

## Getting To Zero

AIA SEATTLE | FALL 2014- WINTER 2015 | SEATTLE CITY HALL, BERTHA KNIGHT LANDES ROOM

*\* all sessions/speakers subject to change*

PROGRAM: FRIDAY, NOVEMBER 7, 2014\*

### GETTING TO ZERO: MARKET REALITIES & THE VALUE PROPOSITION FOR NET ZERO ENERGY BUILDINGS

8.30-9.00 am **REGISTRATION** and Continental breakfast

9.00-9.30 **WELCOME**

**Market Realities: What is the Value Proposition for Getting to Net Zero Building?**

**Chris Meek, AIA** | University of Washington, Integrated Design Lab

**Joel Loveland** | University of Washington, Integrated Design Lab

9.30-10.30 **State of Net Zero Building**

**Mark Frankel** | New Buildings Institute

10.30-11.00 BREAK

11.00-12.00 **The Value Case for Getting to Net Zero Buildings**

**Molly McCabe** | HaydenTanner

The market requires a vastly different business case for owners, one that looks at the total value of sustainability and Net Zero and includes the full range of non-energy, as well as energy benefits. Decisions around sustainability need to quickly move beyond neat rows of check boxes (and simple payback) to the messy complexity of real life. There exists a quantifiable suite of integrated payoffs at the property level that accrue to both owner and occupants, as well as at enterprise and community levels. Change happens when we are able to articulate the benefits in the context of this complexity and make this the primary source of inspiration and the lever for action versus falling into the trap of easy black and white answers. In this evolved business model, sustainability and net zero effectively future-proof a building against functional and economic obsolescence, while increasing the stability and predictability of the income stream. The resulting methodology both quantifies and monetize the results – at the property, tenant, enterprise and community levels and looks to provide the means to fund it.

12.00-1.00 pm **GTZ Development Case Study for the Greenfire Campus**

**Ray Johnston** | Johnston Architects

**Jesse Anderson** | Blanton Turner

**Mark Garff** | Project Groundwork, LLC

**Ginger Garff** | Johnston Architects

**Tom Marseille** | WSP

**Elizabeth Rinehart** | Walsh Construction Co.

The Greenfire Campus consists of a commercial building, an apartment building and a quarter acre of riparian corridor in the heart of a dense Seattle neighborhood. It targets LEED Platinum for the commercial building and LEED Gold for the residential building. It achieves approximately 60% of the performance required by the Living Building Challenge and is performing well above design targets. Energy loads are offset by a combination of ground source heat pumps, solar thermal and solar PV, but are further reduced through innovative application of daylighting, chilled beam technology and natural ventilation. The project was designed with two concepts in mind: Sensible Sustainability and Social Sustainability. It demonstrates that sustainable strategies are reasonable investments in individual

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projects beyond the benefits to our culture at large. It also demonstrates that people can live, work, play and farm in the same complex.

PROGRAM: FRIDAY, DECEMBER 5, 2014\*

### GETTING TO ZERO: INTEGRATED DESIGN AND PROCESS FOR NET ZERO ENERGY BUILDINGS

8.30-9.00 am **REGISTRATION** and Continental breakfast

9.00-9.45 **WELCOME: Introduction to Integrated Energy Design**

**Designing for Net Zero Energy: An Overview of Integrated Energy Design**

**Mike Hatten** | SOLARC

Integrated design has a multiplicity of definitions still largely dependent upon the designer and the project. In an overview introduction to Session 2, those definitions will be reviewed and the most relevant explored for design content and process implications. Connections will be made with the AIA +2030 series content, though an emphasis on strict energy outcomes rather than implied carbon outcomes will be developed as an overview theme. Performance testing of an emergent design is a key element for the most robust definitions of integrated design. For net zero energy projects, energy performance testing becomes critical both for the use patterns of the building and the output capacity of the onsite renewable energy system. The implications of such testing will be highlighted as a driver of both content and process for net zero energy designs.

9.45-10.15 BREAK

10.15-12.00 **Integrated Design Process: The Design Team's Perspective**

**Justin Stenkamp** | PAE Consulting Engineers

**Jim Hanford** | The Miller Hull Partnership

**Margaret Sprug** | The Miller Hull Partnership

Design and construction of net zero energy buildings require a more integrated design approach than typical new building projects. Team development from the outset, early research and energy modeling, and continual evaluation of project costs are critical to the design effort. In later design stages and in construction, enhanced quality control and more integrated commissioning are required. Planning for occupancy during the design and understanding that systems may need tweaking once construction is underway is also important to the success of a net zero project. This presentation covers specific design strategies in addition to process-oriented concepts along a timeline that ranges from project initiation to post-occupancy. The presenters draw upon their experience designing the Bullitt Center (on track to become the world's largest commercial Living Building) and other projects with similar aggressive energy goals.

12.00-1.00 pm **Integrated Design for Net Zero Energy Case Study: Rice Fergus Miller Office Building**

**Greg Belding** | Rice Fergus Miller, Inc.

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In 2011 Rice Fergus Miller completely renovated a former Sears Auto Center, transforming it into its new office and studio – in the process this 30,000 square foot abandoned 1940's building in Bremerton, WA became the most energy efficient commercial office building in the Pacific Northwest, and became a model for how to achieve high performance, sustainable design solutions in a changing economic climate.

Using this project as a case study, this presentation will explore how the architectural and engineering design team engaged owners, contactors, occupants, and financing institutions to expand the idea of integrated design; and how this expanded concept of the design team – guided by six sustainability goals identified at the project's outset – was able to deliver zero net energy performance, LEED Platinum certification, and transform an office culture at a market rate construction cost (\$105/square foot).

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PROGRAM: FRIDAY, JANUARY 9, 2015\*

### GETTING TO ZERO: BUILDING AND OPERATING NET ZERO ENERGY BUILDINGS

8.30-9.00 am **REGISTRATION** and Continental breakfast

9.00-9.30 **WELCOME: Building and Operating Net-Zero Energy Buildings**  
**Joel Loveland** | University of Washington, Integrated Design Lab

9.30-10.30 **Building and Operating Net-Zero Energy Buildings & Owner and Occupant Engagement, Leasing and Owning Process**  
**Casey Schuchart** | Schuchart Construction  
**Chris Faul** | Point32  
**Angela Faul** | ACJK Consulting

10.30-11.00 BREAK

11.00-11.30 **The Net Zero Certification Program**  
**Amanda Sturgeon** | International Living Future Institute

11.30-1.00 pm **Design/Construction/Hand-off to Ownership**  
**Jack Avery** | Sellen Construction  
**Tom Marseille** | WSP

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PROGRAM: FRIDAY, FEBRUARY 6, 2015\*

### GETTING TO ZERO: LONG-TERM OPERATIONS FOR NET ZERO ENERGY BUILDINGS

8.30-9.00 am **REGISTRATION** and Continental breakfast  
9.00-9.15 **WELCOME: Long Term Operations for Net-Zero Energy**  
**Heather Burpee** | University of Washington, Integrated Design Lab

9.15-10.00 **Owner's Perspective, Edith Green Team**  
**Patrick Brunner** | U.S. General Services Administration (GSA)  
**Lisa Petterson** | SERA Architects  
**Matthew Braun** | Howard S. Wright

The Edith Green-Wendell Wyatt project team, consisting of the owner (GSA), A-E (SERA Architects), and builder (Howard S. Wright) team will share: The regulatory history for energy conservation requirements included in the project; How those requirements were translated into scope, and reconciled with existing/outdated mandates; and the decision process for clarifying owner objectives; Additionally, this session will include the science and studies that influence and impacted conservation objectives, the design process, and subcontractors delivering that scope; Building features and distinctions; How the delivery method (IDP-like) influenced or enhanced conservation requirements or sustainability features, as well as how it affected contract roles and responsibilities; and, Challenges energy generation (PV) caused utility providers.

10.00-10.45 **Occupant Productivity and Behavior Change**  
**Judith Heerwagen** | U.S. General Services Administration (GSA)

10.45-11.00 BREAK

11.00-11.45 **Monetizing Energy Efficiency Benefits Over 20 Years**  
**Rob Harmon** | EnergyRM

11.45-12.30 **Policy and Regulation**  
**Mark Frankel** | New Buildings Institute

12.30-1.00 pm **Wrap Up**  
**Joel Loveland** | University of Washington / Integrated Design Lab