jobs	% of Total Green Jobs	Total Jobs	% Green to Total Jobs
Small	2,881	26%	77,175	3.7%
Medium	4,634	42%	143,138	3.2%
Large	3,630	33%	245,522	1.5%
Total:	11,145		465,835	

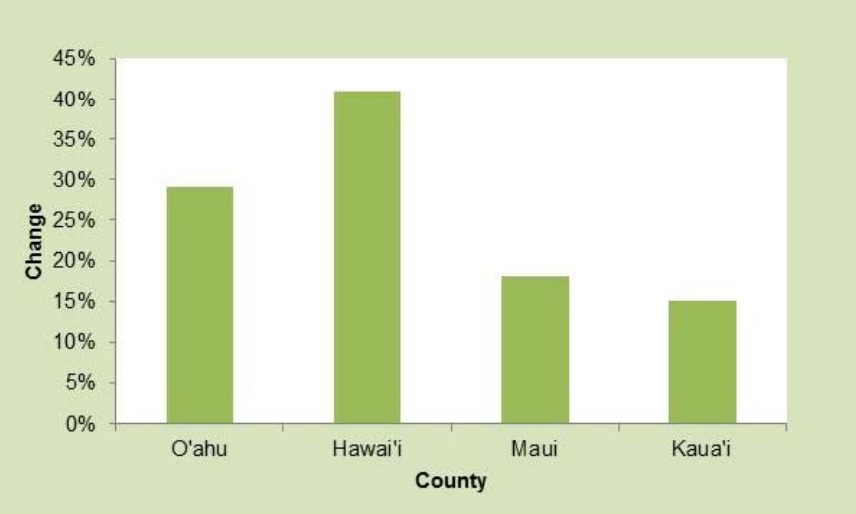
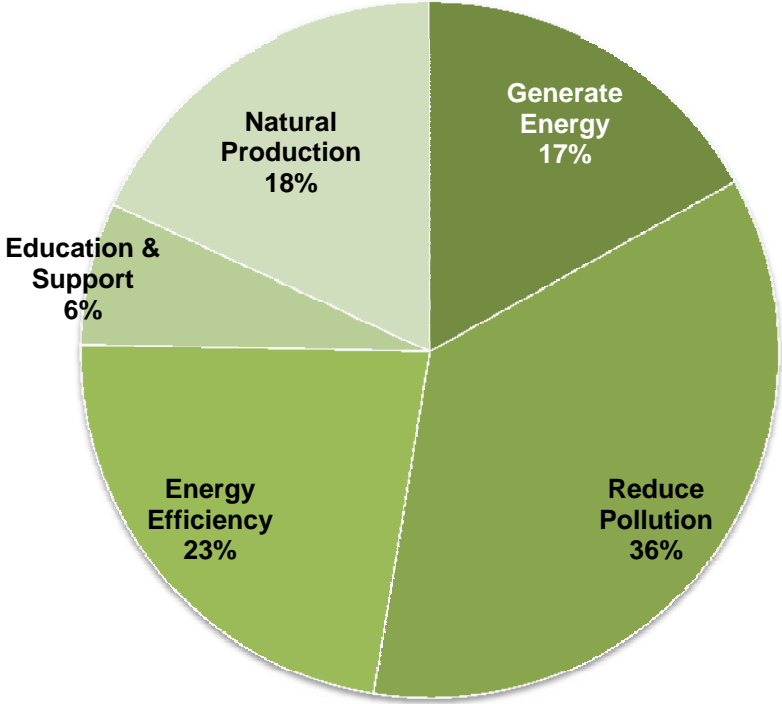


Current Green: Top Occupational Groups

Occupational (Major Grouping)	Green Jobs	Green Job Titles (with > 50 jobs)
Construction and Extraction	2,690	Electricians (438), Carpenters (306), Insulation Workers Floor Ceiling & Wall (277), Solar Photovoltaic Installers (237), Solar Thermal Installers & Technicians (194), , Insulation Workers Mechanical (184), Laborers (173), First Line Supervisors/Mgrs of Construction (167), Plumbers (167), Hazardous Materials Removal Workers (160), Tile and Marble Setters (64), Carpet Installers (54), Elevator Installers and Repairers (54), Operating Engineers (53)
Building and Grounds Cleaning and Maintenance	1,667	Janitors & Cleaners (1,197), Landscaping & Groundskeeping Workers (276), First Line Supervisors/Mgrs of Landscaping Workers (103)
Life, Physical, and Social Science	1,044	Forest & Conservation Technicians (601), Environmental Science & Protection Technicians (196), Environmental Scientists & Specialists (114)
Installation, Maintenance, and Repair	921	Heating & Air Conditioning Mechanics & Installers (348), Maintenance & Repair Workers General (159), Installation Maintenance & Repair Workers All Other (114), Automotive Speciality Technicians (95), First Line Supervisors/Mgrs of Mechanics Installers & Repairers (61)
Sales and Related	844	Retail Salespersons (219), Sales Rep. Services All Other (126), Cashiers (103), First Line Supervisors/Mgrs of Retail Sales Workers (89), Sales Rep. Whlse & Manf. Tech & Sci. Prod (80), Telemarketers (66)

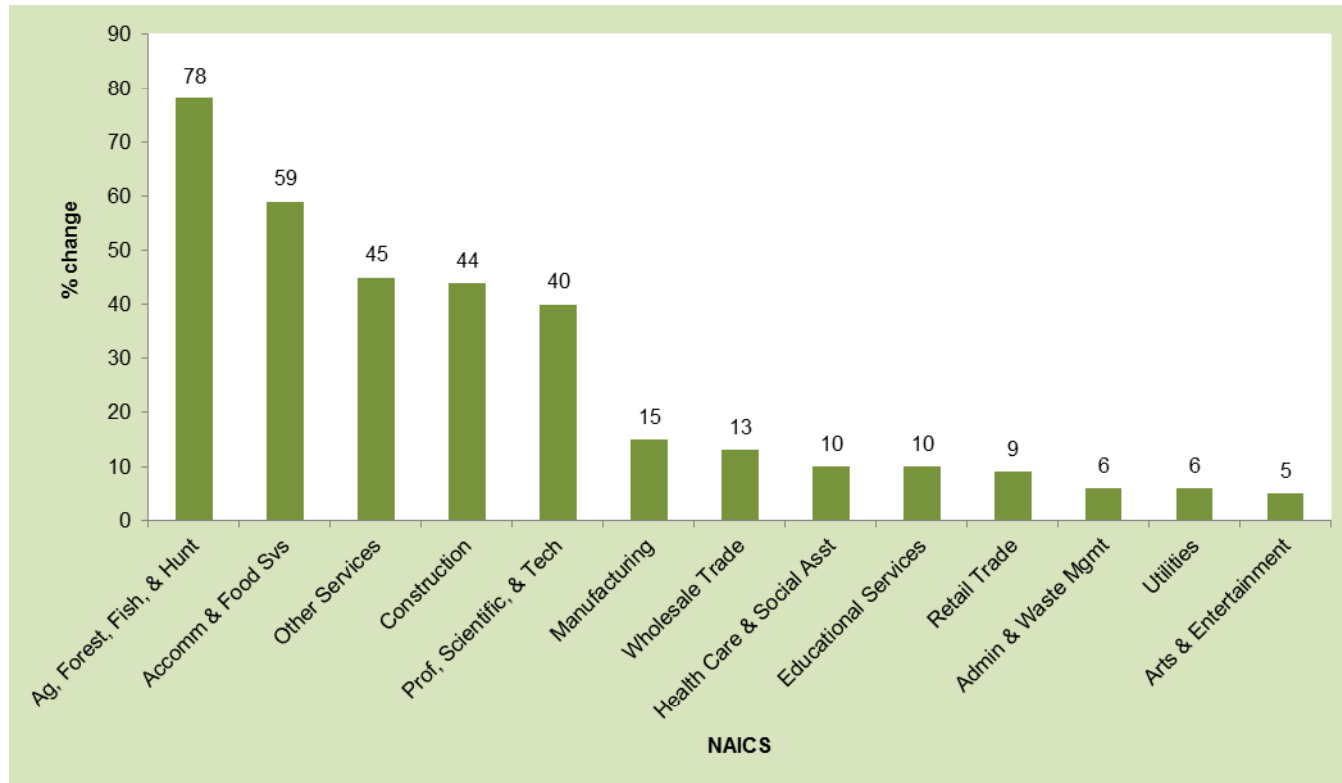


Projections by Core Areas & County





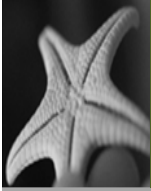
Growth in Green Jobs by Industry, 2010-2012



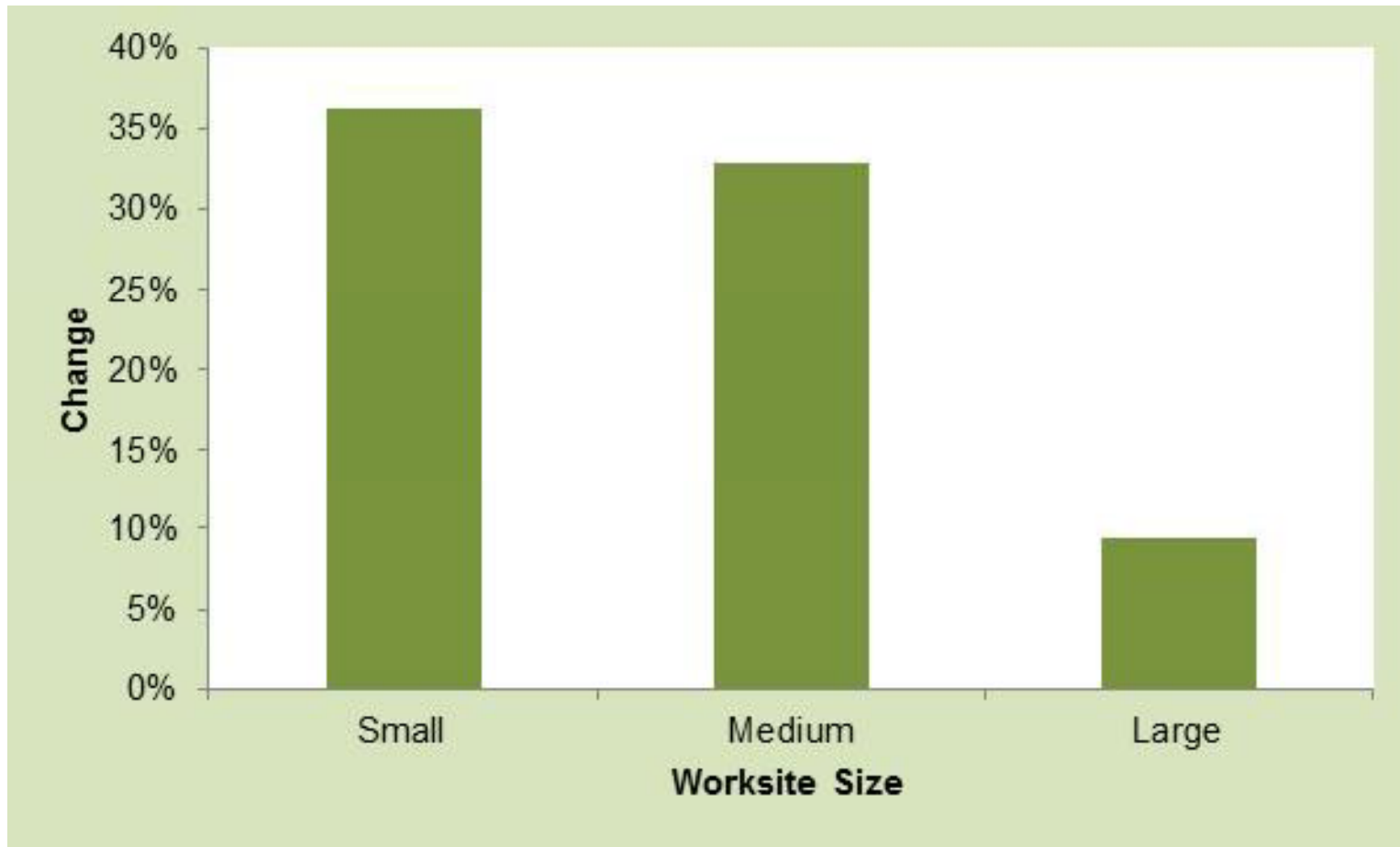


Projections: Top 10 Green Occupations by Growth 2010-12

Occupational Title	2010	2012	Growth Rate
	Green Jobs	Projected Green Jobs	
Solar Photovoltaic Installers	237	684	189%
Sales Engineers	46	267	480%
Electricians	438	647	48%
Upholsterers	64	209	227%
Insulation Workers Mechanical	184	297	61%
Solar Thermal Installers and Technicians	194	297	53%
Graders and Sorters Agricultural Products	79	181	129%
First-Line Supervisors/Managers of Production and Operating Workers	48	141	194%
Computer Support Specialists	76	167	120%
First-Line Supervisors/Managers of Landscaping Lawn Service and Groundskeepir	103	179	74%



Projections: Growth by Worksite Size



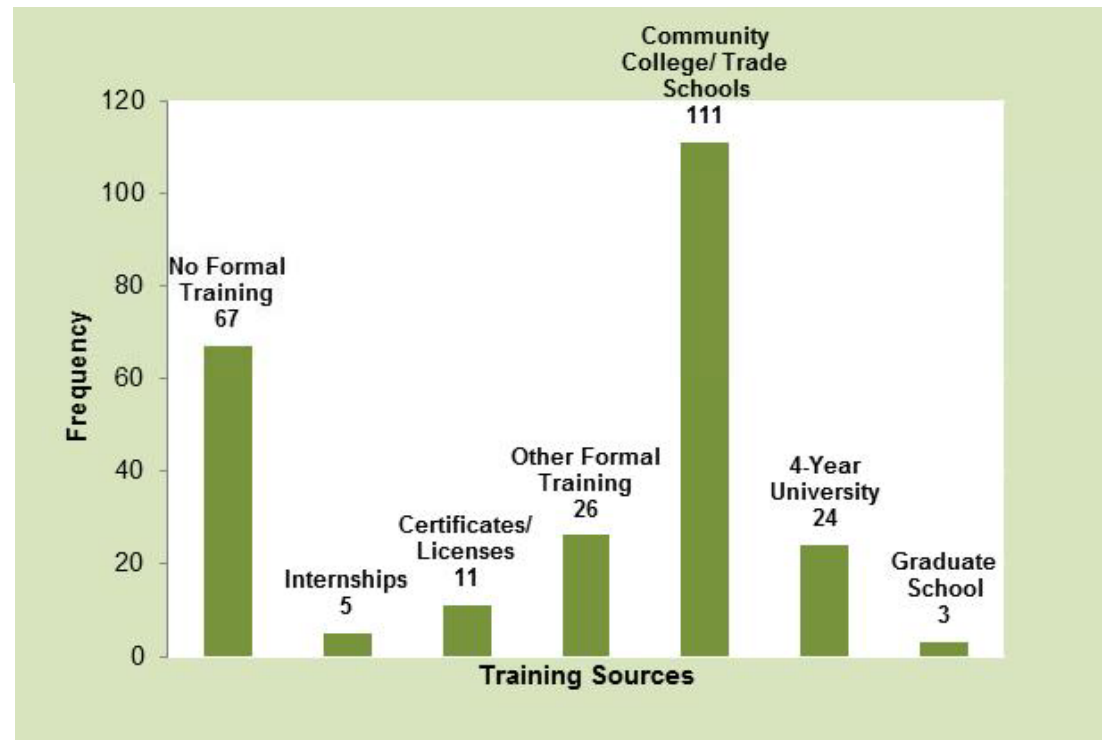
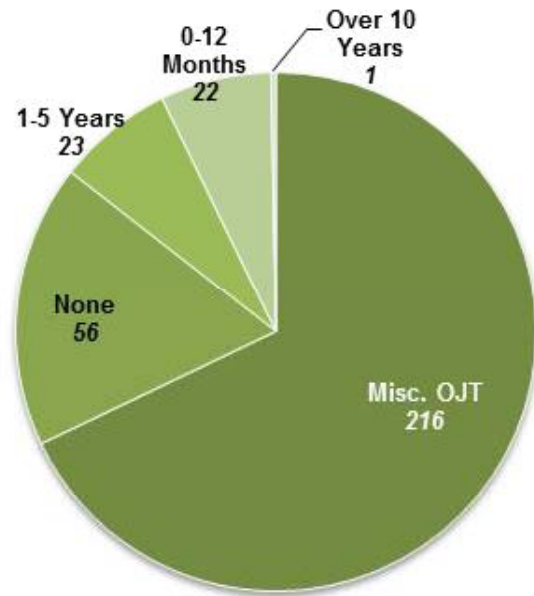


Green Practices by County & Worksite Size

Green Practices	County					Worksite Size		
	O'ahu	Hawai'i	Maui	Kaua'i	State	Small	Medium	Large
Recycle	82%	82%	84%	86%	83%	77%	87%	91%
Use Recycled Products	58	58	59	65	59	54	62	64
Energy Saving Bulbs	50	59	56	55	53	52	52	58
Reduce Energy Use	38	37	43	39	38	33	37	54
Clean w/ Ecofriendly Products	23	33	37	33	28	28	28	27
Water Conservation	22	27	32	26	25	26	23	26
Telecommute	13	13	13	9	12	12	14	11
Carpool	10	13	14	14	11	10	13	13
Solar and Photovoltaics	6	12	13	12	9	8	8	12
Use Low VOC Paints, Stains, or Sealers	7	10	11	10	8	7	9	11
Fuel Efficient and Alternative Fuel Vehicles	6	9	9	8	7	7	7	7
Other	6	7	7	7	6	5	6	8
Subsidized Bus Pass	9	2	3	2	6	3	7	12
Bicycle Commute Program	2	1	3	2	2	2	2	2
Average Number of Green Practices:	3.3	3.6	3.8	3.7		3.2	3.5	4.0

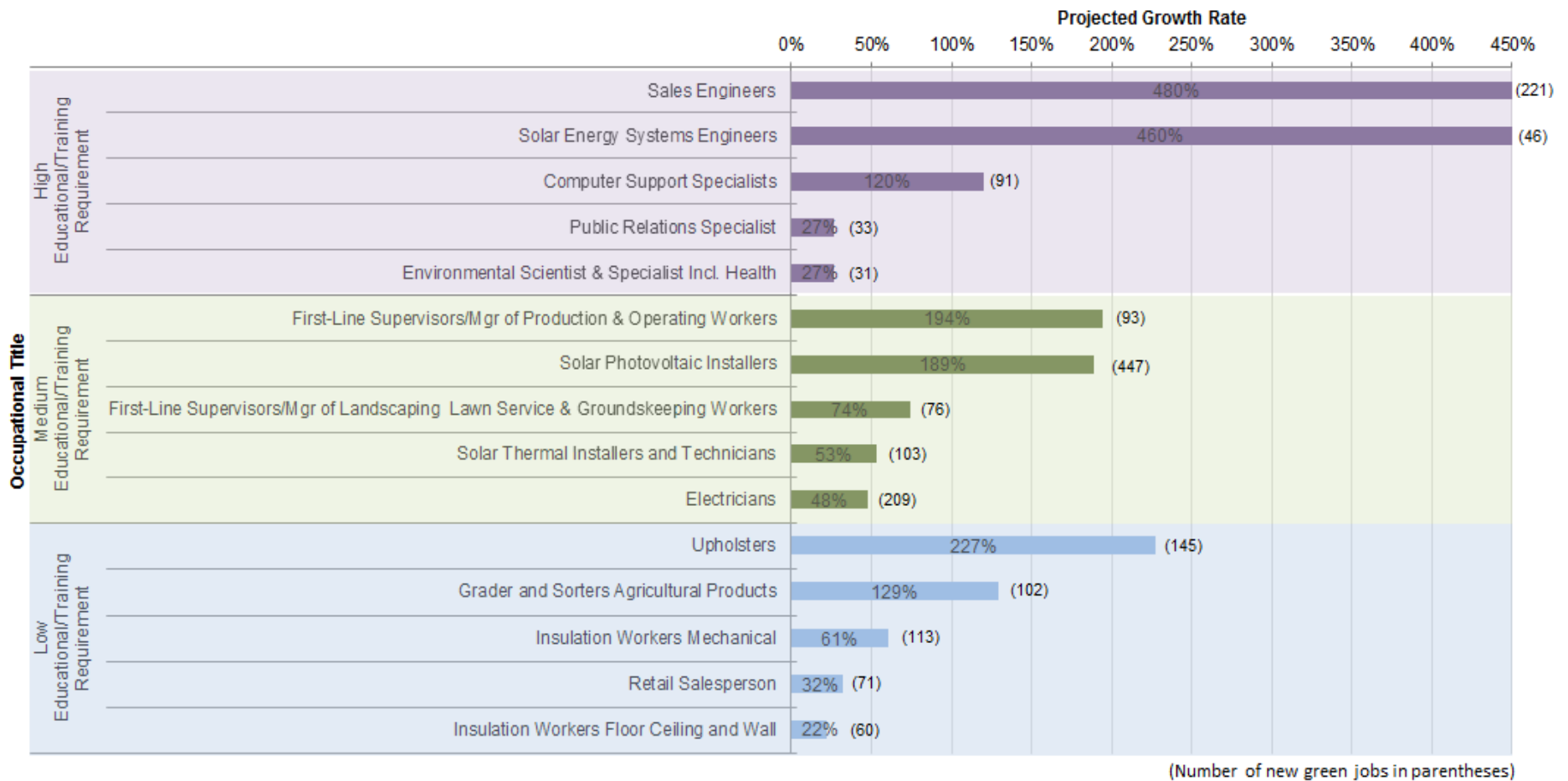
Qualifications & Employee Training Requirements

On-the-Job Green Training

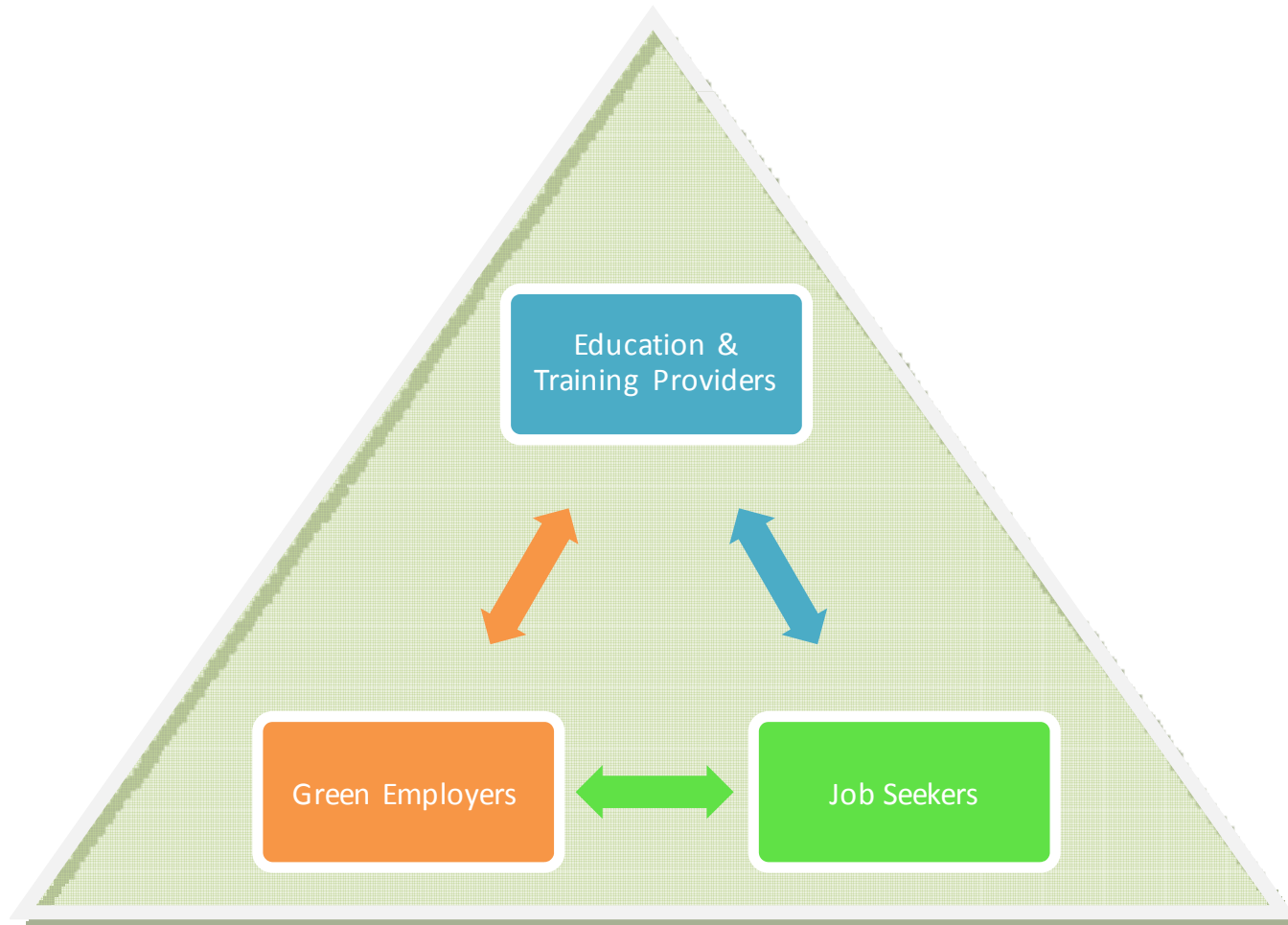


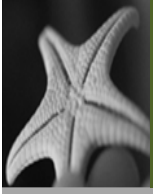


Qualifications & Employee Training Requirements



Green Labor Life Cycle





Conclusion



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Acknowledgements

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