Bank of Italy Building's Net Zero Energy Renovation: A Case Study
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GENERATE ON-SITE RENEWABLE ENERGY

The designation of Net-Zero Energy describes a building that meets all of its energy demand with on-site renewable energy generation. The Bank of Italy Building, in Downtown San Jose, California, is currently undergoing design-development to transform a landmark historical site into a modern, Net-Zero energy building. This study analyzes the project team’s design approach, in light of the project’s unique challenges as a historic landmark. In order to understand the economic rationale behind the project, the paper provides a financial analysis that compares the initial investment costs with the projected value of costs saved.

Location: 12 South First Street, San Jose, CA
Building Size: 118,371 square feet
Developer: Kevin Bates, Sharp Development
General Contractor: Build Group, Inc.

REDUCE DEMAND

- Building Management Software
- Exposed Concrete
- Electrochromic Windows
- High-Efficiency MEP System
- High-Performing Insulation

Energy Use Index (EUI) reduced from 92 kBTU/sf to 18 kBTU/sf
Yearly Energy Demand reduced from 3,191,583 kWh/yr to 624,440 kWh/yr

ECONOMICS

<table>
<thead>
<tr>
<th>Energy Demand</th>
<th>Energy Cost in Bay Area</th>
<th>Total Energy Cost</th>
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</thead>
<tbody>
<tr>
<td>3,191,583 kWh/yr</td>
<td>$0.204 /kWh</td>
<td>$651,083 /year</td>
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Energy Use Index = 92 kBTU/sf
51.9% higher than national average

PAYBACK PERIOD

INITIAL INVESTMENT: $5,899,611