


Green Building Policy for Government of Manitoba Funded Projects

The title text is overlaid on a background of five circles. Two circles are solid light green, and three are hollow with a light green outline. The circles are arranged in two rows: the top row has three circles and the bottom row has two circles.

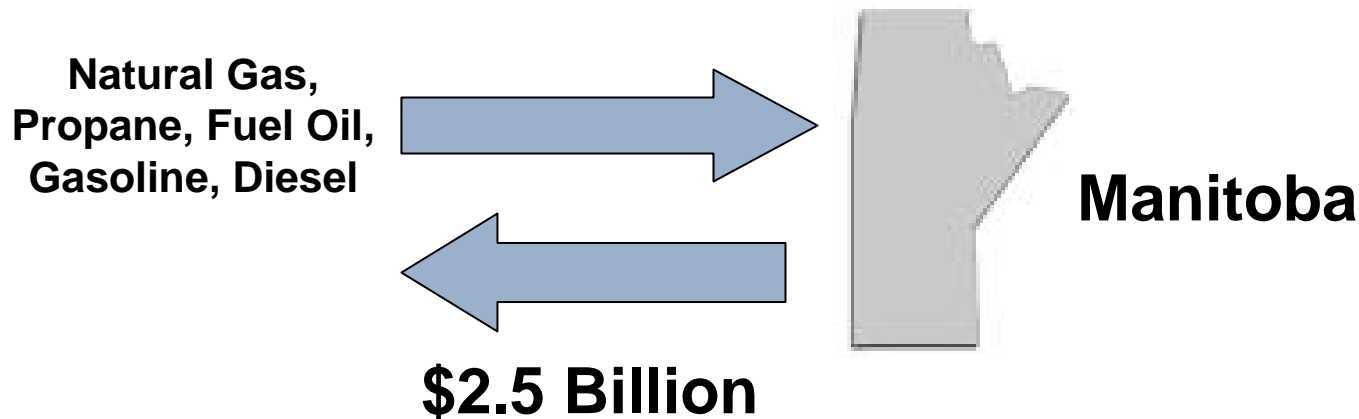
**Manitoba Interdepartmental
Green Building Policy Working Group
April 11, 2006**

“Government of Manitoba” Utility Bills

Schools	\$ 28 million
Colleges	\$ 14 million
Hospitals	\$ 15 million
Family Services & Housing	\$ 18 million
Offices	\$ 8 million
Other	<u>\$ 22 million</u>
TOTAL ENERGY	\$105 million
TOTAL WATER & SEWER	\$ 30 million (estimate)

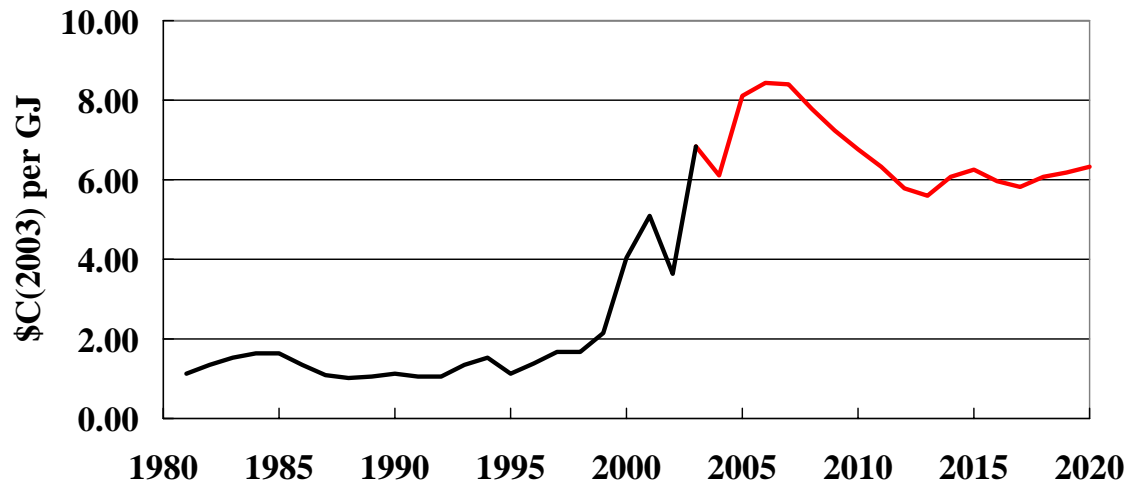
Green Buildings in Context

Manitoba imported about \$2.5 billion of non-renewable fossil fuel in 2005



Green Buildings in Context

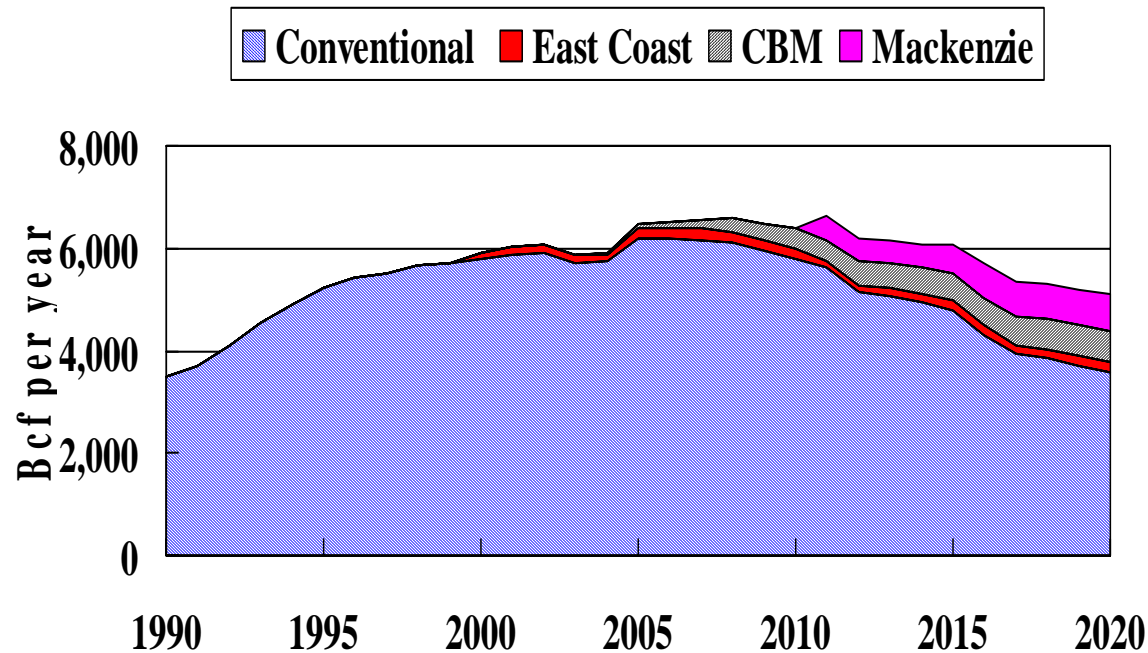
Natural Gas Wellhead Price (Alberta)



Source: Natural Resources Canada

Green Buildings in Context

Total Canadian Gas Production



Source: Natural Resources Canada



Green Building Benefits

- Compared to conventional buildings
 - Reduce energy, water and sewer bills
 - Lower maintenance, repair and renovation costs
- Increase health and productivity
 - Increase worker output, less absenteeism
 - Improve learning in schools
 - Faster recovery in health care facilities
- Provide significant environmental benefits
 - Less reliance on imported, non-renewable energy sources
 - Reduce greenhouse gas and other emissions
 - Use materials with fewer environmental impacts



Green Building Benefits

- Increase asset value
 - Positive public image (“lead-by-example”)
 - Increases property value
 - Easier to attract, retain top employees
- Create economic opportunities
 - Stimulate demand for environmentally-preferable building products and services
- Reduce economic leakage
 - Lessen exposure to price volatility and long-term supply concerns with natural gas, propane and fuel oil
- Establish Manitoba as a national leader and recognized centre of expertise in Green Buildings



Green Building Cost Studies

- Several studies have examined cost-effectiveness of green buildings
 - Many green building projects (including local ones) have shown no increase in overall capital cost (e.g. C-2000)
 - Key is “Integrated Design Process”
 - Any capital cost premiums more than offset by lower operating costs
 - Critical to breakdown barriers between initial construction cost and operating costs (i.e. use life-cycle costing)



Green Building Cost Studies

- Green Value report by RICS
 - October 2005 study lead by Royal Institute of Chartered Surveyors with 11 sponsors from the UK, Canada and U.S.
 - Reviewed over 300 technical papers and other sources plus case studies of 17 green buildings
- Conclusions
 - Green buildings save money overall and offer better value than their conventional equivalents
 - Average capital cost premium only 2% for LEED buildings
 - Surprise finding: biggest return is increased productivity
 - Improved asset value often not recognized

“Sustainability is not simply an ethic, it’s good business.”



Green Building Cost Studies

- California Sustainable Buildings Task Force
 - October 2003 comprehensive review of costs and benefits of green buildings
 - Conducted by a multi-agency, interdisciplinary group of representatives from various State departments with fiscal, construction and environmental policy expertise
- Conclusions
 - Similar findings as RICS Study (i.e. productivity gains, decreased operating costs, etc.)
 - Led to Executive Order from Governor making all State building projects green, and...



Upfront investment of less than 2% of construction costs yields life cycle savings of over ten times initial investment.



California Sustainable Building Task Force

Financial Benefits of Green Buildings Summary of Findings (per ft²)

Category	20-Year NPV
Energy savings	\$5.79
Emissions reductions	\$1.18
Water savings	\$0.51
Waste reduction (construction only)	\$0.03
Commissioning operation & maintenance savings	\$8.47
Productivity and health benefits (LEED Certified & Silver)	\$36.89
Productivity and health benefits (LEED Gold & Platinum)	\$55.33
Less green building capital cost premium	<\$4.00>
Total 20-year Net Present Value (LEED Certified & Silver)	\$48.87
Total 20-year Net Present Value (LEED Gold & Platinum)	\$67.31

Manitoba Green Buildings



Shindico Head Office



Smith Carter SC3 Head Office



Entegra Credit Union



Ship Street Village on Waterfront Drive

Manitoba Green Buildings



The Winnipeg Humane Society



Mountain Equipment Co-op



Red River College Princess Street Campus

Manitoba Green Buildings



Manitoba Hydro Downtown Head Office



Winnipeg Airport Redevelopment



LEED – What is it?

- Leadership in Energy & Environmental Design
 - Voluntary consensus-based rating system adopted from U.S.
 - Administered by Canada Green Building Council (CaGBC)
- Points for meeting performance criteria in six areas:
 1. Sustainable Sites
 2. Water Efficiency
 3. Energy Efficiency and Atmosphere
 4. Materials and Resources
 5. Indoor Environmental Quality
 6. Innovation in Design Process

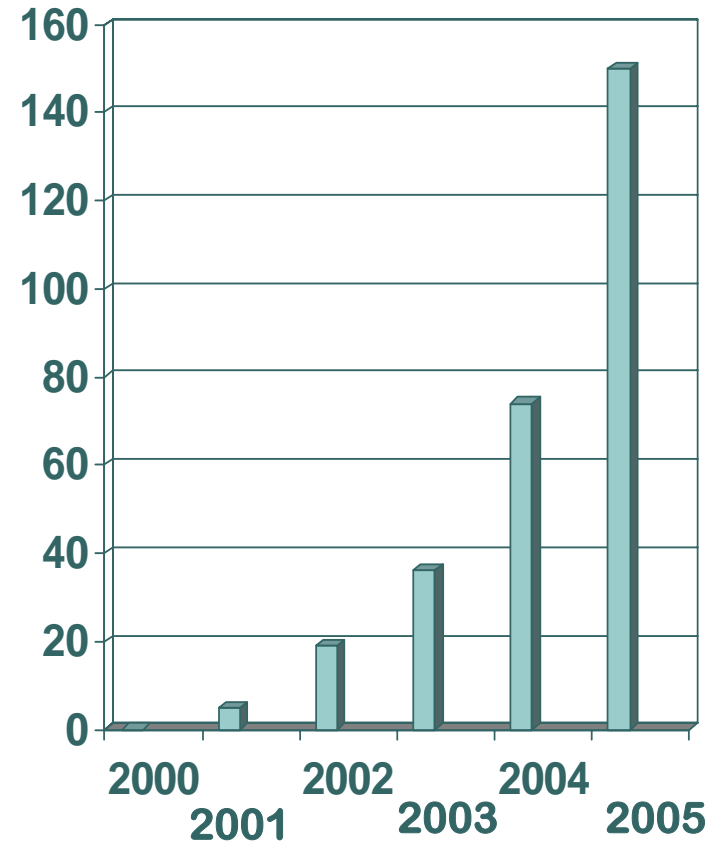


LEED – What is it?

- Number of points determine rating
 - Certified (28 to 32 points)
 - Silver (33 to 38 points)
 - Gold (39 to 51 points)
 - Platinum (52 to 70 points)
- LEED requires minimum 25% reduction in projected energy consumption compared to Model National Energy Code for Buildings (mNECB)
 - Most new buildings are already being built about 10% to 15% better than mNECB

Green and Growing

- LEED-registered projects double or triple each year in Canada





Canadian Jurisdictions with Green Buildings Policies

- Public Works & Government Services Canada
 - LEED Gold
- City of Vancouver
 - LEED Gold
- Alberta Infrastructure
 - LEED Silver
- City of Calgary
 - LEED Silver
- City of Edmonton (soon)
- Government of Manitoba (soon)



Manitoba Interdepartmental Green Building Policy Working Group

Representative

Co-Chairs:

Shaun Loney
Todd Callin

Working Group Members:

Dianne McCoy
Dimple Roy
Patrick Done
David Firman
Georges Marchildon
Robert Bisson
Robert Walger
Ken Klassen
Terry Kozak
Mike Burrows
Norman Blackie
Angela Driver
Rod Berschied
Gerry Shuster

Ex-Officio:

Sig Laser
Rodney McDonald

Department

EST/EDI
Finance

MAFRI
Conservation
Culture, Heritage and Tourism
Culture, Heritage and Tourism
Education, Citizenship and Youth
Education, Citizenship and Youth
EST/EDI
EST/EDI
Family Services and Housing
Family Services and Housing
Health
Health
Transportation & Govt. Services
Transportation & Govt. Services

CEDC
Manitoba Hydro



Vision, Purpose and Goals

1. Reduce overall expenditures for public buildings over their life cycle
2. Reduce Manitoba's exposure to volatile natural gas prices and uncertain supplies
3. Create consistent framework across government
4. Maximize environmental benefits
5. Lower greenhouse gases and other emissions
6. Provide healthier, more productive indoor environments
7. Create economic opportunities for Manitoba companies (ahead of the growth curve)



What is the Proposed Policy?

1. LEED Silver or better, plus...
2. Three additional LEED points for energy efficiency
 - Must be at least 33% better than the Model National Energy Code for Building
 - CBIP average (700⁺ buildings) is 36%
3. Manitoba Hydro Power Smart Design Standards
4. Must use Federal & Manitoba Hydro incentives
 - NRCan's Commercial Building Incentive Program (CBIP) or EnerGuide for Existing Buildings
 - Power Smart Commercial Construction Program



Policy Scope

- Organizations affected
 - All provincial departments, crowns, agencies as well as other entities whose projects receive provincial funding
- Types of projects
 - All new non-residential buildings and additions to existing buildings greater than 500 sq. m (5400 sq. ft.)
 - Renovation of existing buildings where the “economics of new construction apply” (i.e. where the projected cost exceed 50% of the cost of a new building)



Policy Scope

- Policy does **not** apply to
 - Existing buildings that are not undergoing extensive renovations or replacing major mechanical systems
 - Leased accommodations
 - Low-rise housing
 - Temporary or emergency buildings
 - Industrial and Farm Buildings



Green Building Coordination Unit

- To be established within Green Manitoba (SOA)
- Role and activities
 - Outreach and education
 - Development of implementation guide and web site
 - Training and support
 - Interpretation of policy
 - Monitoring and evaluation
 - Coordinate Interdepartmental Green Building Working Group
- 2.00 FTE staff
 - Manitoba Hydro and NRCan to support 1.00 FTE
 - Other 1.00 FTE and \$40.0K operating budget from SDIF



Transition Period

- Recommended that Policy be subject to additional 90-day consultation period
 - Report back to T.B. in Fall 2006 before final approval
- Voluntary compliance until March 31, 2007
 - Mandatory after April 1, 2007
 - Equivalencies, reduced requirements and exemptions permitted if they can be justified



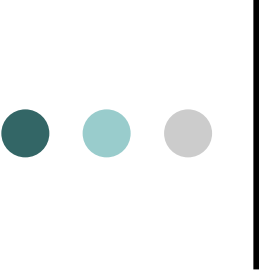
Reporting and Evaluation

- Policy impact to be assessed on an ongoing basis and adjusted with approval from Interdepartmental Working Group
- Interim review to T.B. by March 31, 2008
- In-depth review to T.B. by March 31, 2009



The Next Step

- Manitoba to be first Canadian jurisdiction to mandate that new public buildings be carbon neutral
 - Must consider renewable energy sources
 - If fossil fuel can't be avoided, required to purchase carbon credits from eligible Manitoba projects to offset emissions
 - Exemption for temporary, back-up or emergency power
- April 1, 2008 target date triggered by T.B. but only if credit trading system in place



“Setting an example is not the main means of influencing others, it is the only means.”

Albert Einstein