

Planning a Net-Zero Ready Facility: Counter-Intuitive Opportunities and Solutions

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ABSTRACT

The built environment is flush with examples of commercial & institutional buildings which have embraced and successfully achieved their high performance, net zero / net positive objectives. Buildings which comprise a more energy intense footprint - such as light industrial & manufacturing - present a different challenge to the design & construction community in part due to their high process equipment loads & operational schedules. While clients understand the importance of embracing energy-efficient infrastructure, just as important is the planning process to evaluate the cost-benefit analysis & ensuring the speculative property can meet the perspective tenant needs.

We will discuss the planning process for a net-zero ready light industrial facility, including counter-intuitive solutions discovered and the flexible programming opportunities revealed. We will explore the role of resiliency planning for an energy intense operation, and demonstrate that the pursuit of a very low-energy facility does not impede a functional use; rather, it presents opportunities for integrating both goals.

BIOGRAPHIES

Chris Piche (Engineer): Chris brings a broad understanding of high performance systems to each project. His approach is rooted in the philosophy that environmentally responsible design must constantly evolve to suit the technology available in balance with the client's goals and objectives. Chris provides leadership for Elementa Engineering's Performance Engineering Group - a team explicitly trained and specializing in building optimization.

Patrick Thibaudeau (Architect): Patrick is vice president of HGA's sustainable design practice, and is part of a national group of large architecture firms that supports the American Institute of Architects' (AIA) 2030 Goals for carbon neutral buildings by the year 2030. He also serves on the 2010 Editorial Advisory Board for Eco-Structure.

Tim Hughes (Engineer): Tim brings over 32 years experience in the project management, design and construction support of capital projects. Current emphasis is toward business management, client/government relations and leadership of corporate sustainability strategic

initiatives including cultural and business transformation. Provide project leadership on strategic projects. Design expertise in HVAC, energy, sustainability, plumbing & fire protection disciplines.