

PANEL 10 - Net Zero, Net Positive

PANEL LEADERS: **Paul Torcellini**, *National Renewable Energy Laboratory* and **Peter Turnbull**, *Pacific Gas & Electric Company*

SESSION TOPICS: Procuring ZNE buildings; the value of monitoring and feedback for diagnosis, correction and ZNE validation; the role of occupants and operators; case studies of residential and commercial ZNE buildings constructed at low or zero incremental cost including actual construction cost data and energy performance data; can we retrofit buildings to ZNE performance levels?; what is the use-case for batteries in a ZNE application?; modeling tools and ZNE performance: can ZNE performance be successfully predicted?; community-scale ZNE: time scales and planning processes for optimizing infrastructure investment; wise use of existing infrastructure; building codes, appliance standards and bringing ZNE to scale: state and federal policy integration challenges; the grid and ZNE: challenges and opportunities for “sustainable” rate design for ZNE facilities fair to all ratepayers; practical issues affecting grid operation