

SELECTED CLEAN ENERGY POLICIES IN 5 LEADING STATES

**California
Connecticut
New York
Oregon
Vermont**

Hawaii Clean Energy Initiative

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Selected Clean Energy Policy Approaches in Five Leading States

Many US states have served as laboratories in the quest for economic and environmental benefits of clean energy policies. Diverse policy strategies have been tried, abandoned, refined, and combined with others to achieve the best fit for each state's particular resource mix, power sector regulatory status, political realities, etc. Decision-makers continue to look for best practices as policies begin to bring results.

In 2007, the ACEEE published its most recent scorecard,¹ ranking states on the basis of a comprehensive suite of energy efficiency (EE) policies. The policies they investigated included investments in EE (up through 2004), updated building energy codes, use of EE portfolio standards, policies supportive of CHP, appliance standards, state government leading by example, and others. The top ten states² were:

1. Vermont, Connecticut, and California (tie)
4. Massachusetts
5. Oregon
6. Washington
7. New York
8. New Jersey
9. Rhode Island, Minnesota (tie)

We will consider the following five (5) of ACEEE's leading states for policy approaches and outcomes that may be of interest to Hawaii:³

California, Connecticut, New York, Oregon and Vermont

The National Action Plan on Energy Efficiency,⁴ a public-private partnership that began in 2005 to promote sustainable energy efficiency (EE) practices, has also identified a number of policy strategies that produce meaningful results. Tables 1 - 4 consider how these 5 leading states have addressed four of the main recommendations in the National Action Plan on EE as well.

How they are similar

Although these 5 states differ in many ways (e.g. size, power sector structure, and EE administration), they do have important elements in common including:

- Regulatory and/or political will to implement strong clean energy policies
- Significant experience with ratepayer-funded electrical energy efficiency
- Robust evaluation processes

¹ M. Eldridge, W. Prindle, D. York and S. Nadel, 2007 The State Energy Efficiency Scorecard for 2006. Report No. E075, American Council for an Energy Efficient Economy, Washington, D.C. This report may be downloaded from <http://www.aceee.org/pubs/e075.htm>

² Hawaii came in 15th in this scorecard.

³ Our choice of these 5 states is not meant to indicate they are the 5 "best." They were chosen to provide Hawaii with examples of a variety of policy strategy operating in diverse contexts.

⁴ <http://www.epa.gov/cleanenergy/energy-programs/napee/index.html>

- Statewide policies support DG deployment; rate design used to promote EE and demand response (DR)
- Complementary strategies e.g. appliance standards, updated building codes, renewable portfolio standards

These 5 states, along with others continue to innovate, finding ways to: include natural gas and other energy sources in their policies, increase and leverage investment in EE and renewable energy (RE), align utilities' interests with clean energy goals, integrate EE and RE goals with comprehensive resource planning, and other strategies.

Leading Clean Energy States: Some Highlights

California

- Cumulative impact: EE + standards = 15% of annual electricity needs in 2003
- 30+ years of level per capita electricity consumption
- Multi-agency Energy Action Plan provides foundation for policies.
- “Loading order”: 1. EE and DR; 2. DG and RE; 3. Clean fossil and infrastructure upgrades
- Electric and gas IOUs administer EE programs
- Public goods charge is floor; additional EE procurement costs recovered in rates
- AB 32 requires statewide GHG emissions reduced to 1990 levels by 2020
- Multi-year experience with decoupling gas and electric utilities
- EE performance incentives and risks added in 2007
- Utility commission, Energy commission, Governor’s office, legislature, utilities and stakeholders often work together
- Gas and electric utilities developed single, statewide comprehensive strategic EE plan for 2008 - 2020
- Governor has set goals of 33% RE by 2020

Connecticut

- Distribution utilities provide EE using public benefit funds
- State experienced negative outcomes when PBF diverted; budget is now back on track
- Energy Conservation Management Board (stakeholders with technical assistance) provides guidance and statewide cohesion to utility plans; makes budget, program, evaluation and incentive recommendations to the DPUC
- 2007 law
 - requires electric IOUs to meet demand first through cost-effective EE and DR
 - ramps up gas programs
 - adds home heating oil programs using gross receipts tax funds
 - requires regulator to decouple all electric and gas distribution revenues from sales
 - facilitates long-term contracts for RE
- Electric IOUs earn performance incentives; other incentives are possible for gas and electric
- Electric and gas utilities must develop resource plans with 10 and 5 year horizons, respectively
- EE is biddable commodity in New England forward capacity market
- 2005 law created EEPS of 4% of sales by 2010 (EE and CHP qualify)
- RPS 27% by 2020, including 4% EE
- 2007 law requires Commission to develop statewide E and EE education campaign with general funds
- AMI required by 2009

New York

- NYSERDA (public agency) administers EE, RE and R&D efforts funded by electric SBC (since 1998)
- 2007 PSC adopted governor's goal to reduce electricity consumption 15 % from forecasted levels by 2015, with comparable reductions in gas consumption
- EEPS proceeding opened. Straw proposal anticipates hybrid NYSERDA-utility administration and implementation. Anticipate steep increase in SBC and as well as costs recovered in rates
- Although restructured, Commission has opened proceeding on electric resource planning including EE
- SBC funding has been used to provide EE solutions to T&D constraints
- NYSERDA procures RPS resources with SBC, with goal of 25% by 2013
- 2007 Order requires gas and electric utilities to submit decoupling proposals
- Commission will consider other alternatives to remove disincentives to EE, RE and DG

Oregon

- Region has had federal requirement to use conservation as first resource since early 80's
- Public Purpose Charge (3% of electric IOU retail sales revenues) supports EE and RE
- Energy Trust of Oregon administers most electric and gas ratepayer-funded EE and RE programs (since 2002)
- 2007 statute
 - extended funding to January 2026
 - allows Commission-authorized procurement of EE beyond PPC funding
- From mid 2002 to end of 2006, ETO programs saved or generated
 - 1.2 billion+ annual kWh of electricity and
 - 4 million+ annual therms of natural gas.
- Gas and electric IOUs must do integrated resource planning
- Public utilities acquire EE in collaboration with federal wholesale supplier, BPA
- Climate Trust buys carbon offsets with fees from fossil plants; can include EE
- One gas company is offering customers offsets by capturing dairy farm methane
- Unique EE and RE tax credit system has leveraged significant savings:
 - non-profit institutions can claim credits and swap with tax-paying businesses for cash
- Market transformation group, Northwest Energy Efficiency Alliance (NEEA), works with large businesses on energy planning, including carbon
- New RPS goal that by 2025 at least 8% of Oregon's retail electrical load comes from small-scale renewable energy projects with a capacity of 20 megawatts or less.

Vermont

- Power sector is traditionally structured (vertically-integrated IOUs)
- One electric utility is decoupled; another has proposed

Vermont (cont'd)

- State contracts with Efficiency Vermont (EVT) to procure electric EE savings in all but one electric utility's service territories using system-benefit charge (SBC) funds
 - From 2000-2007 EVT savings = about 7% of 2007 electricity demand.
 - ACEEE says EVT saving about 2% of electric need per year
- Performance incentives are built into EVT contract
- 2005 Least Cost Planning statute:
 - requires utilities to procure all cost-effective energy efficiency
 - took cap off SBC funding, but rate impacts must be considered
- Regulator (PSB) determines EE goals and funding
- Potential study was instrumental in determining 2006-08 goals and funding
- Utility 10-year transmission plans evaluate non-wires solutions to transmission constraints
- “Geo-targeting” EE investments to avoid T&D investment
- EVT and programs are evaluated using consultants hired by state energy agency
- 100% of carbon auction proceeds will be used by regulator to
 - improve electric reliability
 - decrease carbon emissions
 - benefit Vermont economy
- VT has a variety of RPS goals
 - one will become mandatory in 2013 if not achieved by 2012: to meet all increases in retail sales since 2005 from RE
 - EE can contribute by reducing demand increase

NAPEE Recommendation 1: Recognize energy efficiency as a high priority energy resource

		CA	CT	NY	OR	VT
EE is established as a high priority resource, equivalent or superior to supply resources		Yes	Yes	Yes	Yes	Yes
		2003 Energy Action Plan I included a "loading order" requiring all cost-effective energy efficiency to be procured first	2007 law: electric needs must be first be met through EE and demand reduction resources that are cost-effective, reliable, and feasible."	PSC initiated 2007 Case with goal of 15% reduction of gas and electric usage from 2015 forecast.	Federal Power Act for region requires conservation first. 1989 IRP rules require comparable evaluation of supply and demand side resources.	Vermont's Least Cost Planning statute requires utilities to procure all cost-effective energy efficiency. See 30 VSA 218C.
EE is integrated into an active IRP, portfolio management, or other planning process		Yes	New	Possible	Yes	Yes
		D.04-01-050 required CA utilities to prepare Long-Term Procurement Plans that incorporate EE plans and targets. For PY2009-2020 utilities must develop a single, comprehensive Strategic Plan for EE. D.07-10-032	2007 Energy law requires 10 yr. electric resource plans, with EE and DR first. 2005 Energy Act requires 5 yr. resource plans from gas utilities, including EE.	The PSC opened a proceeding on electric resource planning, including EE. Governor issued Exec Order for a state energy Plan, including EE.	Updated 2007 IRP guidelines require evaluation of all known demand-side resources.	In addition to EE requirements in Least Cost Planning, an IRP-type stakeholder process to resolve transmission congestion is required in certain areas.
Efficiency is procured as a resource for default service/standard offer customers		Yes	New	Possible	N/A	N/A
		D. 04-09-060 translated the EAP goals into specific annual MWh and therm savings goals for each major IOU, through 2013.	Will occur as result of new resource requirements.	May occur as result of resource planning.		
EE is an alternative to transmission		Yes	Yes	Partial	Pending	Yes
			2005 Energy law allows the DPUC to fund demand-side projects that reduce federal congestion charges	\$2M in SBC funds available for DSM solutions. DSM can compete with wires solutions under NYISO rules	The PUC expects to develop rules for non-wires solutions to transmission constraints in next two years.	2005 law requires 10-year transmission plans that evaluate non-wires solutions to transmission constraints.

Recommendation 2: Make a strong, long-term commitment to implement cost-effective energy efficiency as a resource						
	CA	CT	NY	OR	VT	
	Yes	Yes	No	Yes	Yes	
Efficiency commitment is in statute	PUC Code 701 states that utilities should seek to exploit all practical and cost-effective efficiency.	2005 Energy Act specifically commits the state to EE funding. 2007 law requires EE and DR first and creates home heating oil conservation program.	Regulatory proceedings have been used to establish EE policy	ORS 757.056: All public utilities . . . shall establish energy conservation services	EE SBC created by law, and Least Cost Planning statute requires all cost-effective EE	
Cost-benefit tests used to screen programs	TRC and PAC (program administrator test)	variations on TRC and PAC	Two TRC variations	The PAC and the Societal Cost Test	Societal Cost test is used	
Potential study used	Yes	Yes	Yes	Yes	Yes	
EE programs reach all customer classes	Yes	Yes	Yes	Yes, but equity not concern	Yes	
Quantitative MW and MWh savings goals have been established	Goal of 90% of maximum achievable EE has been quantified into annual MW and MWh savings goals for each IOU through 2013.	Yearly utility EE plans include savings goals.	Currently, annual goals are established on a program-by-program basis. This may change with new EEPS.	ETO sets goals; IRP can add utility goals	EVT contracts to deliver annual savings goals to achieve maximum amount of cost-effective EE while limiting rate impacts.	
EE used in RPS or EEPS	No	1% of elec sales from EE and CHP, rising to 4% by 2010.	Possible	No	EE can reduce need for RPS	
EE delivery structure has been established	Utilities administer and implement. PUC oversight.	Utilities deliver with guidance from ECMB and oversight from DPUC.	NYSERDA, a creation of Legislature, administers programs.	the ETO, a third party non-profit entity delivers most EE	EVT delivers most EE programs.	
Resource plans are regularly updated	Every three years	New, annually (elec); every 2 years (gas)	new resource planning docket	Within 2 years of previous IRP decision	Every three years.	

Recommendation 4: Promote sufficient, timely, and stable program funding to deliver EE where cost-effective						
		CA	CT	NY	OR	VT
		Yes	Yes	Yes	Yes	Yes
Cost recovery process exists		Electric and gas Public goods charge (PGC) est. by 1996 law in 1996. CPUC orders additional funds to meet increased EE goals from procurement budgets (rates).	Electric PBF est. in 1998 law. Gas EE costs recovered in rates. 2007 law adds gas and heating oil funds from gross receipts tax up to \$10 million/year. New goals will require new cost-recovery.	Electric SBC est. by PBS in 1997. NYPA, LIPA and ConEd recover costs in rates. The EEPS straw proposal anticipates gas funding and steep increase in the SBC to support new goals.	1999 law est. electric Public Purpose Charge to fund EE and RE. 2007 law continued PPC cap but authorized utilities to recover the costs of additional cost-effective EE in base rates.	1999 law and PSB Order est. Energy Efficiency Charge (EEC). 2005 law lifted EEC cap and directed the PSB to procure maximum cost-effective EE while considering rate impacts.
Funding is for multi-year periods		Yes	Possible (elec); Yes (gas)	Yes	Yes	Yes
		CPUC approved procurement funding through 2013.	Electric budgets annual; gas biennial. Likely to change.	PSC extended the SBC and annual budgets through 2011.	PPC extended to January 2026. ETO has multi-year budgets.	PSB determines multi-year funding levels.
Base EE spending level exists; opportunity to justify higher level		Yes	Possible	Possible	Yes	Not exactly
		PGC is floor. Add'l funding from procurement plan decisions. Utilities may request additional funding for EE and DR to meet unanticipated demand.	PBF is floor. Utilities and the ECMB propose to ramp up spending through rates over five years to meet new goals.	This may happen as outcome of the EEPS and/or electric resource planning proceeding.	The PPC is floor. Utilities can include more in rates when revealed as cost-effective in IRP. Legislature periodically reviews PPC level.	SBC cap removed; level is now set by PSB to acquire all cost-effective EE while considering rate impact.
Spending levels		≈ \$2Billion 2006-08	Electric SBC is 3 mils/kWh ≈ \$90M/year	Electric SBC average ≈ 1.7 mils/kWh \$175M/year	≈ 1.6% of electric revenues goes to EE. Natural gas ≈ 1.25% 2008 EE&RE (ETO) ≈\$98M	2008 SBC = 3.71 - 6.68 mils/kWh \$30.75M
Carbon trading funds support EE		Pending	Yes	Possible	N/A	Yes
		CA cap and trade may provide EE funds.	100% of RGGI auction proceeds to support EE, DR, RE, etc.	RGGI auction proceeds may be available.	the Western Climate Initiative may present this opportunity.	100% of RGGI auction proceeds to support EE, DR, RE, etc.

Recommendation 5: Modify policies to align utility incentives with the delivery of cost-effective energy efficiency and modify ratemaking practices to promote energy efficiency investments.

	CA	CT	NY	OR	VT
Utility throughput incentive is addressed and disincentives are removed	Yes All major gas and electric IOUs are decoupled. 2001 statute provided current basis. CPUC approved mechanisms on a case-by-case basis.	Pending 2007 law require DPUC to decouple distribution revenues from sales for electric and gas utilities in next rate proceedings.	Partial Third party administers EE and RE programs. 2007 PSC Order requires utilities to submit decoupling proposals in next rate case filings. Other mechanisms to remove disincentives may be considered.	Partial Third party administers EE and RE programs. Most gas decoupled. Statute allows PUC to protect utilities from short-term earnings reductions due to DSM.	Yes Third party administers most EE. One electric utility is decoupled; another has filed. Lost revenue recovery option when utilities procure EE to solve T&D problems.
Utility/shareholder or third party EE incentives are provided	Yes State policy: investments in EE as profitable to utilities as investments in supply. CPUC adopted incentives in proceeding 06-04-010.	Yes 1991 statute allows bonus ROR on EE, or up to 5% of qualified expenditures. Currently, electric utilities receive performance-based incentives.	No	Possible Statute allows utilities incentives/penalties. Option not used since ETO EE administration. New law allowing incremental utility programs could revive this practice.	Yes Each three-year contract between the EEU and the PSB allows performance incentives.
Rate design used to support EE	2002 Rulemaking led to TOU and usage-sensitive rates; laid groundwork for AMI deployment	2005 law made Peak/off peak rates mandatory for customers ≥ 350 kW. 2007 law requires TOU pricing options for all customer classes, including hourly and real-time pricing options.	PSC mandated hourly pricing for largest customers, and directed utilities to consider and implement AMI. SBC funds available to pilot time-sensitive rates for small customers. Declining block distribution rates not eliminated.	PUC Docket UE-189 led to planned AMI deployment, but delayed due to rate impact issues. Some inclining block rates are in place.	Most declining block rates removed. Some optional time of day rates in place. Some inclining block rates used. One utility installing AMI for all customers. PSB has opened AMI investigation.
Other mechanisms exist (e.g., on-bill financing)	Yes	Yes	Unknown	Unknown	Unknown

Other Clean Energy Policies: Distributed Generation and Renewable Energy

	CA	CT	NY	OR	VT
Statewide interconnection policy is in place	Statewide standards, Rule 21, apply to DG systems \leq 10 MW. Simplified rules for systems <10 kW.	Interconnection rules for systems \leq 25 MW under Conn. Gen. Stat. \S 16-243a. 2007 law calls for new guidelines that meet or exceed national standards.	Standard Interconnection Requirements (SIR) for DG \leq 2 MW. Simplified requirements for small systems.	New standards. Eligible systems: solar, wind, hydropower, fuel cells or biomass. Some customers limited to 25 kW capacity.	Statewide standards for net-metered systems and DG units that are not net-metered. No system capacity limits for DG.
Statewide net metering policy is in place	Cal Pub Util Code \S 2827 requires all utilities to offer net metering but outlines statewide policies on sizes (generally \leq 1MW), types of systems, and limits on overall enrollment of net-metered systems (2.5% of system peak).	Statewide net metering policy established by Conn. Gen. Stat. \S 16-243h. IOUs must provide net metering to customers using "Class I renewable resources. 2007 Act expands net metering up to 2 MW facilities.	NY Pub Ser \S 66-j et seq. allows PV, wind, and biomass systems to net meter. Size limits vary with resource - 10 kW for solar; 25 kW for residential wind; 125 kW for farm-based wind; and 400 kW for farm-based biogas.	One policy for 2 primary IOUs and separate policy for municipal utilities and electric co-ops. IOU customer limit = 2 MW.	Statewide policy: any customer can net meter after receiving a "Certificate of Public Good" from PSB. Generally \leq 250 kW using RE, and micro-CHP systems \leq 20 kW.
Statewide exit fee policy is in place	Three kinds of exit fees often called "cost responsibility surcharges" apply to DG; R.02-01-011.	2007 Energy Act may address exit fees.	Niagara Mohawk is the only utility the PSC allows to charge exit fees.	No statewide policy on exit fees. Utilities are not charging such fees to DG owners or operators.	No state level policy on exit fees. There are no exit fees for DG in the state.
Statewide standby rate policy is in place	Statewide policy: standby rates must 1) provide fair cost allocation; 2) allow utility adequate cost recovery; 3) facilitate customer-side DG; and 4) send proper price signals.	2005 Energy Act: No backup power rates for DG installed after 01.01.2006 as long as generation \leq peak load, and available during peak periods. Utility-specific tariffs for others.	PSC required IOUs to modify standby rates to make them more reflective of actual costs.	No	No
RPS is in place	Yes 20% by 2010	Yes 23% by 2020 + 4% EE/CHP	Yes 25% by 2013	Yes By 2025, 25% (large utilities); 5-10% (small utilities)	No Goal to meet increased demand since 2005 with RE becomes mandatory in 2013.

Useful Websites re: Leading Clean Energy States

CA

CPUC energy efficiency information:

<http://www.cpuc.ca.gov/PUC/energy/electric/Energy+Efficiency/>

Energy Efficiency Policy Manual v4.0, which collects all relevant policy:

<http://docs.cpuc.ca.gov/efile/RULINGS/80685.pdf>

2008 draft joint statewide Strategic Plan:

<http://www.californiaenergyefficiency.com/docs/IOU%20Supplemented%20Draft%20EE%20Strategic%20Plan%203.06.08.pdf>

2008 Itron Report using 2008 Potential study to forecast policy outcomes:

<http://www.cpuc.ca.gov/NR/rdonlyres/D72B6523-FC10-4964-AFE3-A4B83009E8AB/0/GoalsUpdateReport.pdf>

Links to annual and other reports: <http://eega2006.cpuc.ca.gov/Reports.aspx>

CT

Energy Conservation Management Board site: <http://www.ctsavesenergy.org/ecmb/>

2008 Annual report to the Legislature (2007 activities):

<http://www.ctsavesenergy.org/files/ECMB%202007%20FINAL%2002.20.08.pdf>

NY

NYSERDA: <http://www.nyserdera.org/default.asp>

NYSERDA annual report 2006-2007:

<http://www.nyserdera.org/publications/Annual%20Report%20Assembled%201-08.pdf>

Program evaluation and status report 2006:

http://www.nyserdera.org/publications/SBC_Evaluation_Report_web.pdf

NYSERDA 3-year strategic outlook 2007-2010:

<http://www.nyserdera.org/publications/StrategicPlan-web.pdf>

OR

Energy Trust of Oregon: <http://www.energytrust.org/>

ETO annual report 2006:

http://www.energytrust.org/library/reports/2006_Annual_Report.pdf

VT

Efficiency Vermont: <http://www.encyvermont.com/pages/>

EVT annual report and energy savings claim 2006:

http://www.encyvermont.com/stella/filelib/Annual_Final_forweb.pdf

EVT annual report preliminary executive summary 2007:

http://www.encyvermont.com/stella/filelib/Prelim_ExecSumm_Final_2007.pdf

EVT annual report preliminary results and savings estimate 2007:

http://www.encyvermont.com/stella/filelib/2007_Prelim_Report_FINAL.pdf

RPS

<http://www.dsireusa.org/summarytables/reg1.cfm?&CurrentPageID=7&EE=1&RE=1>