

A close-up, low-angle shot of a solar panel array. The panels are dark blue with a grid of silver lines. The perspective is from below, looking up at the panels, which are slightly tilted. The background shows a clear blue sky and some green foliage in the distance.

POLITICS, VALUES, AND PV SYSTEM DESIGN

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Research Question and Conclusion Summary

- Political ideology --> perception/adoption

Does this hold in residential PV?

Do values influence action (% Offset)?

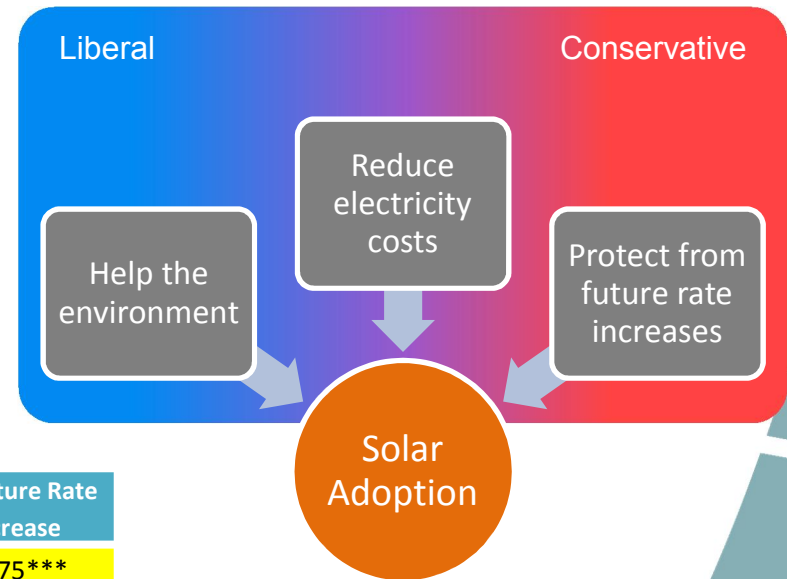
- Political ideology does help define the decision factors of solar PV among adopters
- Decision factors, and associated ideology, have no measurable effect on system design

Methodology

- Survey of CSI participants in San Diego
 - 10,064 residential customers
 - Installed PV between January 2007-March 2013
 - Administered Oct/Nov 2013, open 3 weeks
 - 1,234 responses received (~12% response rate)
 - Decision Factors – Likert Scale
 - Lowering my total electricity costs
 - Protecting myself from future increases in elec. prices
 - Helping the environment
 - Ideology – Political ideology
 - Overall, Social Issues, Economic Issues

Decision Factors and Ideology

- Decision factors vary among adopters in their relative importance

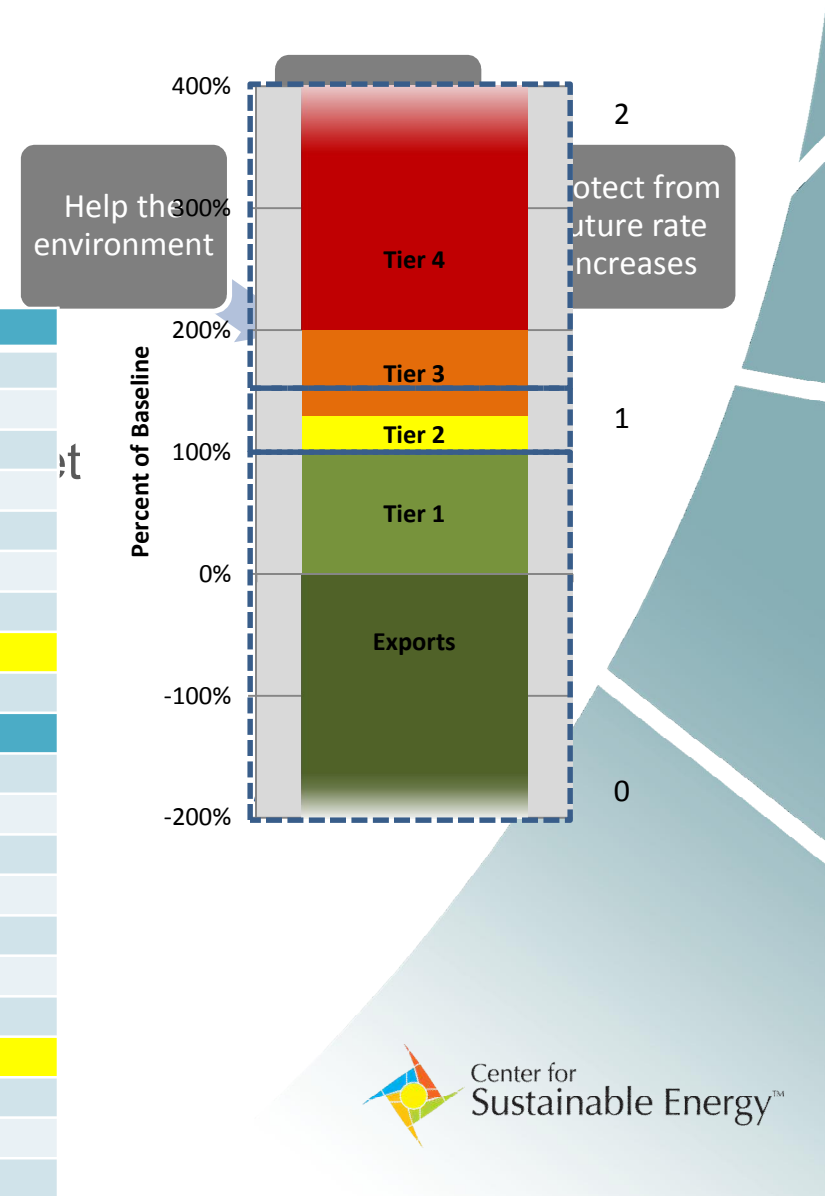


	(A) Lower Elec. Costs	(B) Protecting Environment	(C) Future Rate Increase
Political Composite	0.061***	-0.328***	0.075***
Years until Retirement	-0.008**		-0.009*
Environmental Organization	-0.113	0.425***	-0.190*
Pool	0.240***		0.202**
Income	-0.026+	0.039*	-0.034*
log (Square Footage)	0.167*		
Expected Rate Increase	1.57E-04		3.15E-04*
Summer Bill Pre Solar	2.76E-04*		
Years Lived in House			-0.005
Purchased System			0.137*
Gender		0.464***	0.190*
Constant (Intercept)	3.07***	4.46***	4.04***
Observations	712	709	697
Model Fit (Adjusted R ²)	0.098	0.325	0.075

Ideology and System Design

- System design (% offset) determines economic and env. impact

		(A)	(B)	(C)
0	Summer Avg Pre Solar	-0.659***	-0.666***	-0.759***
	Years until Retirement	-0.032*	-0.032+	-0.031+
	Pool	-0.251	-0.233	-0.290
	Income	0.026	0.026	0.027
	log (Square Footage)	0.821+	0.841+	0.964+
	Purchased System	-0.111	-0.096	-0.154
	Env Organization		0.037	
	Political Composite			0.083
	Constant (Intercept)	-2.620	-2.861	-3.805
1	(Base Outcome)			
2	Summer Avg Pre Solar	0.994***	0.996***	1.027***
	Years until Retirement	0.015	0.014	0.022
	Pool	-0.307	-0.318	-0.629
	Income	-0.218+	-0.217+	-0.173
	log (Square Footage)	-1.018	-1.049	-0.836
	Purchased System	-0.287	-0.298	-0.401
	Env Organization		-0.057	
	Political Composite			0.011
	Constant (Intercept)	5.058	5.323	3.358
	Observations	374	372	349
	Model Fit (Adjusted R ²)	0.234	0.235	0.235



Conclusion

- The factors that drive customers to install PV are determined in part by political ideology
 - Understanding these relationships can increase the effectiveness of solar program M&O efforts
- These factors, however, do not appear to have a measurable effect on system sizing