Swedish-Canadian collaboration
C40 competition
Montreal, Canada

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Key Challenge: 10
Mandatory: 1/10

C40 Reinventing Montreal
CIRCULAR COMMUNITY
focused on climate and social resilience
SUSTAINABLE DESIGN

Parking
Ground Floor
Interior Courtyard
Level
Residential
18m deep
Social Housing
Residential
14m deep
Interior Courtyard
Level
Ground Floor
Parking

Résidentiel
Habitations communautaires
Bureaux
Garderie
Commerce
Ateliers / centre de diffusion / espace collectif / Fab Lab
Aquaponie
Marché
Espaces communs
Cour de voirie
Stationnement
ENERGY SAVINGS MEASURES

<table>
<thead>
<tr>
<th>Component</th>
<th>U-values W/m²K CANOE</th>
<th>Minimum building code 2015, 9.36.2.6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Roof</td>
<td>0.09</td>
<td>0.21</td>
</tr>
<tr>
<td>Ext. Walls</td>
<td>0.14</td>
<td>0.32</td>
</tr>
<tr>
<td>Ground slab</td>
<td>0.19</td>
<td>0.51</td>
</tr>
<tr>
<td>Windows</td>
<td>0.8</td>
<td>1.6</td>
</tr>
<tr>
<td></td>
<td>Baseline</td>
<td>High performance + electrification</td>
</tr>
<tr>
<td>-------------------------------------------</td>
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<td>--------------------------------------</td>
</tr>
<tr>
<td>Total electricity consumption (MWh)</td>
<td>5051</td>
<td>4847</td>
</tr>
<tr>
<td>Total gas consumption (MWh)</td>
<td>5174</td>
<td>0</td>
</tr>
<tr>
<td>Total energy consumption</td>
<td>10 225</td>
<td>4847</td>
</tr>
<tr>
<td>Total emissions from electricity (T)</td>
<td>8,1</td>
<td>7,8</td>
</tr>
<tr>
<td>Total emissions from gas (T)</td>
<td>936,2</td>
<td>0</td>
</tr>
<tr>
<td>Total emissions (T)</td>
<td>944,2</td>
<td>7,8</td>
</tr>
<tr>
<td>Offset from PV (T)</td>
<td>0,354</td>
<td>0,354</td>
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<tr>
<td>Remaining emissions (T)</td>
<td>943,8</td>
<td>7,4</td>
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<tr>
<td>Percent offset by PV</td>
<td>0,04%</td>
<td>4,57%</td>
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</tbody>
</table>
Structural Material impacts on GWP (kgCO2e)

- Net GWP: 13,497,800 kgCO2eq
- Embodied Carbon: 12,938,800 kgCO2eq
- Sequestration: 8,875,189 kgCO2eq
- Net GWP (100% EPD Benchmark Concrete): 9,607,700 kgCO2eq
- Net GWP (Current Structural Design): -483,800 kgCO2eq
"If you lose, don’t lose the lesson."

Dalai Lama