DOCKETED	
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2018 IEPR Workshop
Achieving Zero Emission Buildings

Scott Shell, FAIA

Early Zero Energy Buildings: Is It Possible?

Audubon Society Debbs Park, 2003

IDeAs Office Remodel, 2007

Early Adopters: Scaling Up Zero Energy

Packard Foundation, 2012

Exploratorium, 2013

Boulder Commons, 2017

Mark Day School, 2017

Marin Country Day School, 2019

Lick Wilmerding, 2018

Interviews with Seven Leading Mechanical Engineering Firms

Are We Ready for All-Electric Buildings?

Scott Shell FAIA LEED® AP BD+C CERTIFIED PASSIVE HOUSE DESIGNER
Principal, EHDD

At EHDD, we have been pushing the boundary of low energy building design for more than 15 years. When the U.S. withdrew from the Paris Climate Agreement last year, we decided to take a closer look to see if our building design strategies could reduce carbon emissions at a scale commensurate with the climate challenge.

First, we calculated the carbon emissions for some of our buildings, and were pleased to see how much cleaner our electric grid was than just a few years ago. As California advances toward its 50% renewable energy goal by 2030, electricity will keep getting cleaner and cleaner.

We have made great strides in cleaning up our power grid, but what about our buildings? Most buildings in California still use natural gas for space and water heating.

We've completed more than a dozen all-electric zero energy (NZE) buildings with rooftop solar. But are we ready to shift all of our buildings to all-electric, and rely on the cleaner grid for low carbon power? We decided to ask a handful of our top mechanical engineering partners if the building industry is ready for this shift. Their response was generally Yes, we can now design all electric buildings that are competitive with natural gas in most of our projects.

Ted Tiffany & Steve Guttmann, Guttmann & Blaevoet Consulting Engineers
Eric Solrain, Integral Group
Kent Peterson, P2S Engineering
Peter Rumsey, Point Energy Innovations
Sean Armstrong, Redwood Energy
Meg Waltner, Alisdair McGregor, Raphael Sperry, ARUP
Hormoz Janssens, Interface Engineering

Is the industry ready to shift to all electric buildings today?

Integral: Generally, yes. Integral currently has dozens of all electric buildings recently complete, in

Santana Row Lot 11

Sacred Heart School

Chatam University Dining

Chatam University Housing

American Geophysical Union

White Hall Campus, Ross Valley USD

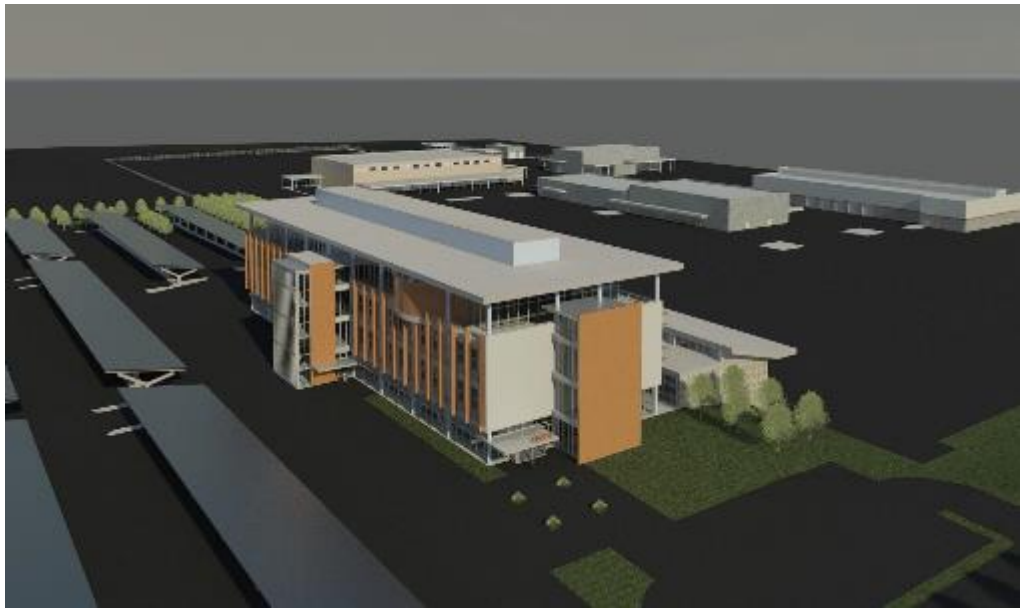
Bay Meadows

UC Santa Cruz West Housing

1700 Webster

Integrated Genomics Lab, LBNL

SFO Consolidated Administration



SMUD

PG&E Livermore

UCSD Nuevo West

UC Davis Webster Hall

Thank You!