Are We Ready to Deliver Net Zero at Scale?

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Energy Code Stringency

Year 2000 Baseline

A2030 Goals

Code Stringency



Year

Range of Outcome

Year 2000 Baseline

A2030 Goals

Code Stringency



Year

Performance Expectations vs. Outcome



Different Players Affect Building Performance



nbi new buildings

Components of energy outcomes





Components of energy outcomes



Plug Load Power Density Measured Performance (W/SF)

Office Location:	Size (SF)	Average Weekday Daytime	Average Weekday Night	Measured Peak	% of total at night	Ratio of Plug Load to Lighting Load
Irvine, CA 1	8,328	0.8	0.4	1.6	47%	4 x
Irvine, CA 2	1,500	0.8	0.6	1.8	70%	2 x
Rosemead, CA	16,500	0.5	0.3	0.7	63%	equal
Los Angeles, CA	8,024	1.5	1.46	2.1	97%	5x
Vancouver, BC	9,000	0.6	0.3	0.8	49%	1.2x

Source: nbi Office of the Future Pilot Project Monitoring

End Use by Climate



End Use in HP Buildings

RFM: Energy End Use based on 16 months

EUI = 20 kBtu/sf/yr

Office of the Future Program

- Single-Fixture Taskambient (task light provides ambient)
- All building lighting on occupancy sensors
- Private offices 50% auto-on with occupancy sensors, all lights auto-off

Courtesy of Glumac

OPTIMIZING project costs and PV

Increasing Efficiency

Measured EUI <20 kBtu/sf/yr

RiceFergisMiller Office, Bremerton, WA

"That Which Exists Must Be Possible"

