

BedZed , London England



Partnership of Peabody Trust and
Bioregional devpt.group

Brownfield site

82 units, 244 persons, 2500m² of
workspace on 3.5 acres)

no net co₂ emissions from energy use

affordable housing

biomass **heating from urban forestry**

Public sports field (4000 m² of open
space

Equal solar access



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BedZed

work live

work



passive solar design, solar power, PV energy, onsite biological water treatment, shared electric cars, green roof, local materials, on site agriculture



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MALMO Sweden (2001)



500 units of all types plus commercial..will grow to 30,000 people

Infill on former brownfield

Uses 100% renewable energy

Rainwater recapture/reuse

No cars above ground
courtyards and walkways
instead

Smart homes

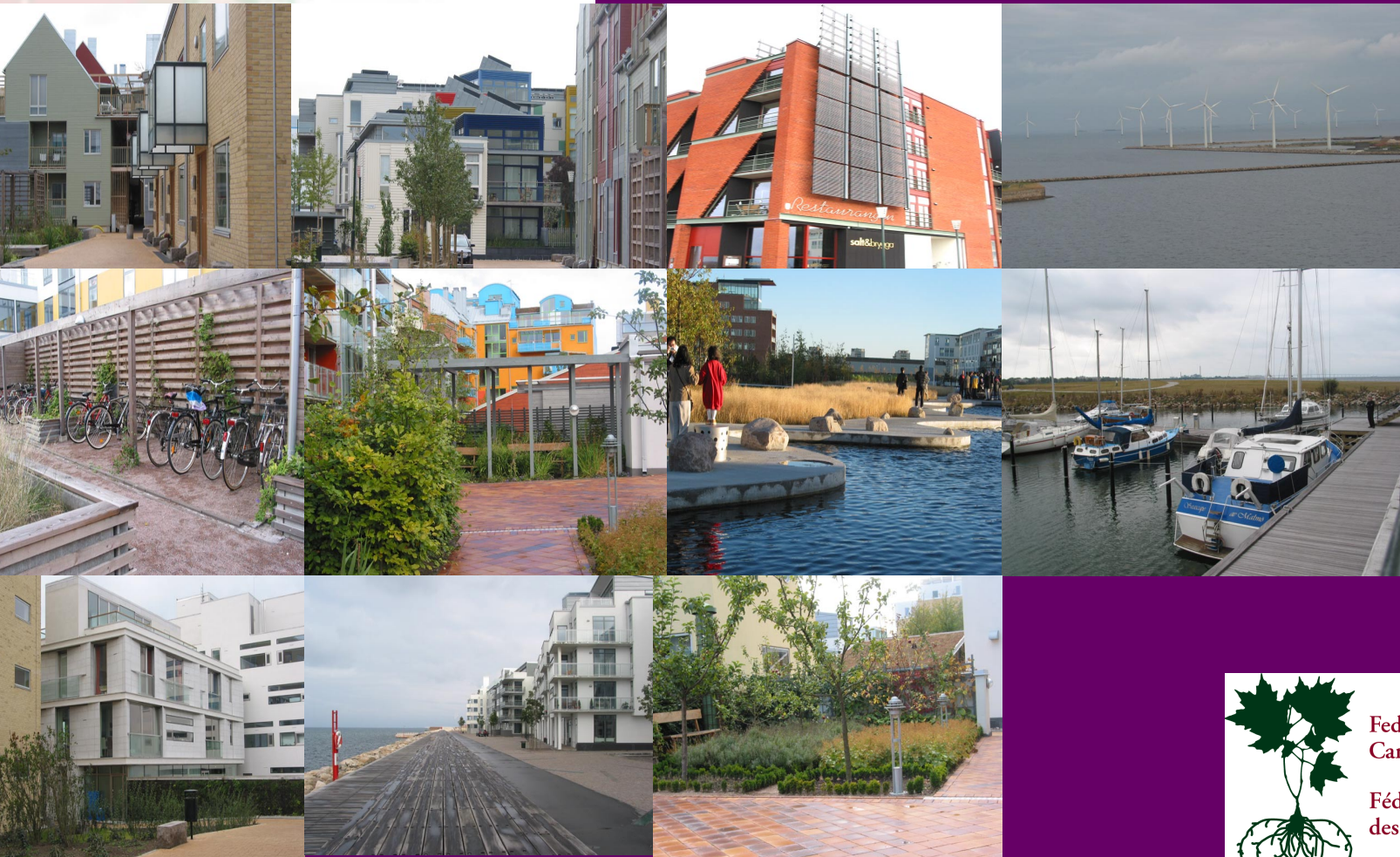
Makes energy
from waste



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MALMO Sweden (2001)



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MALMO Sweden (2001)



Methane from sorted, vacuum collected refuse in larger buildings used to heat this portion of community



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East Clayton Neighborhood Surrey B.C.



live work



Corner lots with coach houses to increase diversity, provide unity to the streetscape and increase "eyes on the street".



inf entry that relates to the street



Commercial space with strong residential building character.



Work. / Live courtyard



Garages and ancillary units accessed via rear lanes



Duplex (Fourplex) design to reinforce the character family areas and contribute to a unified streetscape



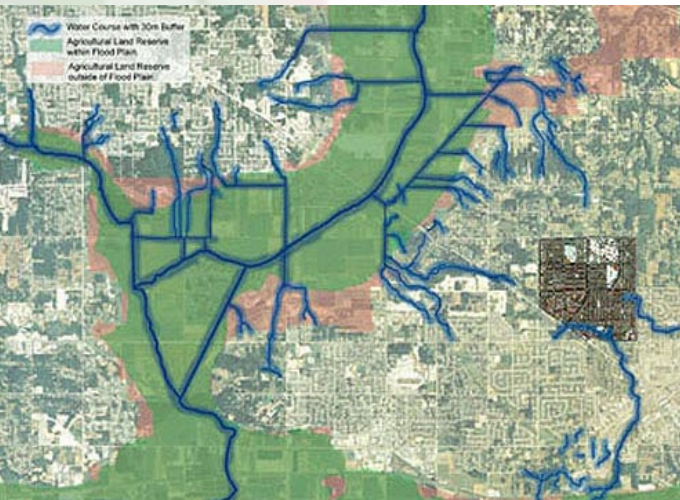
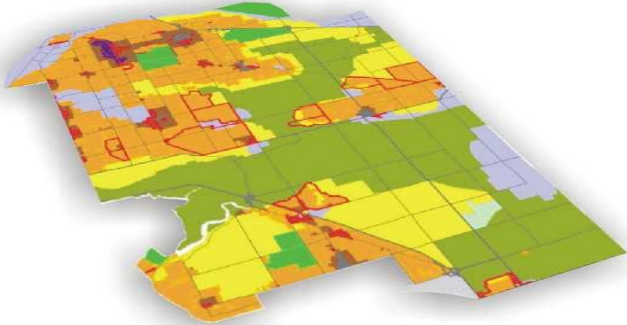
Residences associated with ground-floor retail / commercial uses provided either behind or above the residential uses.



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East Clayton



Planning starts with regional assessment

Community to retain/improve runoff traits to watercourses

Reduces impermeability (roads and parking lots and roofs) to do so

Retains green corridors in natural state

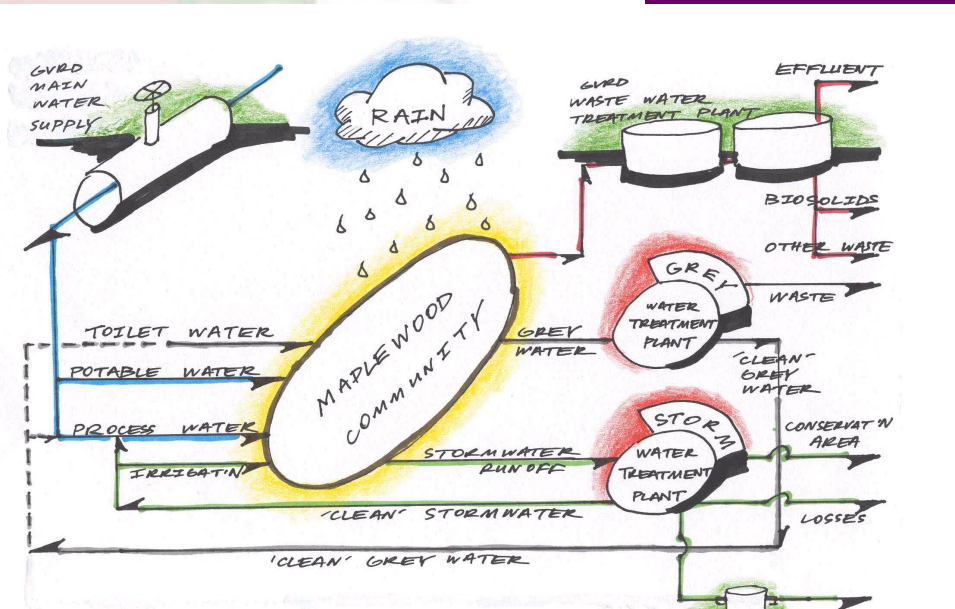
Recognizes major ecological attributes to be retained



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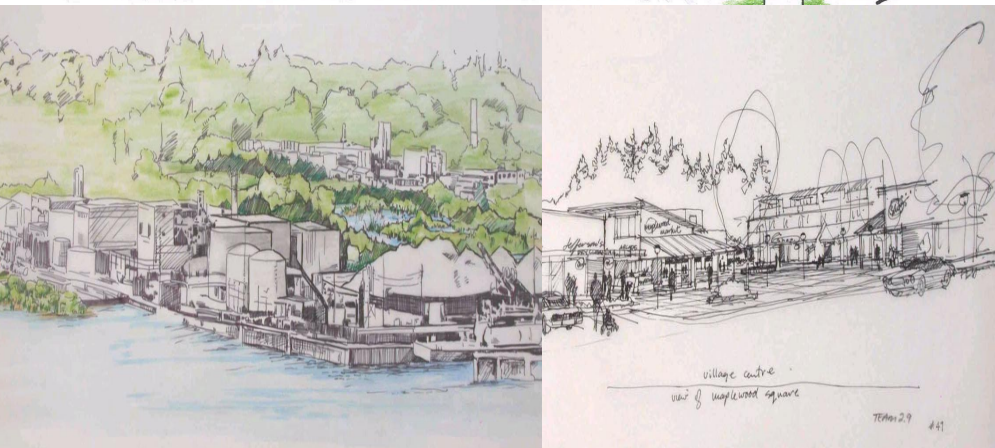
Maplewood, North Vancouver



740 acre community

Integrating eco-industrial network into integrated community retrofit plan

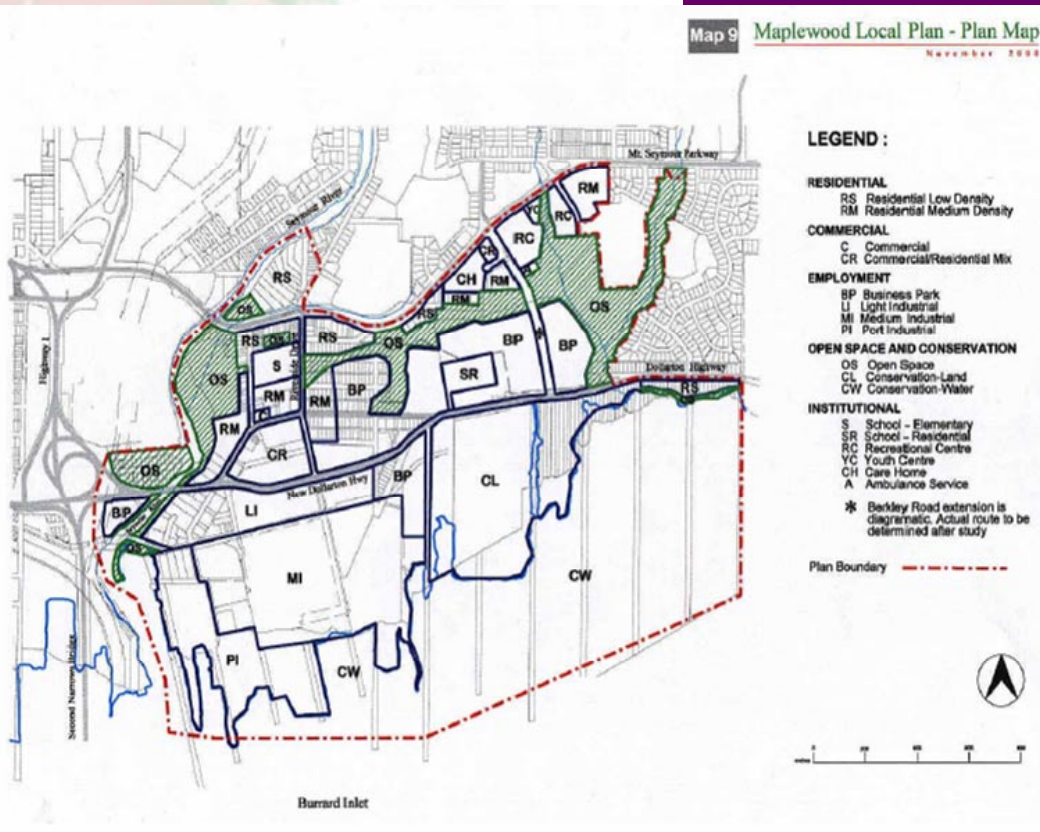
- Systems approach
- Apply nature's lessons



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Maplewood, North Vancouver



Integrate green network
with eco industrial
network and other
community functions



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Southeast False Creek



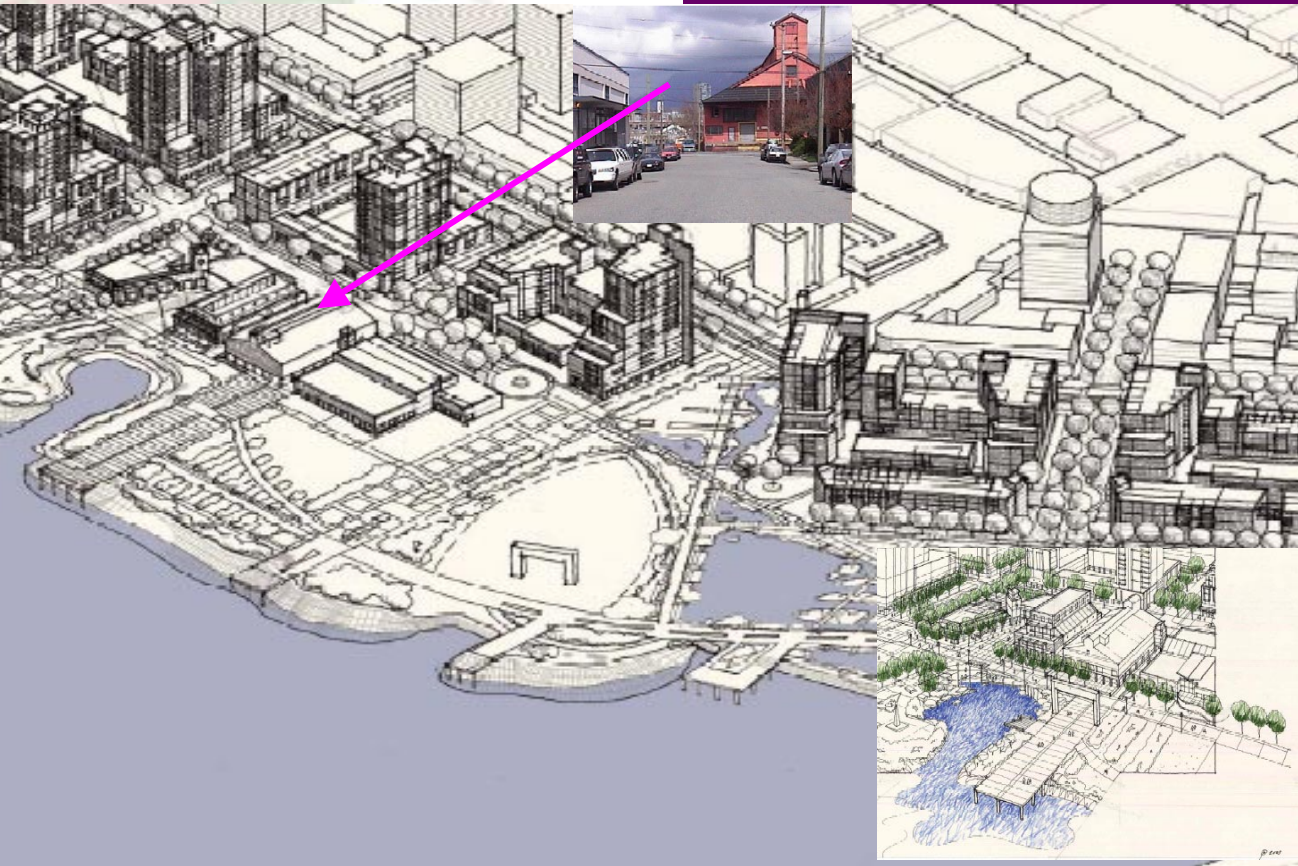
A proposed neighbourhood of 10,000 people on 32 Ha (79 Acre) site in downtown Vancouver. Will provide 27 acres of park space, 3M sq. feet of residential, 2M sq. feet of commercial, 1M sq. feet of industrial space and a school, community centre, and a daycare.



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Southeast False Creek



Mixed building forms and uses

Major green space

Regenerate soil and water

Preserve historical buildings



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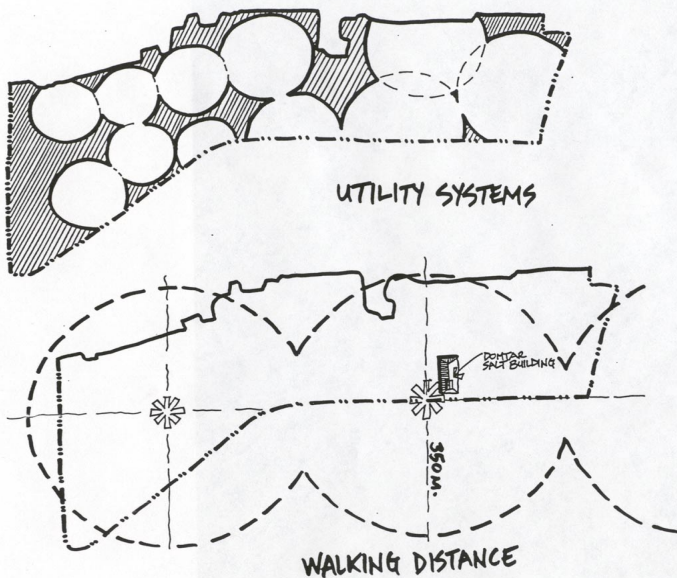
Southeast False Creek



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Intensification facilitates local energy production/distribution, conservation



Intensification
opportunes
energy
generation

Less roads
means more
green means
less cost

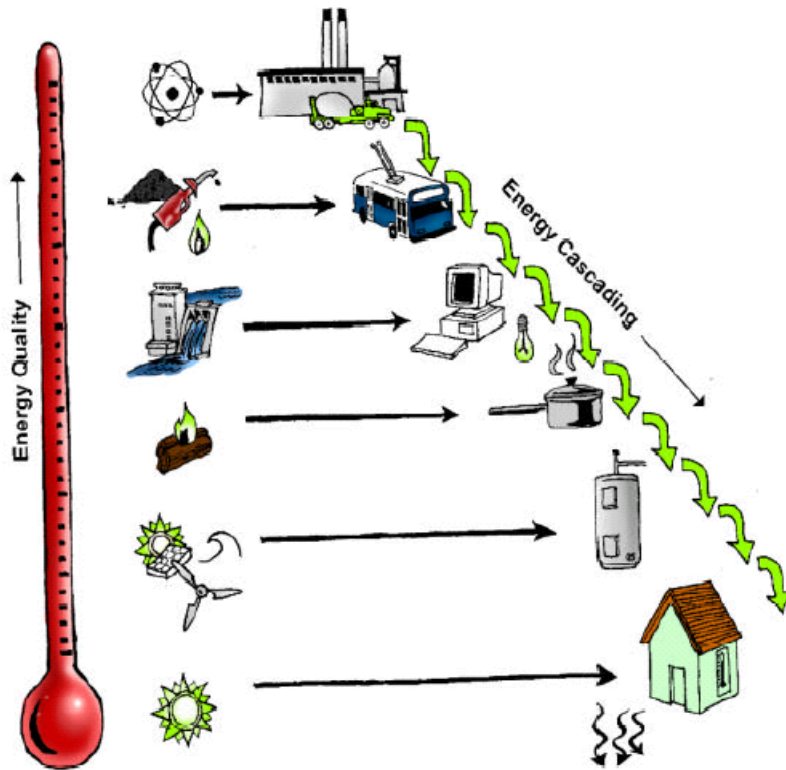
South East False Creek Energy distribution
circles and walking circles



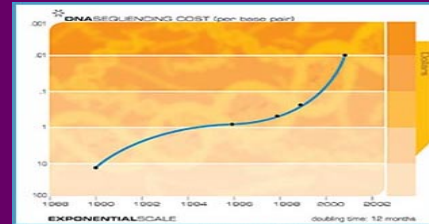
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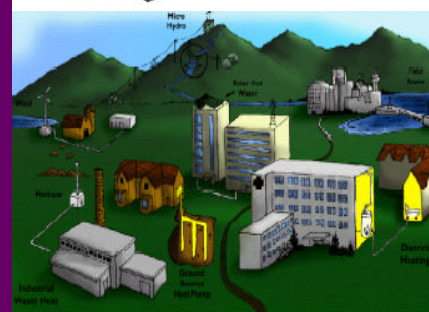
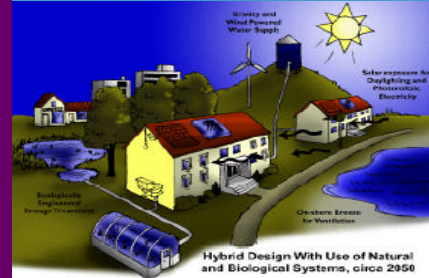
Energy solutions inform overall community system



Well-Matched Energy with Cascading of Waste Heat to Other Uses, circa 2050



Developments in nanotechnology are a prime example of the 'law of accelerating returns'. (The Law of Accelerating Returns by Ray Kurzweil, <http://www.kurzweil.ai.net>)



Distributed Energy System, circa 2050



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Change is risky

➤ **The Centre for Sustainable Community Development supports champions through initiatives focused on:**

- Financial incentives
- Capacity building: Peer teaching and networking
- Capacity building: Technical and information support
- Recognition



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Centre Programs and Services

Financial Services:

- Green Municipal Funds (GMF)
- Affordability and Choice Today (ACT)

Capacity Building: Peer Teaching and Networking:

- Partners for Climate Protection (PCP)
- Community Mission
- Sustainable Communities National Conference and Trade Show



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Centre Programs and Services

Capacity Building: Technical and information support:

- Sustainable Communities Knowledge Network
<http://kn.fcm.ca>
- Environmental Management System (EMS) for small communities

Recognition:

- FCM-CH2M HILL Sustainable Community Awards



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Financial Services: The Green Municipal Funds

- The Government of Canada endowed \$250 million to the FCM to establish and manage the Green Municipal Funds (GMF).
- GMF invests in municipal infrastructure projects that improve air, soil and water quality and that protect the climate.



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Green Municipal Funds

- **Green Municipal Enabling Fund:**
 - \$50 million: grants of up to \$350,000 for half the cost of feasibility studies and field tests

- **Green Municipal Investment Fund:**
 - \$200 million: grants and low-interest loans for project development
 - Pilot projects: innovative projects with loan payback in excess of 10 years. Provides up to 50 per cent of capital costs in a combination of grant and/or long-term loan or loan guarantees

Project Categories

➤ Energy

- Energy-efficient building retrofits
- Renewable energy
- Community energy systems

➤ Water

- Watershed management
- Water conservation; new approaches to potable
- Wastewater and storm water treatment

Project Categories *continued...*

- Solid waste management
 - Waste diversion
 - Landfill gas management
- **Sustainable transportation services and technologies**
 - Public transit
 - Municipal fleets
 - Integrated and alternative transportation systems
 - Transportation demand management

Project Categories *continued...*

- **Sustainable community planning (GMEF)**
 - Sustainable community plans: Integrated planning (landuse, transportation and energy)
 - Community and corporate greenhouse gas reduction plans
 - Watershed management and brownfield redevelopment
- **Demonstration projects (GMIF)**

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Who can apply to the Funds?

- Municipal governments (local and regional)
- Public and/or private-sector project partner(s) of municipal governments
- Can use GMF financing in combination with other Government of Canada federal and provincial/territory funding programs

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Financial Services

Affordable Choice Today

- ACT is a national program designed to stimulate municipal regulatory reform leading to greater affordability, choice and quality in housing
- Grants of up to \$20,000 available to community teams made up of builders, developers, renovators, architects, planners, industry association staff, municipal staff, non-profit and consumer groups and others
- ACT sponsored by the Canadian Mortgage and Housing Corporation and jointly managed with the Canadian Home Builders' Association, the Canadian Housing and Renewal Association and FCM



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Capacity Building: Partners for Climate Protection

- Partners for Climate Protection (PCP) supports municipal actions that cut greenhouse gas emissions (GHG) and support sustainable community development
- Five-milestone framework aims to cut GHG emission 20 per cent from in operations and minimum of 6 per cent in community
- PCP network of communities share information and provide direction on implementation of the Kyoto Protocol
- 110 participants represent about half Canada's population



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Capacity Building: Community Mission

- Annual mission to Europe: Denmark, Finland, Netherlands
- See sustainable community development in action
- Up to 40 municipal staff and politicians participate
- Learn about policies, programs and projects that support:
 - Community energy systems
 - Renewable energy
 - Waste/water management



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Capacity Building: Sustainable Communities Conference

- Attracts municipal politicians and staff, community groups; provincial, federal and corporate partners
- Three day conference features:
 - Municipal story telling, peer teaching and networking
 - High-profile speakers featuring latest thinking in sustainable community development
 - Hands-on learning through interactive tools
- ***2004 Sustainable Communities: You Decide!:
February 4-7, 2004 in Ottawa, Canada***



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Capacity Building: Knowledge Network



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Capacity Building: EMS for small communities



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Recognition: FCM-CH2M HILL Sustainable Community Awards

- FCM – CH2M HILL Sustainable Community Awards recognize municipal actions that contribute to sustainable community development
- Best practices guide published annually features case studies on winning submissions
- Winners recognized at FCM's Annual Conference and Municipal Expo



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