



association  
management

training

certification

quality assurance

standards

building codes

historic net\_zero<sup>tm</sup>  
\_recycle  
\_rejuvenate  
\_reuse

*Building confidence for over 30 years*



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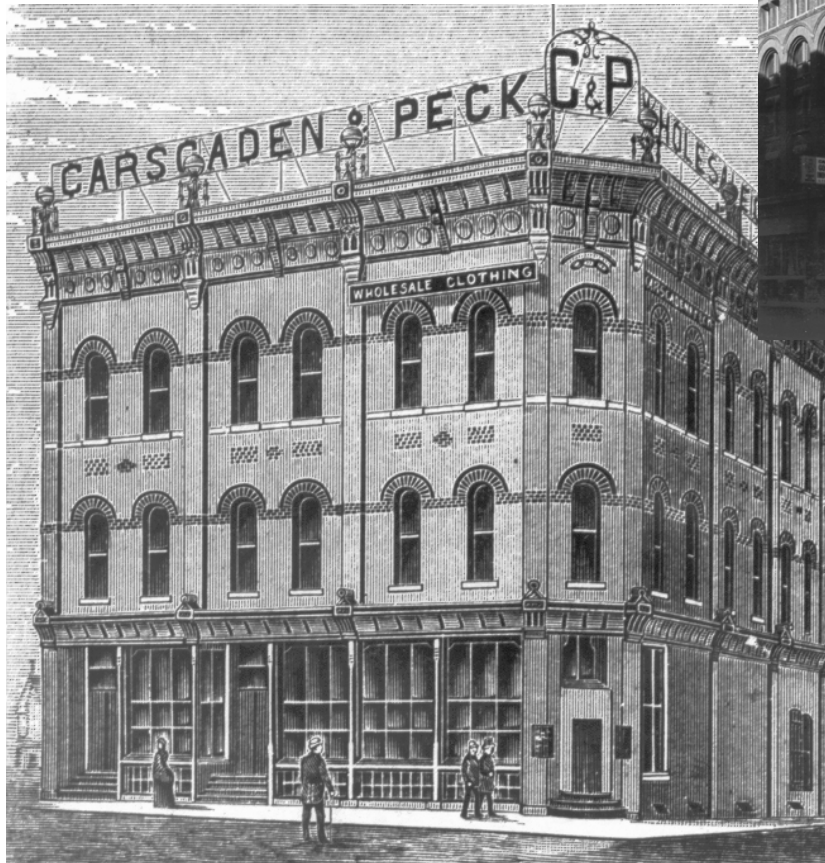
## the concept

- historic buildings
- retrofit
- green
- smart people
- collaboration
- integrated
- passion
- global
- have fun
- next steps
- outcomes



# historic zero<sup>tm</sup>

## historic buildings



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## historic buildings



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## historic buildings

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## historic buildings



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## draft charter

- vision
- energy goals
- certifications
- info transfer



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## draft vision

to redevelop a collection of three older buildings in Winnipeg that explore and set new benchmarks for what can be achieved in cost-effectively improving the energy and environmental performance of mixed-use, heritage buildings in a cold, northern climate.”

for energy, multiple preliminary goals to be proposed that can be scrutinized by the design team at the initial design charrette to formally launch the project.





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## draft goal\_1

to minimize (or eliminate) the need for nonrenewable fossil fuel (i.e. natural gas).

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## draft goal\_2

to benchmark and disclose projected and actual post-occupancy energy use using the new Canadian adaption of the U.S. EPA's ENERGY STAR Portfolio Manager.



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## draft goal\_3

to maximize the use of on-site renewable energy where it can be found to be cost-effective on a life-cycle cost basis.



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## draft goal\_4

to make provision for the future addition of renewable energy systems that currently are not cost-effective but may become cost-effective within each building's service life (e.g. photovoltaic's, charging stations for plug-in hybrid and battery electric vehicles, etc.).



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## draft goal\_5

to demonstrate the use of innovative and advanced materials for reducing energy use (e.g. vacuum insulation).

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## certifications

green globes, power Smart, the 2030  
challenge, r-2000, leed, living building  
challenge, passivhaus, boma best.



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## info transfer

cmhc, aia, raic, maa, apegm, cgbc, csc, boma, bec's, betec, abaa, naba, spfa,  
manuf, contractors, installers,

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## retrofit

- do I really need to explain this ?

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## green

- better than new
- net-zero
- we will define it
- restorative
- recycle
- transportation
- healthy living



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## smart people

- you
- other people we like



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collaboration  
- u.s/can/europe

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## integrated

- trades/manufacturers/architects/engineers/mechanical/etc

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passion  
- required

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## global

- export of knowledge
- business opportunities – mexico, europe, south africa, china, japan, south america



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have fun  
- you bet

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## next steps

- april 1<sup>st</sup> launch
- other stakeholders
- steering committee
- who else has done this





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## outcomes

- catalyst
- scientifically backed research
- new green rating system
- ISO standard for green retrofit
- education and outreach
- curriculum
- design guide



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## partners

- architecture
- engineering
- modeling
- manufactures
- general contractors
- sub-trades
- research
- academia
- consultants



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## partners

- architecture
  - number 10, ft3, stantec
- engineering
  - crosier kilgour, unies, patenaude-trempe
- energy engineering
  - integral group, proskiw, integrated design, hockman
- hvac
  - hockman, unies, SMS



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## partners

- research
  - nrc, rrc, ornl, ashrae, u of m, u of waterloo



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## partners

- education
  - u of m, rrc, cmhc, aia, raic, maa, apegm, cgbc, csc, bec, betec, abaa, naba, spfa, global manuf
- facilitate
  - ken, ryan



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## partners values statement

scientific data and research – 5, 1, 10, 25, 50 years

moisture monitoring, r value, u value, air leakage, climate, interior loads

name on historic zero website

plaque on each building

access to video / photo's of your product/service/support

listed as official sponsor in all outreach and

education

education to internal employees about process

included in curriculum

access to online education

included in collateral marketing material

lessons learned



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