

Notice

In accordance with the Town's Procedure By-law, no decisions are to be made but rather this meeting is an opportunity for Council to have informal discussion regarding various matters.

Declarations of Pecuniary Interest

Items

1. Ms. Susan Hall, Vice-President and Mr. Peter Zerek, Project Manager, LURA (Listen, Understand, Relate, Advance) Consulting to address Workshop attendees regarding the Municipal Energy Plan. p. 1
2. Mr. Sandro Sementilli, San Michael Homes Development to address Workshop attendees with a presentation regarding Hollingsworth Arena Site Proposal. p. 2

Adjournment



Town of Newmarket Municipal Energy Plan

Council Workshop May 25, 2015

Planning & Building Services
Planning Division

Town of Newmarket
395 Mulock Drive
PO Box 328, STN Main
Newmarket, ON, L3Y 4X7

www.newmarket.ca
planning@newmarket.ca



Welcome

Agenda



9:00	Welcome and Opening Remarks	Meghan White
9:05	Agenda Review and Project Team	Susan Hall
9:10	MEP Program Overview, Schedule, and Advisory Group	
	Plan Structure & Key Elements	
9:25	The Big Picture – World Class Energy Planning	Peter Garforth
9:55	Preliminary Baseline Data Analysis	
10:15	Q & A	All
10:35	Discussion – Desired Outcomes	
10:55	Wrap Up & Next Steps	Susan Hall
11:00	Adjourn	



Susan Hall



Peter Garforth



Megan Meaney



Peter Zerek

Project Team



Michael Dean



Jeff Garkowski



Amanda Crompton



Lily D'Souza

Project Overview & Background

Newmarket in Context



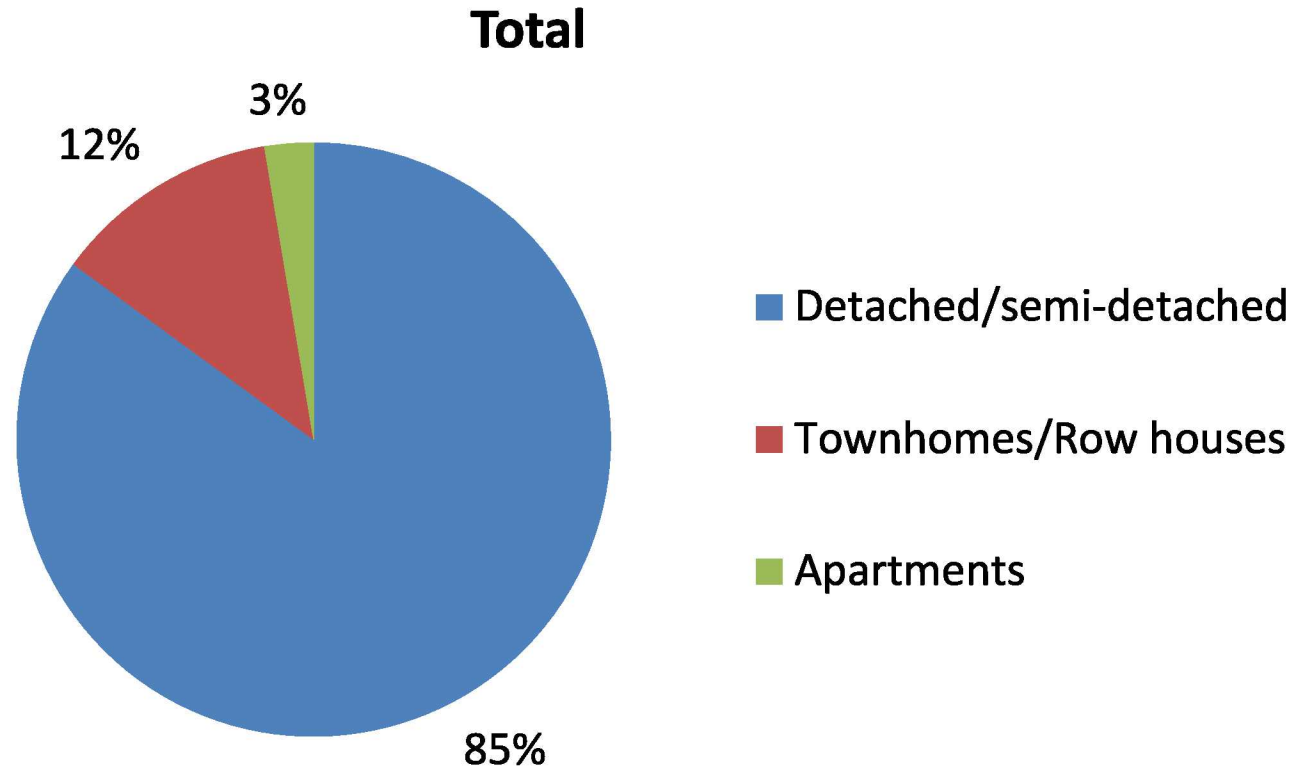
- **Area:** 38.33 km²
- **People:**
 - Population of 86,819 (2013)
 - Increase of 7.6% since 2006
 - Grow to 105,885 by 2031.
 - Average age is 39.4 years with 70% of the population between 18-65
 - 77.4% English, other languages French, Italian, Spanish, Russian

□ Source: Stats Canada 2011

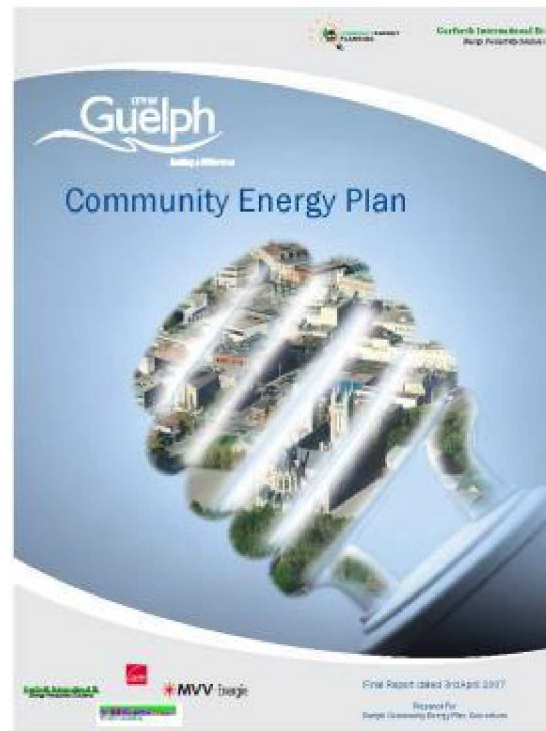
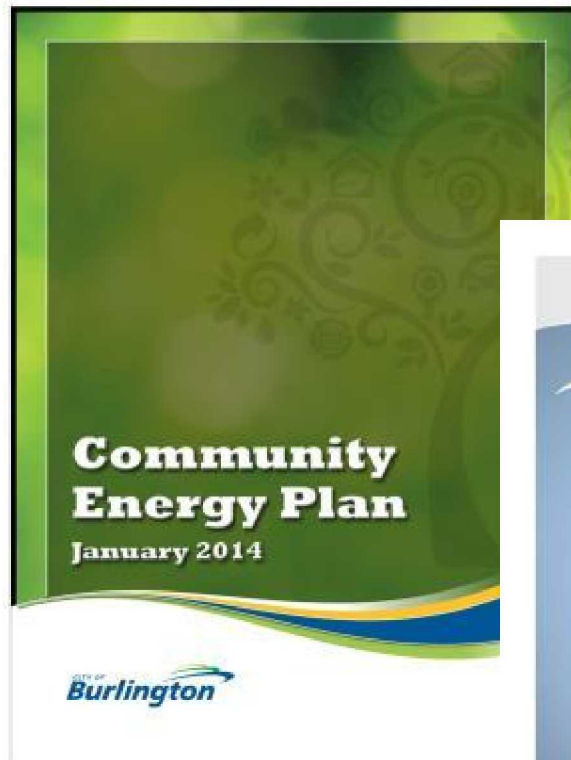
Newmarket in Context



□ **Households – 24,387 private dwellings**



Municipal Energy Plan



Town of
East Gwillimbury

COMMUNITY ENERGY PLAN *November 2009*

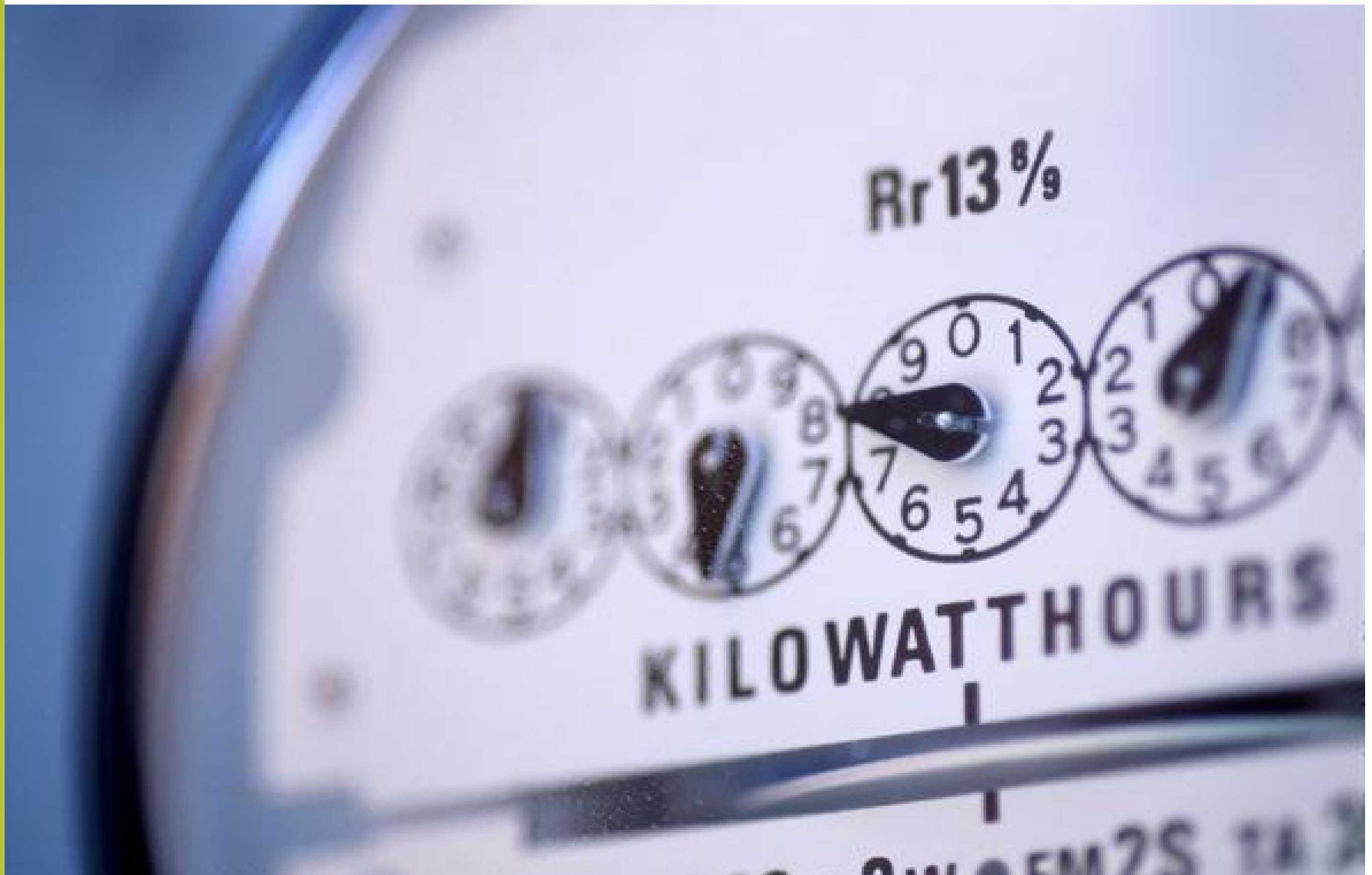


Source: Town Sol

Garforth International Inc.
Energy Productivity Solutions



Why a Municipal Energy Plan?



MEP in Context



**2013 Long Term Energy
Plan**

**York Integrated Regional
Resource Plan**

**Newmarket Hydro
Conservation Targets**

Provincial Policy Statement

York Region Official Plan

**Town of Newmarket
Official Plan**

**Town of Newmarket
Secondary Plans**

**Municipal
Energy Plan**

Energy Conservation
Demand Mgt Plan

Other Master
Plans

MOE MEP Framework



The MEP process is broken down into 3 program stages:

1. Stakeholder Engagement

- ☐ Engagement will include this Advisory Group, engagement with municipal staff and utilities, and the public.

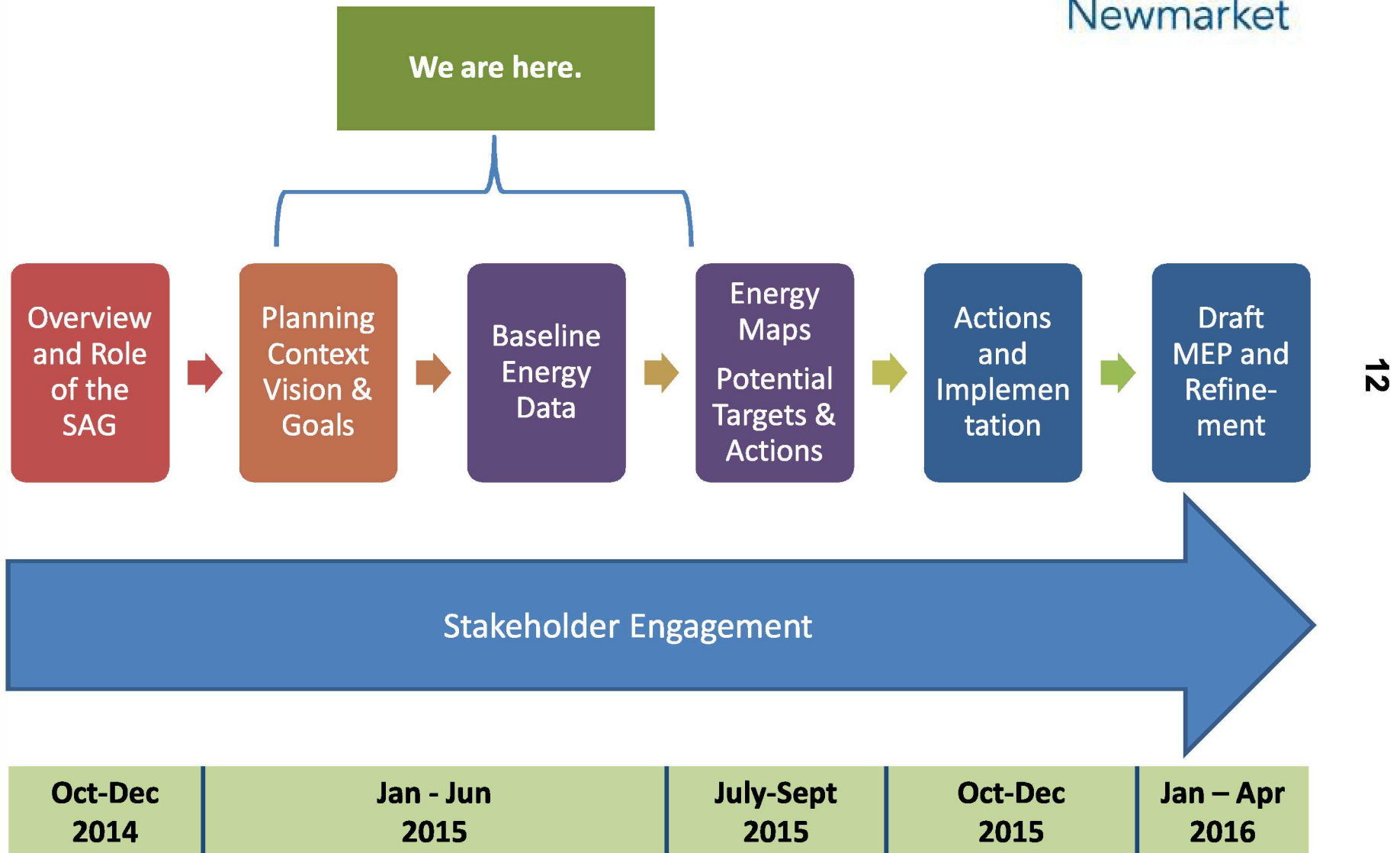
2. Baseline Energy Studies (BLS) and Energy Mapping

- ☐ Will allow us to analyze opportunities for energy reduction/conservation initiatives.

3. Municipal Energy Plan Development

- ☐ Long-term vision and strategy for energy conservation and green energy solutions.

Our Process



Stakeholder Advisory Group



Energy generation
& distribution

Energy users

Buildings & built
form

Land use planning &
development

Transportation

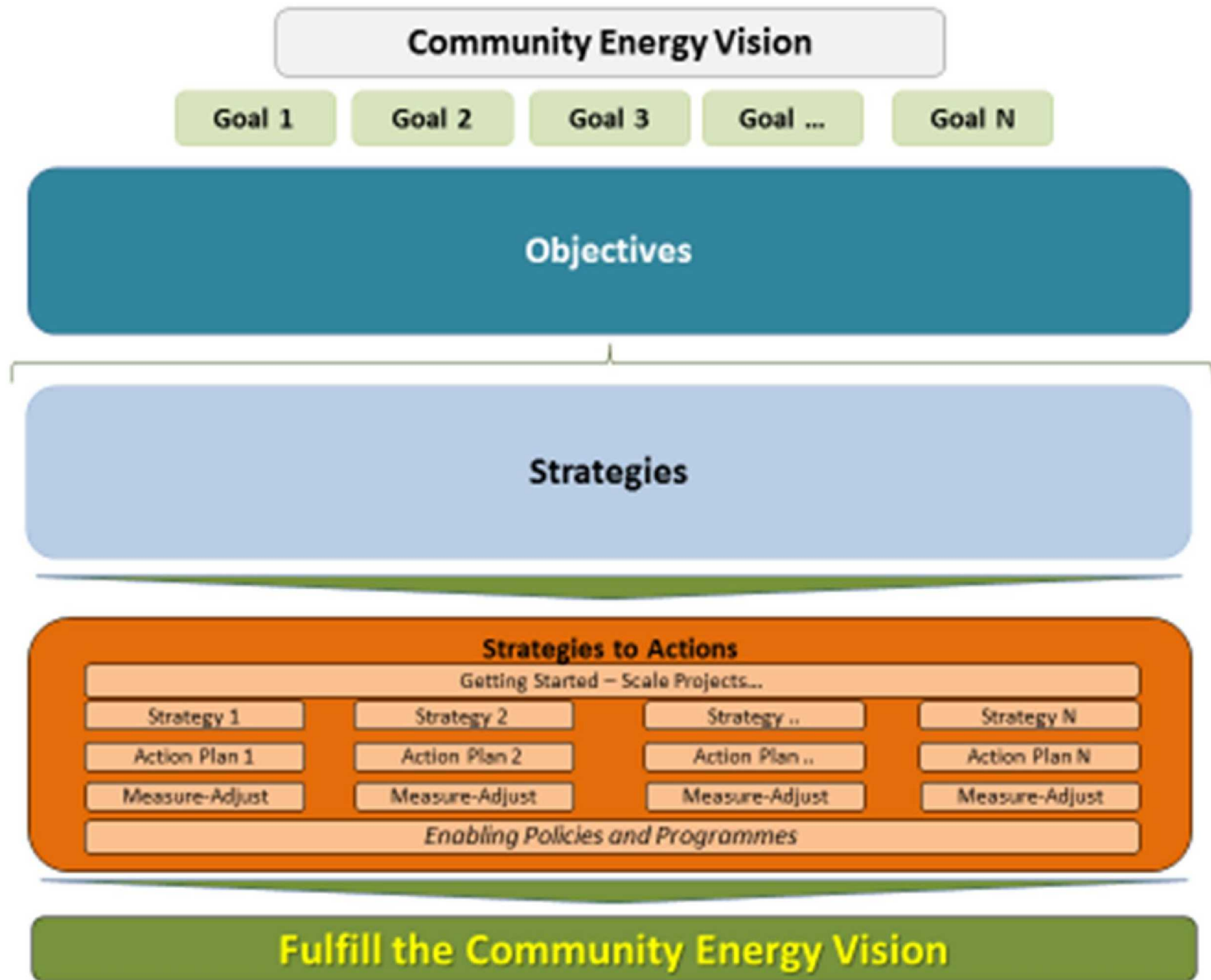
Outreach &
Economic
Development

Plan Structure & Key Elements

Overall Plan Structure



- **Vision**: An aspiration statement that defines where we want the Newmarket Municipal Energy Plan to go.
- **Goals**: General, overarching statements that identify primary purposes/ambitions of the MEP.
- **Objectives**: Should be Specific, Measurable, Attainable, Relevant and Time-based. Can contribute to more than one goal.
- **Strategies**: Recommended activities and initiatives that are directly aligned to the achievement of our objectives.



World Class Energy Planning

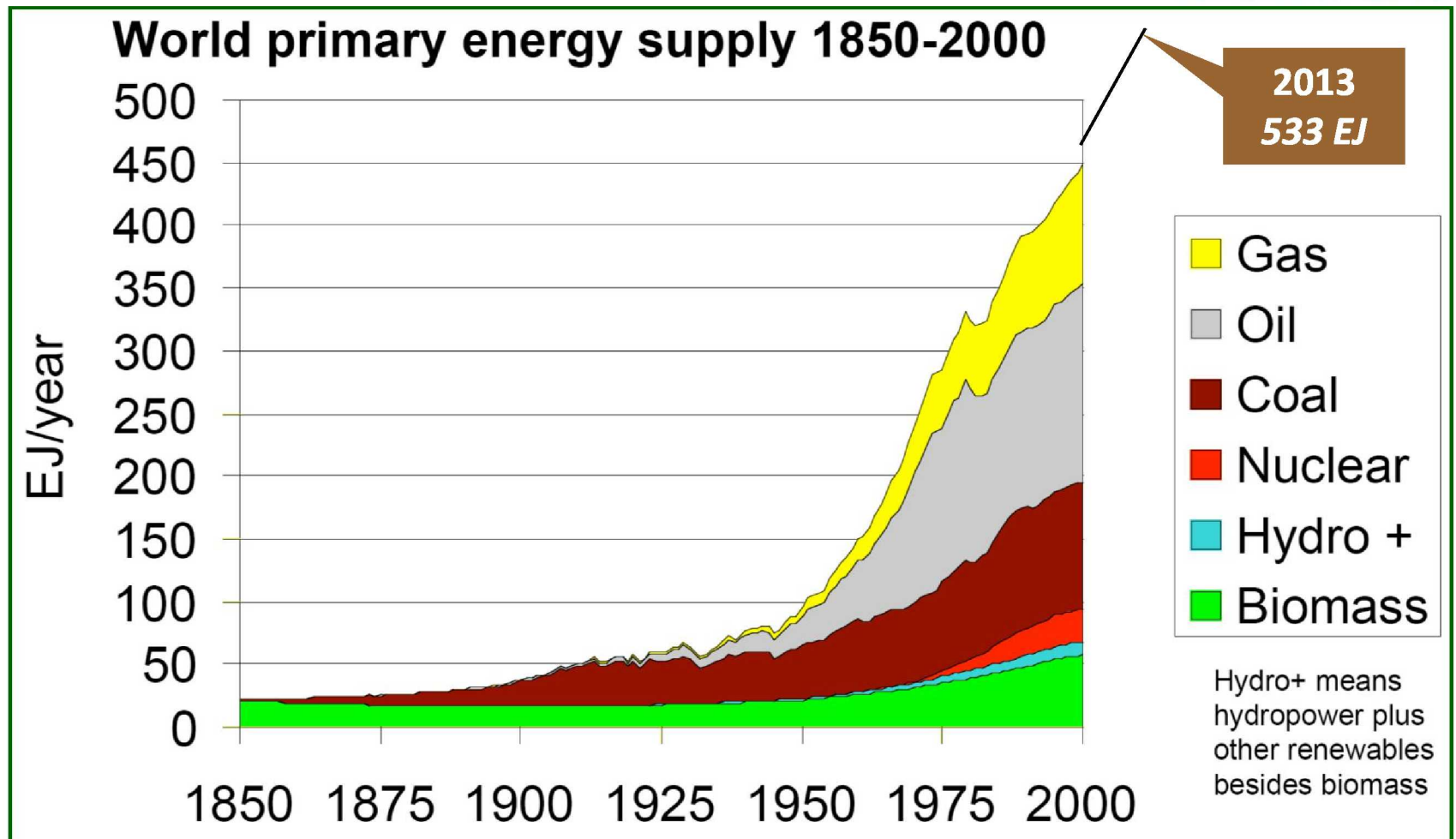
Key to a Competitive Community



Town Council Briefing
May 25th, 2015 Newmarket, Ontario

Insatiable Global Appetite for Energy

Global Cost of about \$10 Trillion

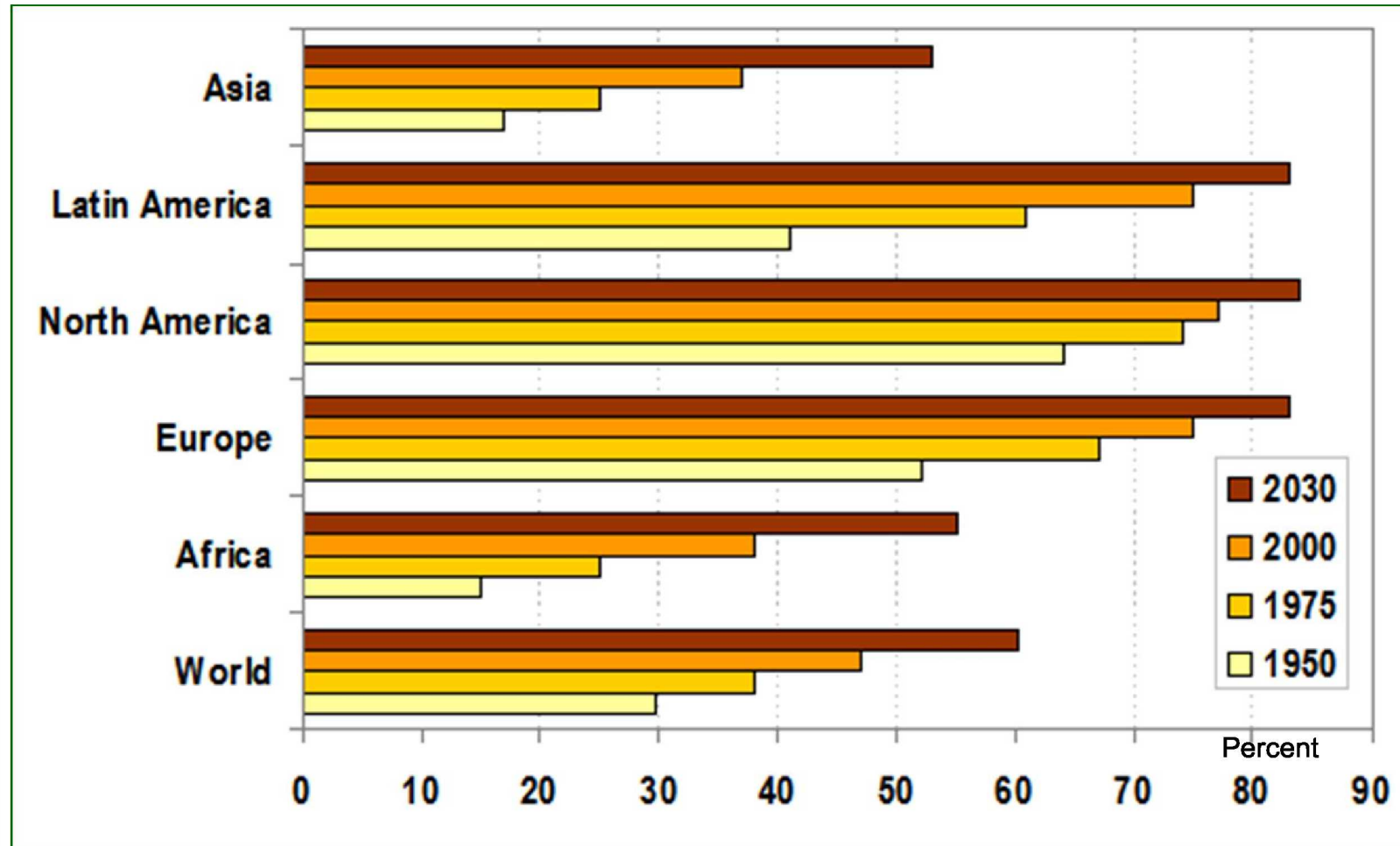


Forecast to double by 2030

Source: IIASA / BP / EIA / Eurostat

Most of us live in Urban Setting

70% of all Energy Use



Urban Population passed 50% in 2008

**UN Sources*

Growing Energy Uncertainties



- ☐ Unpredictable energy prices
- ☐ Changing patterns of imports and supply
- ☐ Impacts of climate change legislation
- ☐ Under-invested energy infrastructure
- ☐ China and India redefining energy markets
- ☐ Blackouts, weather events, water shortages..
- ☐ Regulation of shale gas and oil
- ☐ Nuclear rethink impacts natural gas prices
- ☐ Energy innovation & competitive advantage

Risks and Opportunities

Increasing Extreme Weather Events Is Changing Climate a New Normal?



- ☐ More frequent extremes
 - ☐ Floods and droughts
 - ☐ Tornados and hurricanes
 - ☐ Heat storms
 - ☐ Deep freezes
- ☐ Impacts of warming
 - ☐ Sea rise
 - ☐ Changing crop yields
 - ☐ Arctic opening
 - ☐ Higher intensity hurricanes
- ☐ Energy use a significant contributor



Emissions Differences

How clean is our energy use?



Region	Population	GDP	CO2	CO2 /Capita	CO2 /GDP
USA	4.5%	17.2%	16.0%	100	100
Canada	0.5%	1.6%	1.6%	95	116
EU	7.2%	17.1%	11.0%	43	67
Japan	1.8%	4.8%	3.9%	59	73
China	19.2%	15.6%	25.9%	38	509
India	17.6%	6.7%	6.2%	10	395
World	100%	100%	100%	28	149

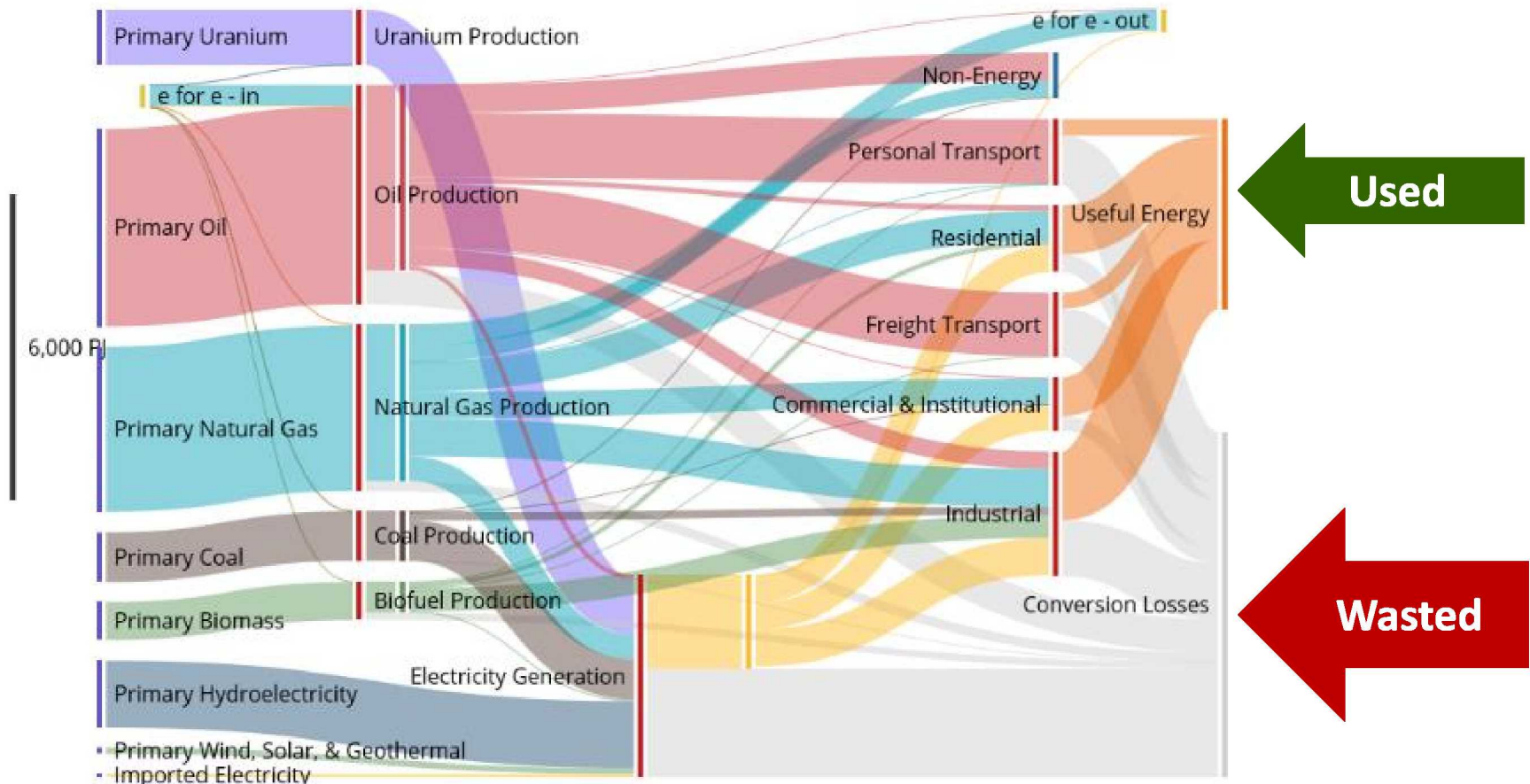
Future Risk Mitigation

**Energy related emissions only*

**IEA - 2012 Exchange GDP @ 2005 \$*

Canadian Energy System

How well do we spend our \$200 Billion?



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How Efficient is the Use?

* Source: Canadian Energy Systems Analysis Research – 2010 Data

Energy Productivity Differences

How well do we spend our \$200 Billion?



Region	Population	GDP	Energy	Energy /Capita	Energy /GDP
USA	4.5%	26.1%	16.0%	100	100
Canada	0.5%	2.4%	1.9%	106	129
EU	7.2%	26.8%	12.3%	48	75
Japan	1.8%	8.6%	3.4%	52	64
China	19.2%	8.3%	21.6%	31	426
India	17.6%	2.5%	5.9%	9	377
World	100%	100%	100%	28	163

National Competitiveness

*IEA - 2012 Exchange GDP @ 2005 \$

Energy Use by Sector

How does North America Compare?



<i>Sector</i>	<i>Share CAN</i>	<i>Share USA</i>	<i>Index NA / EU</i>
Industry	39%	32%	1.2 : 1
Buildings	37%	40%	1.8 ~ 2.5 : 1
Transportation	30%	29%	1.4 : 1

- Building efficiency potential often underestimated
- Industrial efficiency potential often overestimated

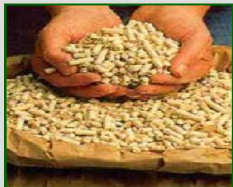
Efficiency is Major Opportunity

**Indicative ratio of US / Canadian average to EU Average*

Dysfunctional Energy Supply Chain



Energy Supply Chain ~70%



25%



5%



Pay 100 for fuel - Get less than 10 in services

Why Communities Care New Energy Realities...

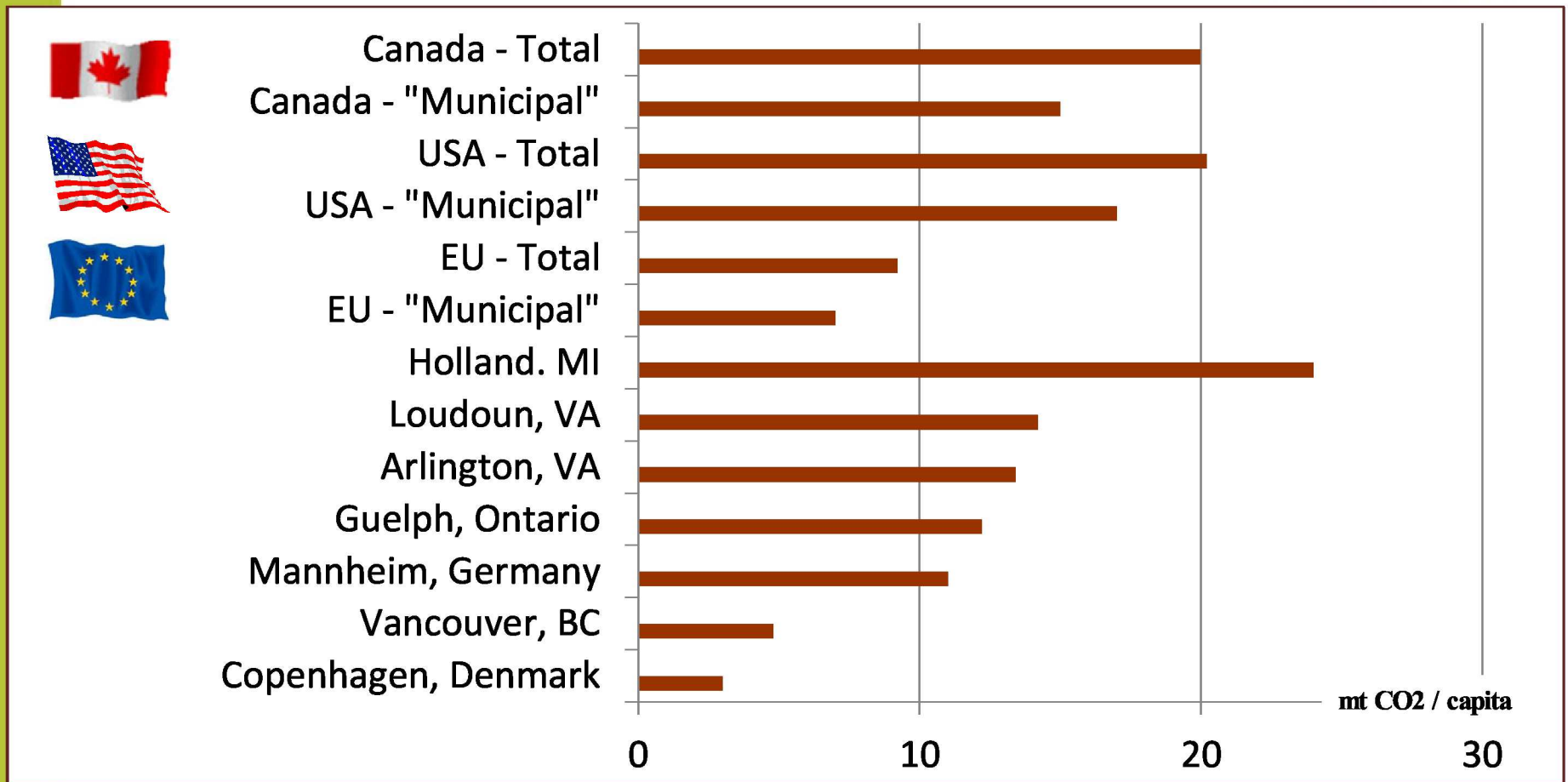


- ☐ Community values and image
- ☐ Investment and green jobs
- ☐ Unpredictable energy prices
- ☐ Supply quality and security
- ☐ Future environmental legislation
- ☐ Weather events
- ☐ Support regional energy planning

Fundamentally Different From Past

Wide Range of Energy Performance

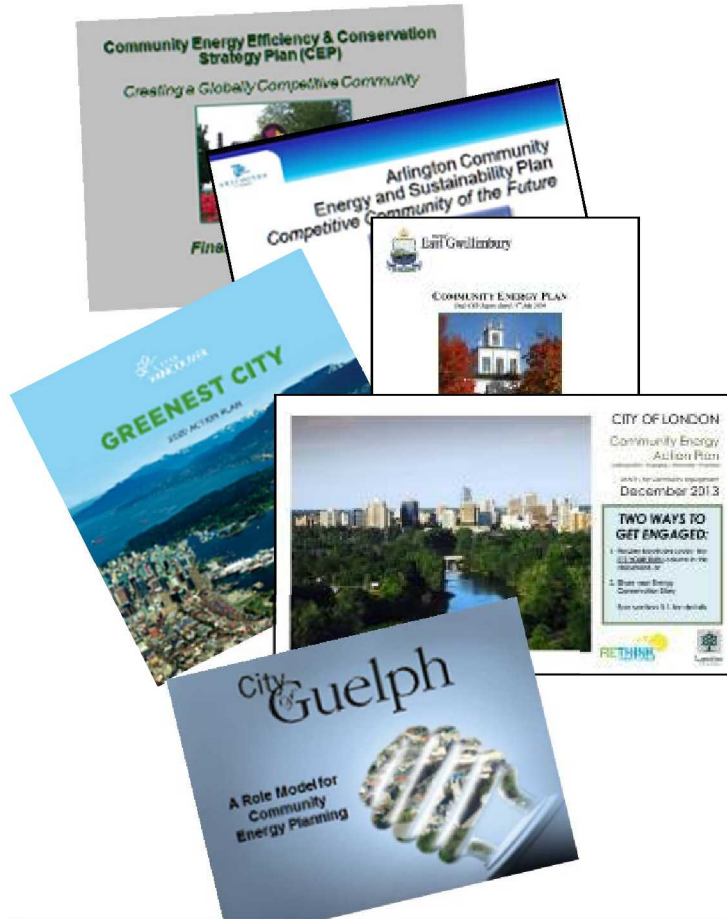
Example: Emissions per Resident



Communities Embracing Challenge

Challenging the Status Quo

North American Cities Break the Mould



- ☐ Fully Integrated
- ☐ Breakthrough targets
- ☐ All aspects of energy
 - ☐ Economic
 - ☐ Technical
 - ☐ Environmental
 - ☐ Institutional
 - ☐ Social
- ☐ Multi-decade
- ☐ Globally benchmarked

Community Goal to be World-Class

Global and Local Benchmarks

Example of Copenhagen

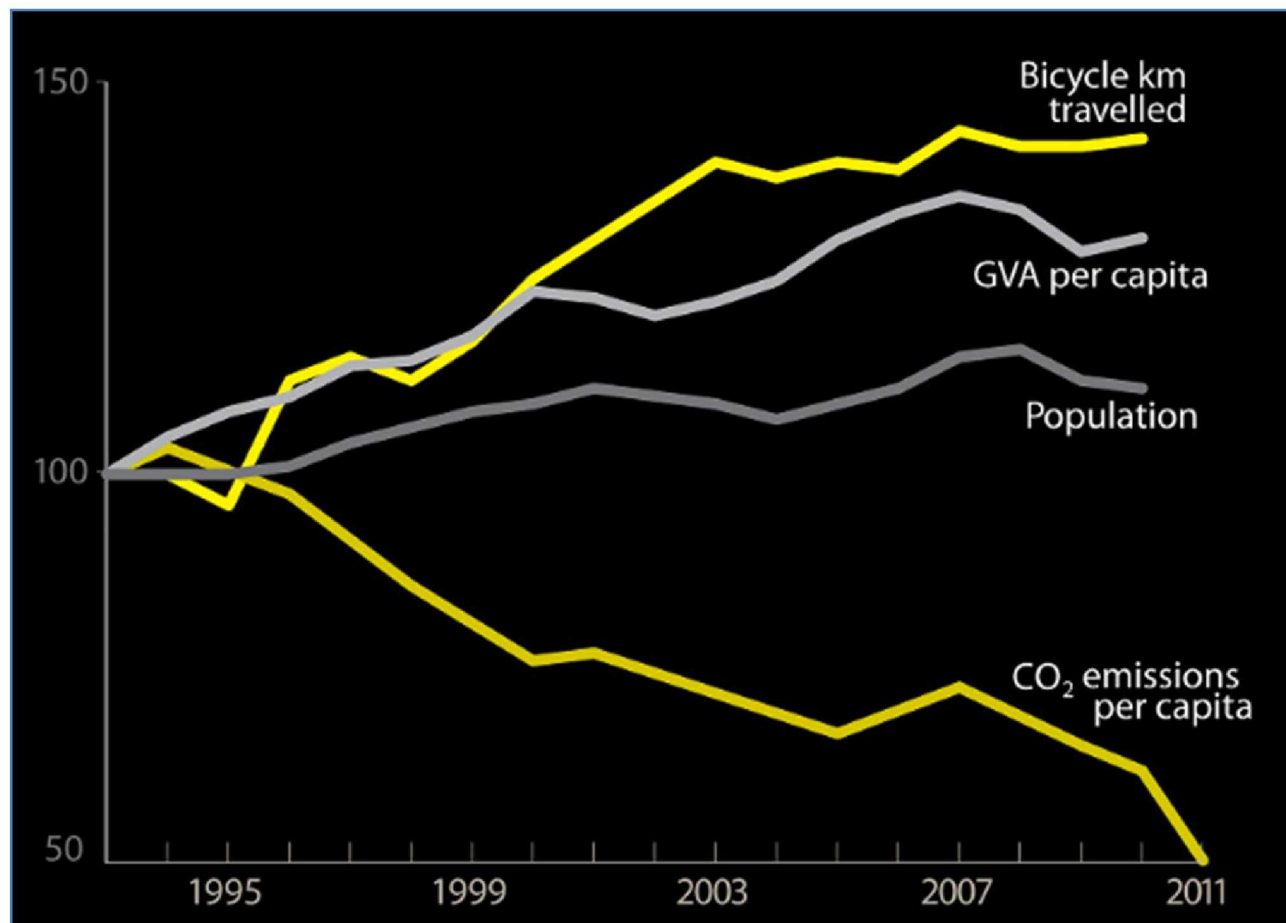


- ☐ Triggered by 70's energy crisis
- ☐ Efficiency
 - ☐ World leading building efficiency
- ☐ District Heating & Cooling
 - ☐ Widespread across city
- ☐ Fuel flexibility
 - ☐ Coal, oil, gas, biofuel, waste-to-energy
 - ☐ Wind and solar generation
- ☐ Transport
 - ☐ Urban design for bike/walking
 - ☐ Efficient trams/trains
- ☐ High Value Employment

2009 – Voted “Second Most Livable City”

Copenhagen

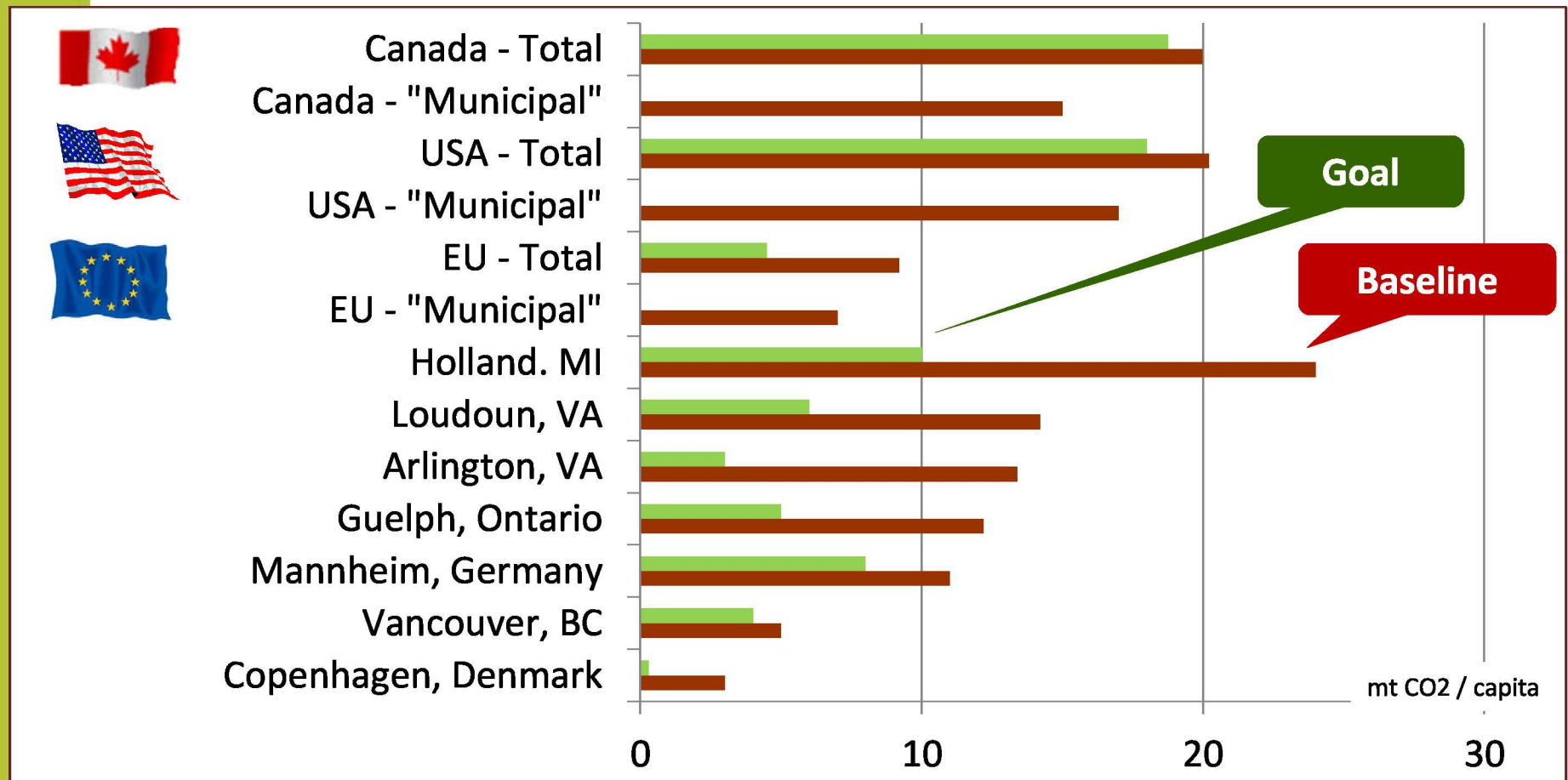
Decouple Growth from Energy Use



Systematic Energy Integration Works

Setting Breakthrough Goals

Example of Emissions Targets per Capita



We know how to get there!

Successful Community Energy Planning

Three Groups of Benefits



Competitiveness

1. Energy cost
2. Employment
3. Investment



Security

4. Supply security
5. Supply quality
6. Flexibility

Environment

7. Greenhouse Gas Reduction

Breakthroughs are Achievable

Community Energy Plan (Example)

Community Vision and Balanced Goals



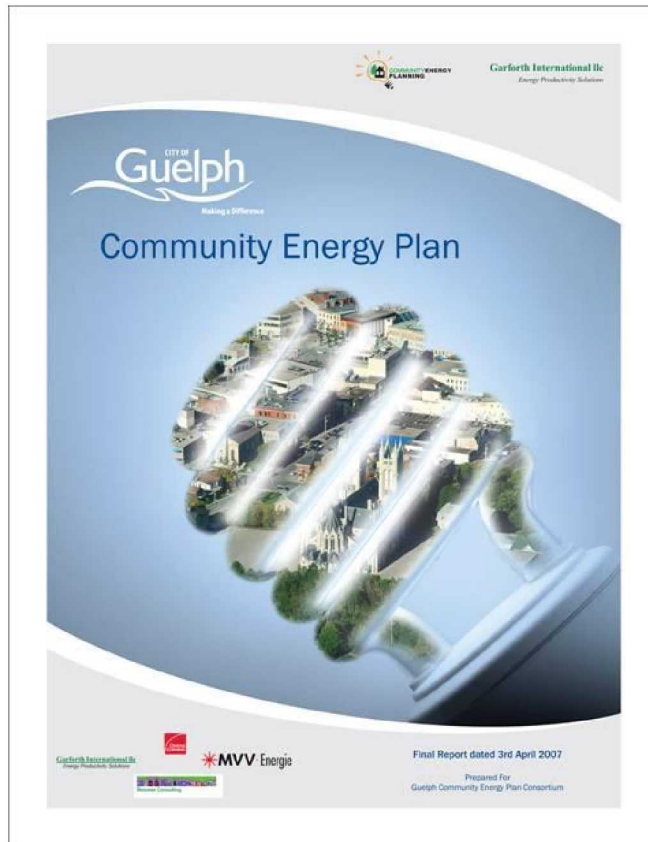
Guelph will create a healthy, reliable and sustainable energy future by continually increasing the effectiveness of how we use and manage our energy and water resources

- ☐ Recognized as a location of choice for investment
- ☐ Variety of reliable, competitive energy, water, and transport services will be available to all
- ☐ Energy use per capita and resulting greenhouse gas emissions will be less than the current global average
- ☐ Energy and water use per capita will be less than comparable Canadian cities
- ☐ All publicly funded investments will visibly contribute to meeting CEP goals

Simple, Measurable, Eternal

Community Energy Targets (Example)

2007 – 2031 Guelph Energy Plan



- ☐ Pillar of Economic Development
- ☐ Competitive energy services
- ☐ 50% less energy use per capita
- ☐ 60% less GHG emissions per capita
- ☐ Population grows by 50% using less energy than today

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Breakthrough Goals – Transformative Plan

Efficiency always comes First!

Loading Order / Trias Energetica



1. Energy efficiency - *If you don't need it don't use it*
2. Heat Recovery – *It it's already there – use it*
3. Renewable energy – *If it makes sense, go carbon free*
4. Energy distribution – *Invest where it makes sense*

Integrated Approach – Tailored for Community

Guelph Community Energy Plan (Example)

Prioritized Strategies 2008-2031



- ☐ Above-code building efficiency
- ☐ Energy performance labels
- ☐ Transport efficiency
- ☐ Heat recovery and integration including district energy
- ☐ Clean & renewable supply
- ☐ New energy services supply companies

Integrated Solution – Not a Buffet!

Develop Enabling Strategies

Move from Planning to Implementation



- ☐ Local Governance
 - ☐ Strategic priorities, oversight, flexible teaming, investment & ownership
- ☐ Policy and Planning
 - ☐ Urban design, building performance, energy services, incentives, local flexibility
- ☐ Local Utility Structures
 - ☐ Energy service integration – efficiency, electricity, gas, heating, cooling, water...
 - ☐ Supply choices integration
- ☐ Integrated Energy Information Networks
- ☐ Community reporting and transparency

Rethink Community Level Energy Integration

A few years down the Road.... From City of Guelph



- ☐ Passed Energy Plan in 2007 by unanimous vote
- ☐ Over 2,000 Green jobs
- ☐ Influence on regional and national policy
- ☐ Global leaders setting up shop in City

Guelph boasts lowest jobless rate in country

Thursday, September, 15, 2011 - 10:10:02 AM

It may not be an all-time low, but Guelph's unemployment rate for August came close at 4.7 per cent – the lowest in the country.

"...Initiatives such as Guelph's Community Energy Initiative contribute to the long-term prosperity of the city and make it more appealing to business investment ..."

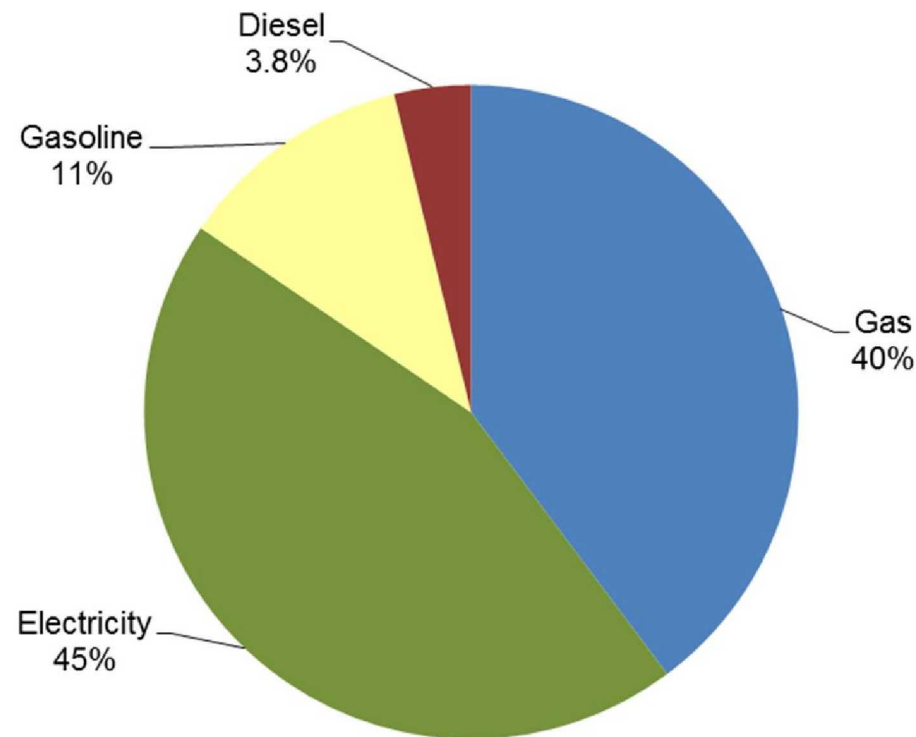
— Your Voice in Guelph —
GuelphTRIBUNE

Newmarket MEP Baseline

Utility Energy-End Use: 9.7M Gigajoules



2013 Energy End Use by Utility



112 GJ for each Resident

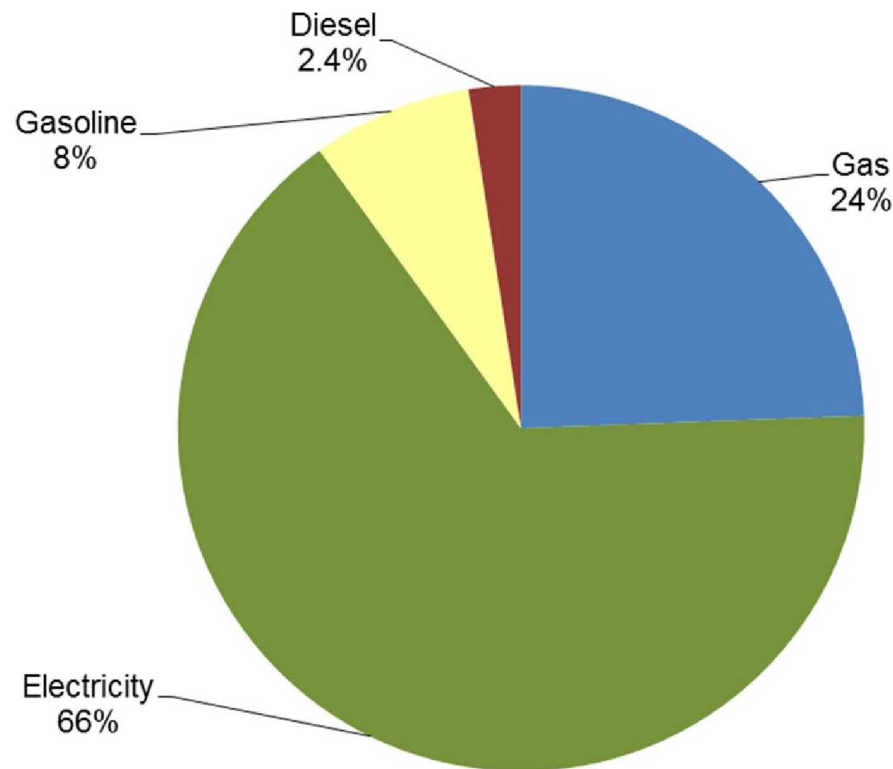
Draft data subject to revision

Newmarket MEP Baseline

Utility Energy Use – 16.5M Gigajoules



2013 Energy Use by Utility



191 GJ for each Resident

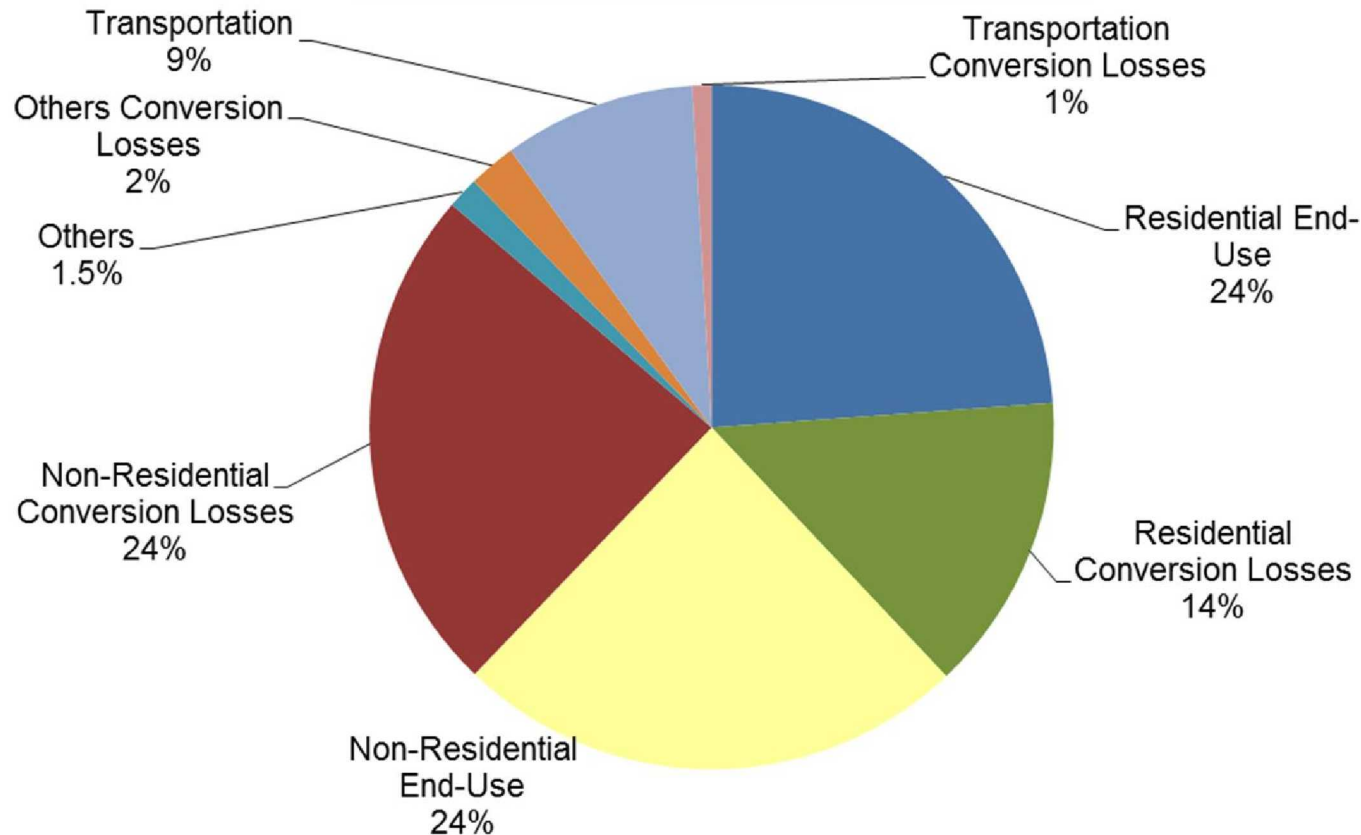
Draft data subject to revision

Newmarket MEP Baseline

Customer Energy Use—16.5M Gigajoules



2013 Energy Use by Sector



Over 40% Conversion Loss

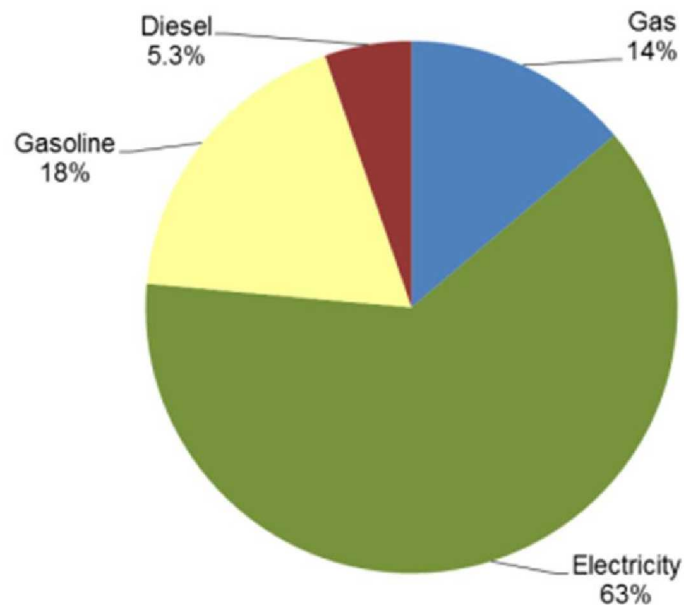
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Newmarket MEP Baseline

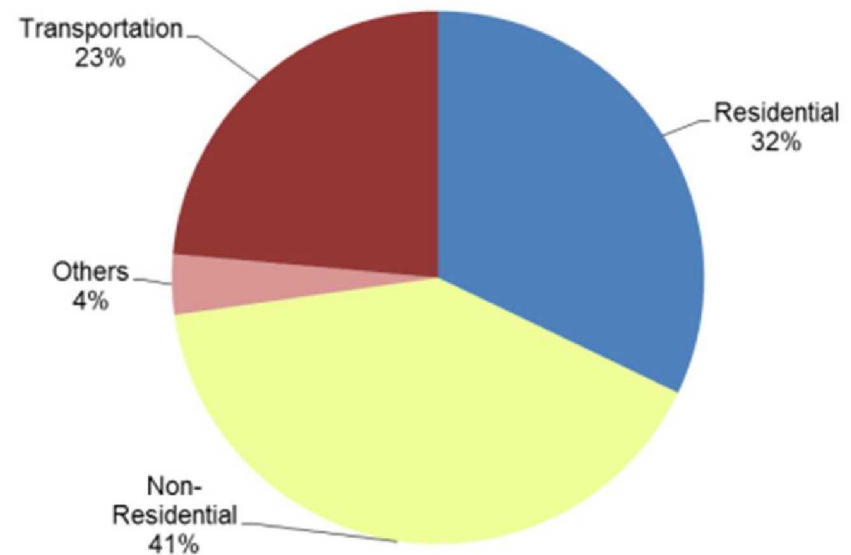
Energy Cost ~ \$246 Million



2013 Energy Cost



By Utility



By Sector

Most Value Leaves the Town

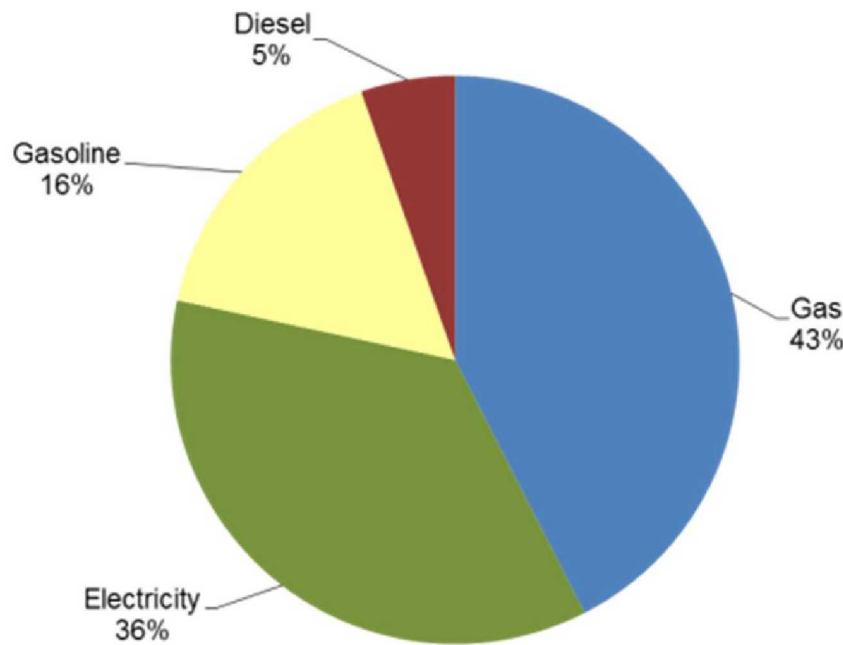
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Newmarket MEP Baseline

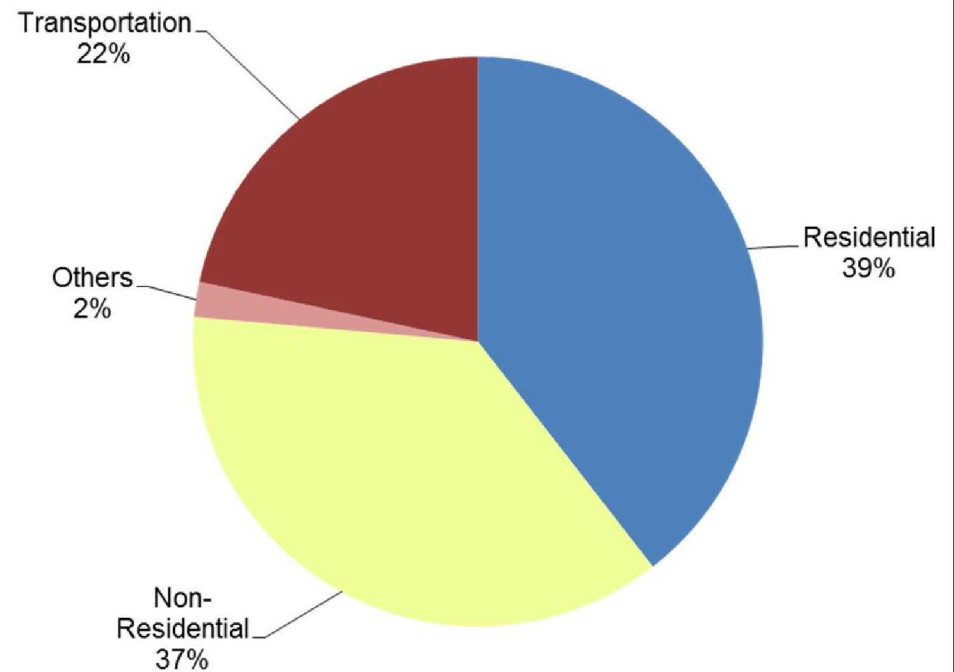
Greenhouse Gas Emissions ~ 504k mt



2013 Greenhouse Gas Emissions



By Utility



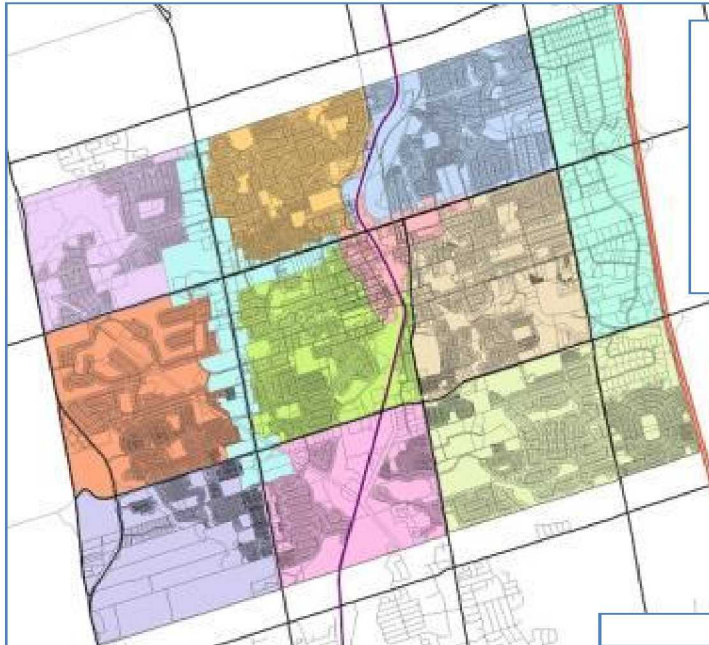
By Sector

6 tonnes CO2 for every resident

Draft data subject to revision

Mapping Energy to 2012-2031

Parcel Level Assessment in Process

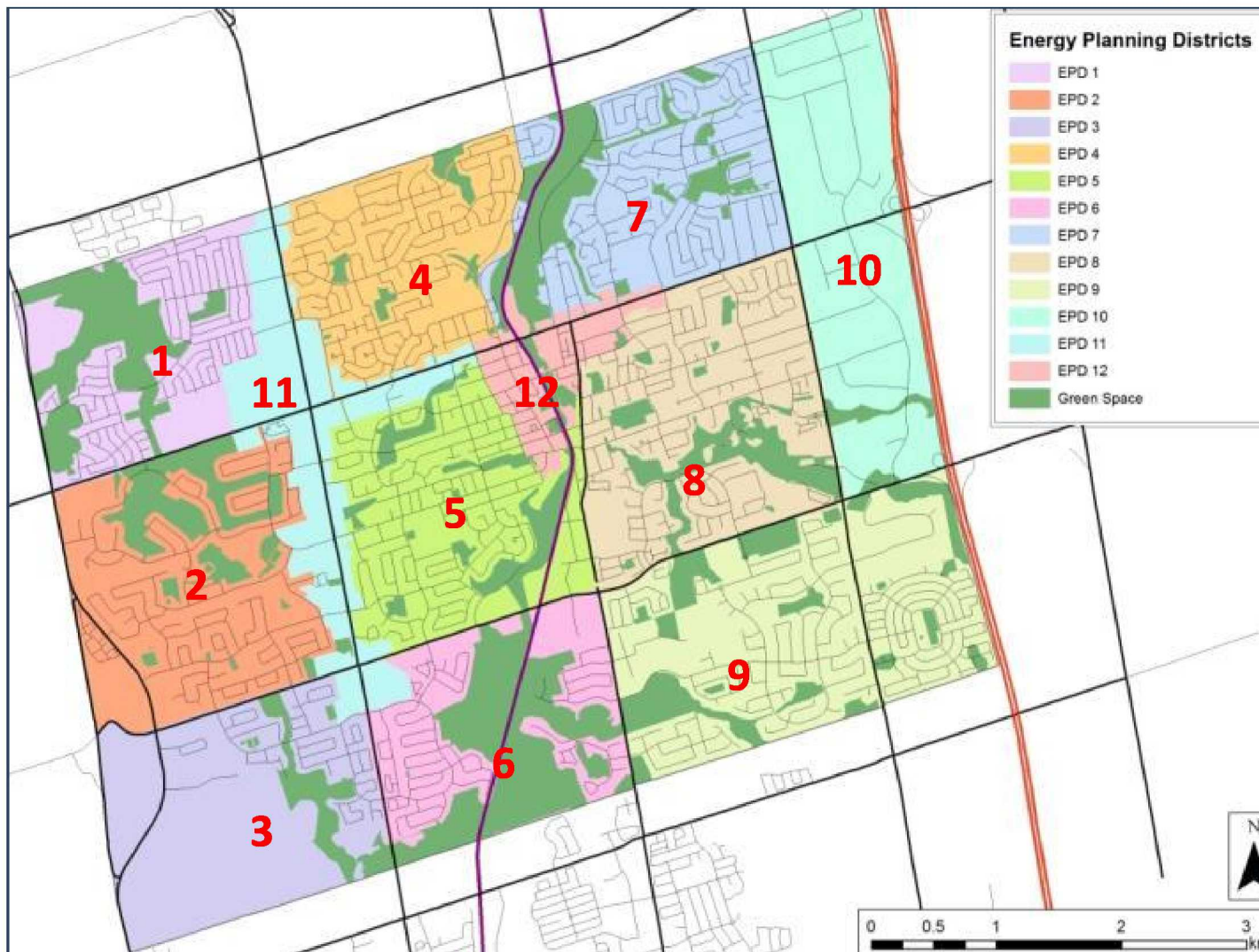


- ☐ Assess over 25,000 parcels
- ☐ Evolution to 2031
 - ☐ Town development plans
 - ☐ Provincial outlooks
 - ☐ Efficiency changes
- ☐ Building types and sizes
 - ☐ Existing
 - ☐ Renovation & demolition
 - ☐ New construction
- ☐ End-use requirements
 - ☐ Heating, Cooling , Lighting, Other
- ☐ Year-by-year models
- ☐ Aggregated to defined boundaries
 - ☐ 12 Energy Planning Districts

Aligned with Town Planning

Energy Planning Districts

Mapping Energy to 2031



Town of Newmarket Energy Outlook

2031 Business As Usual



- ☐ Energy use grows 28% to 20 Million GJ
 - ☐ Population key driver
 - ☐ New buildings meet expected codes
- ☐ Energy total cost rises with wide range of risk
 - ☐ Lower range: 45% to \$451M
 - ☐ Higher range: 174% to \$674M
- ☐ GHG emissions grows 23% to 620,000 mt
- ☐ Reliability dependent on outside decisions

Newmarket Municipal Energy Plan

Key Questions

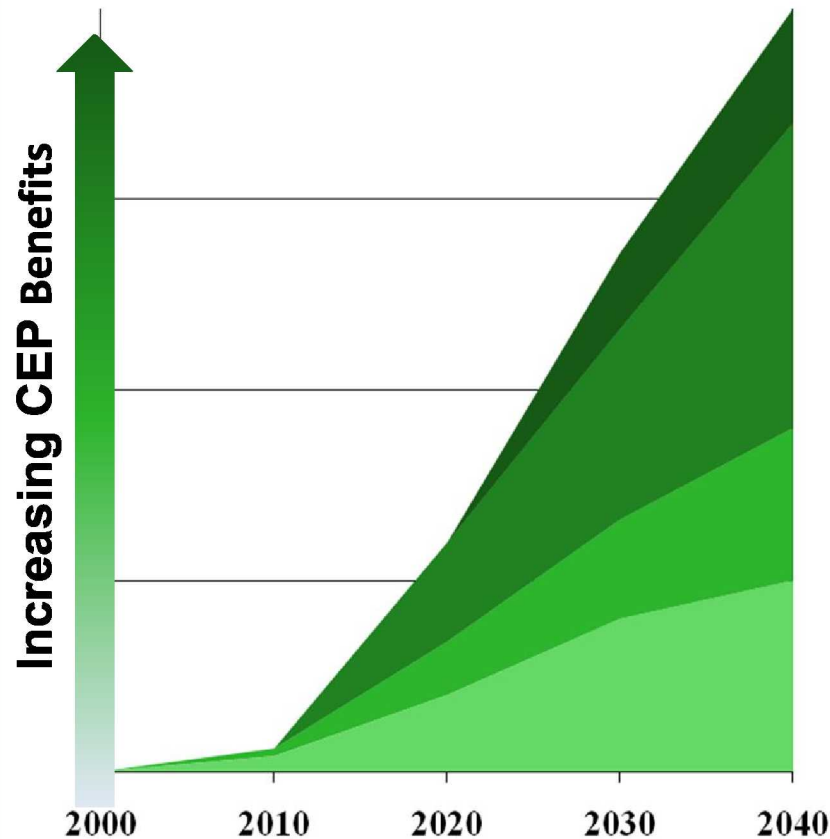


- ☐ World-class Performance?
- ☐ Transformational or Incremental Plan?
- ☐ Open to embrace scale strategies?

Sustained Leadership from Council

Transformative MEP

Importance of Early Scale



Integrated policy
Community wide norms
• New "business-as-usual"

Scale Projects
• Neighborhood size
• Local changes in "policy"

Stand alone projects
• Fewer larger initiatives
• Minor changes in policy

Community Activity
• Many initiatives
• No changes in policy

Transformative

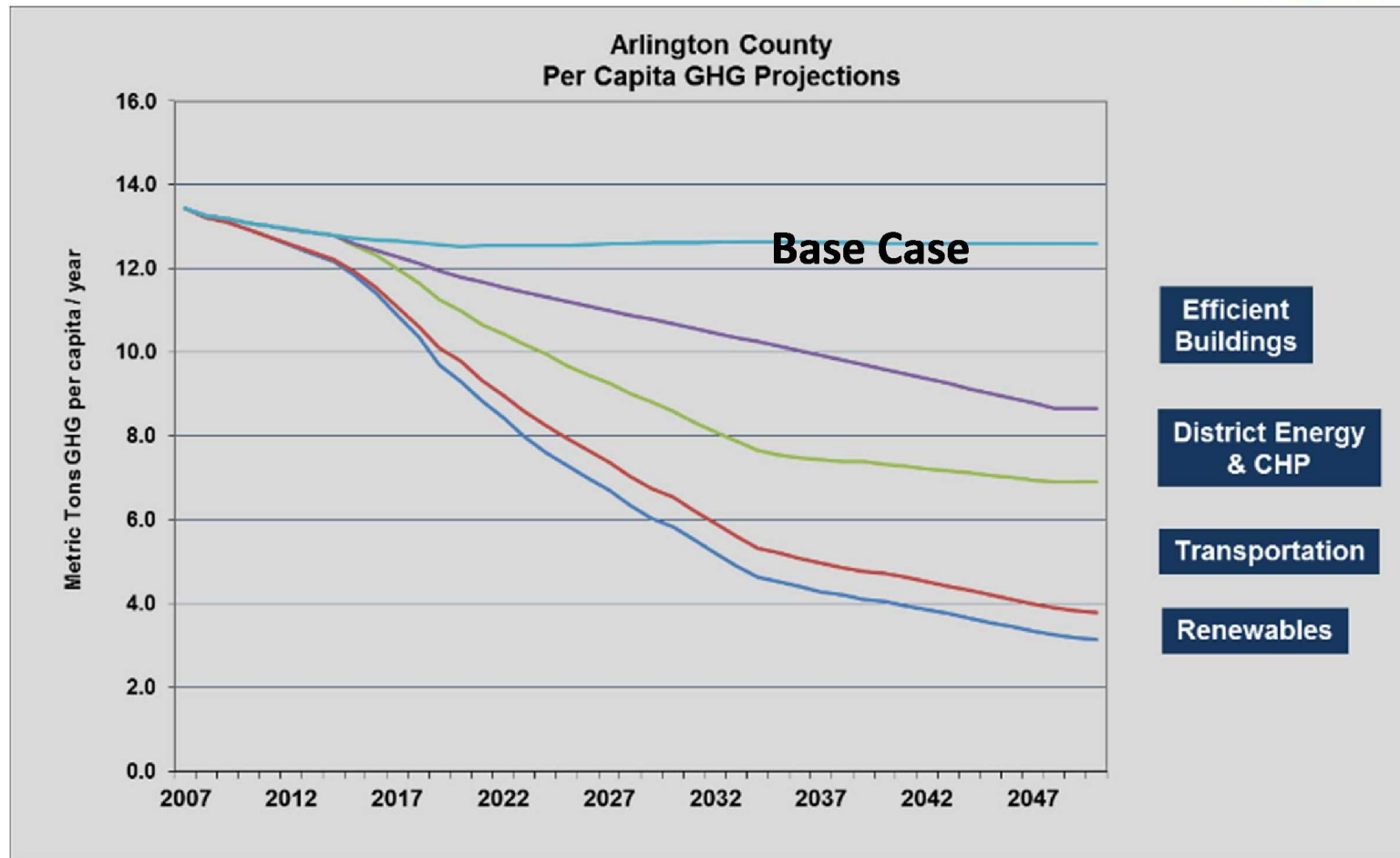
Incremental

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Transformation – Rewarding but Uncomfortable!

Impact of Large Scale Efficiency

Example from Arlington County, VA



Crucial Priority – Major Scale Challenge

Example of a Local “Scale Project”

Sheridan College investing \$35M...



Sheridan College Integrated Energy & Climate Master Plan



Preliminary Recommendations Review
Sheridan College IEMP Team
November, 2012

www.sheridancollege.ca

She
SUSTAIN

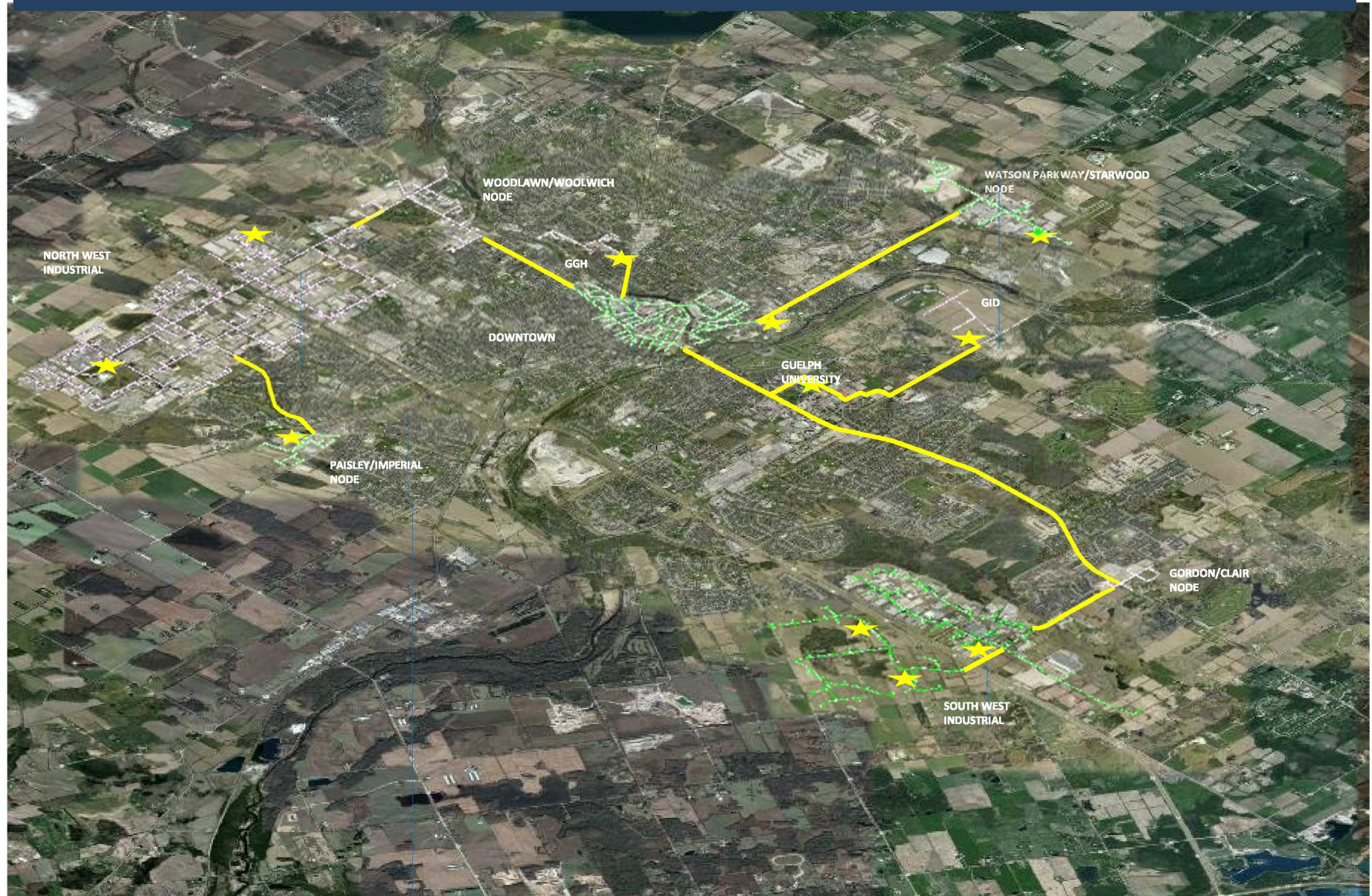
IEMP Framing Objectives

- **Energy Efficiency Gain**
 - At least 50% by 2030 below 2005 baseline
- **Greenhouse gas emissions reduction**
 - At least 60% by 2030
- **Internal Rate of Return**
 - At least 7% on recommended investment
- Ensure energy supply reliability
- Create campus-wide energy culture
- Be a platform for new energy technologies
- Offer competitive energy and climate curricula
- National and Community Role Model

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Sheridan
SUSTAINABILITY

From Scale Projects to Community-wide Implementation



Creating a City-wide Thermal Utility

Integrating Community Services

Learn from Benchmarks



- ☐ City owned utility
- ☐ "All from one hand.."
 - ☐ Electricity
 - ☐ Natural gas
 - ☐ District Heating
 - ☐ Public Pools
 - ☐ EV chargers
- ☐ Profitable except pools
- ☐ District heating
 - ☐ Most profitable product
 - ☐ Growing networks
- ☐ Promote EV use



Willing to Embrace Institutional Change

Successful CEP Implementation

Common Features

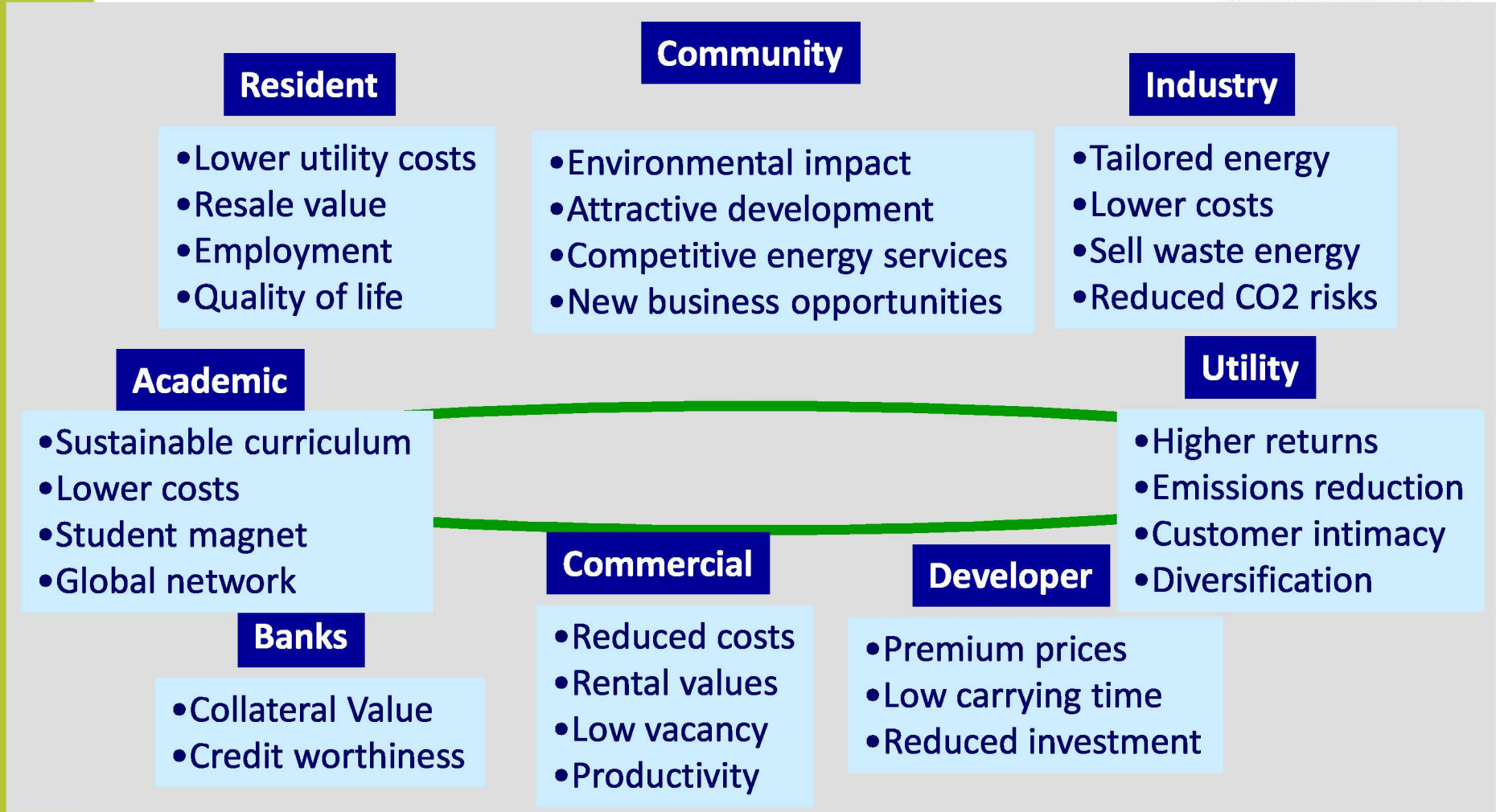


- ☐ Leadership and community engagement
- ☐ Transparency and outreach
- ☐ Magnet for investment
- ☐ Quality local employment
- ☐ Planning policy changes in place
- ☐ World-class energy efficiency
- ☐ Integrated municipal utility framework
- ☐ Early implementation of “Scale Projects”
- ☐ Continuous improvement – raising the bar!

Consistent Execution Over Decades

Benefits of Winning!

Competitive-Sustainable-Flexible



New Relationships – New Rules

**Questions,
Comments &
Discussion:
Desired Outcomes**

Newmarket Municipal Energy Plan



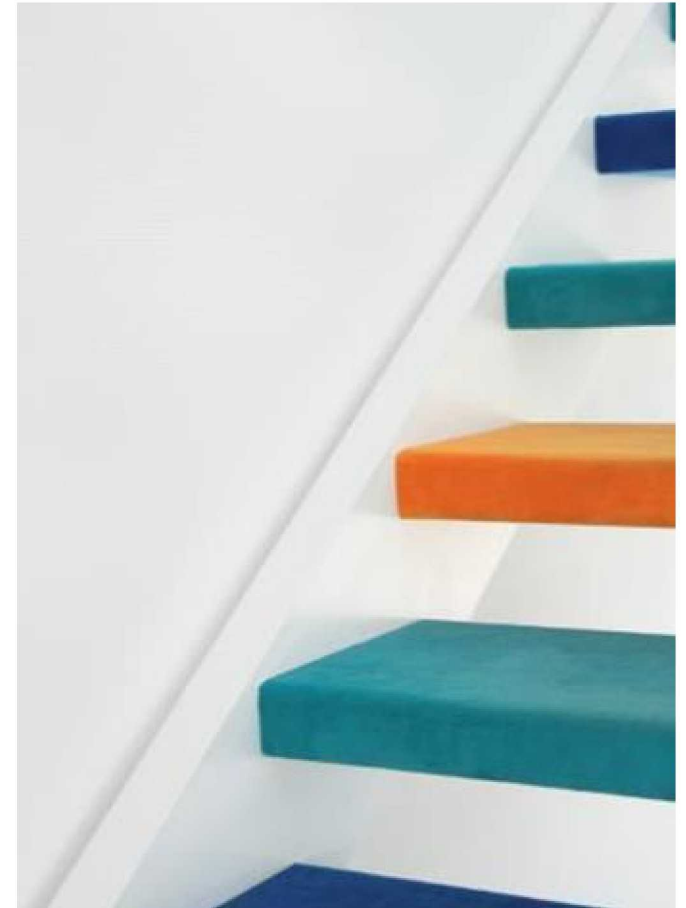
Discussion

- ☐ World-class Performance?
- ☐ Transformational or Incremental Plan?
- ☐ Open to take on the difficult scale strategies?

Next Steps

Next Steps – Jun. – Sept.

- ☐ Ongoing data analysis
- ☐ Development of energy maps
- ☐ Ongoing development of vision and goal statements with SAG
June 23rd
- ☐ Development of strategies & actions
- ☐ Community conversations



Thank You!



Any questions or comments? Please contact us.

Meghan White
Town of Newmarket
mwhite@newmarket.ca

Susan Hall
Lura Consulting
shall@lura.ca

Peter Zerek
Lura Consulting
pzerek@lura.ca

Peter Garforth
Garforth International llc.
peter@garforthint.com



Back Up Slides

Newmarket MEP

Estimating 2013 Baseline



- ☐ Building Energy Use
 - ☐ Electricity and natural gas used in homes, buildings and industry
- ☐ Transportation Energy Use
 - ☐ Fuel used by cars, trucks, commercial vehicles and busses registered in the Town
 - ☐ Excluded:
 - ☐ Journeys to Town from visitors
 - ☐ Traffic transiting Town
 - ☐ Air, sea & road journeys by residents starting outside Town
 - ☐ Other transport benefitting Town residents
 - ☐ Exclusions use about 60% more fuel
- ☐ Greenhouse Gas emissions
 - ☐ Directly from use of gas and transport fuels
 - ☐ Indirectly from electricity generation

Focus on Areas Town Can Directly Influence

Town of Newmarket

Profile of Homes & Buildings



User Type	Units	GFA m2	%
Detached /Semi-detached Homes	20,739	3,922,934	58.68%
Townhomes / Row Houses	3,004	408,424	6.11%
Apartments	644	164,302	2.46%
Residential	24,387	4,495,660	67.25%
Industry	104	604,504	9.04%
Retail	237	572,957	8.57%
Offices	75	305,376	4.57%
School/College	52	292,818	4.38%
Mixed	177	216,366	3.24%
Health	3	101,764	1.52%
Other	27	95,391	1.43%
Non-Residential	675	2,189,175	32.75%
Total	25,602	6,684,835	100.00%

Energy Planning Districts

Basis for Neighbourhood Approaches



EPD	Total m2	Res m2	Non-res m2	Main Building Types
1	524,725	502,878	21,847	Residential, Schools
2	682,870	649,405	33,465	Residential, Schools
3	307,466	273,707	33,759	Residential, Schools
4	505,036	470,493	34,543	Residential, Schools
5	445,250	379,046	66,204	Residential, Schools, Offices
6	478,178	364,479	113,699	Residential, Schools, Offices, Industry
7	497,088	432,952	64,136	Residential, Schools, Retail
8	605,189	515,885	89,305	Residential, Schools, Offices, Retail
9	976,951	835,044	141,907	Residential, Offices, School
10	887,736	1,020	886,716	Industry, Mixed, Retail
11	539,050	64,664	474,385	Residential, Retail, Offices, Mixed
12	293,468	64,258	229,209	Health, Mixed, Residential, Retail, Offices
Total	6,684,835	4,495,660	2,189,175	Residential 67% Non-Residential 33%

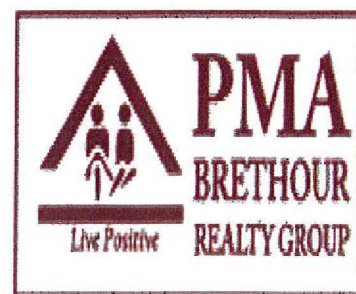
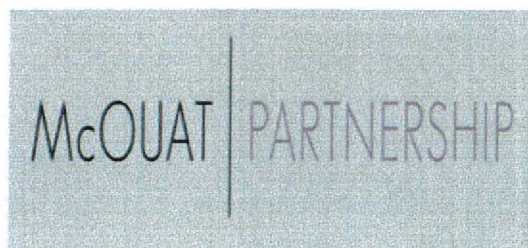
Town of Newmarket

Hollingsworth and Adjacent Lands
An Integrated Development Approach

Milestone Report
May, 2015

Overview of Presentation

- History of the Project
 - About SanMichael
 - Integrated Development Concept
 - The Schedule
 - Discussion
 - Closing Statement
-



Kohn SanMic

**Brookfield
MULTIPLEX**
Built to outperform.



HBR
Planning



ROBINS APPLEBY
BARRISTERS + SOLICITORS



Newmarket



Dr. LEE



**D. BOTTERO
& ASSOCIATES LIMITED**

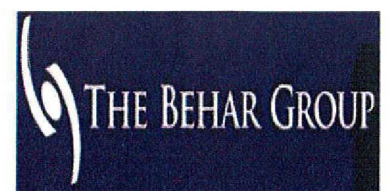
PROPERTY VALUATION AND REALTY CONSULTING SERVICES



**FORTRESS
REAL CAPITAL**



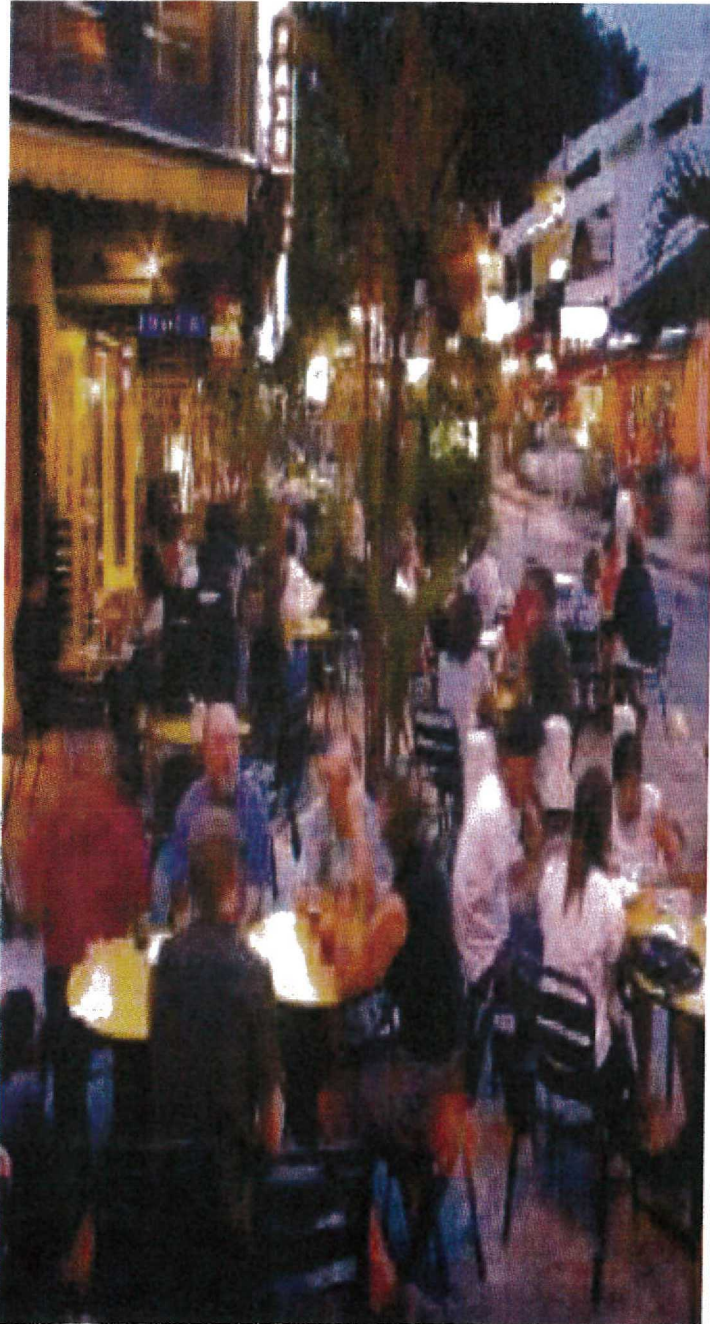
**HILLMOUNT
CAPITAL INC.**



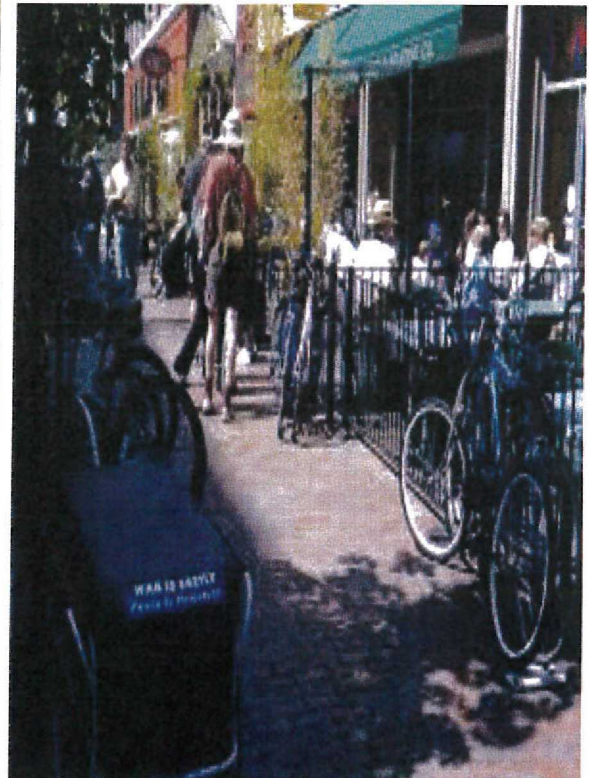
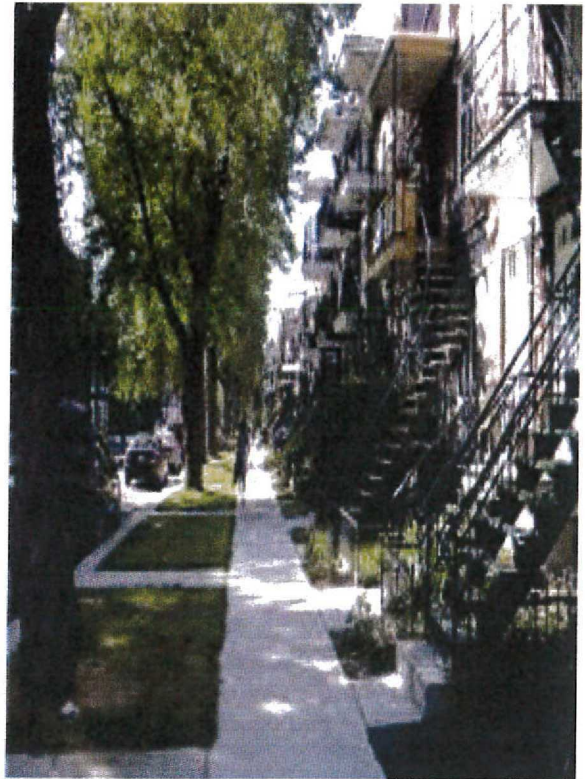
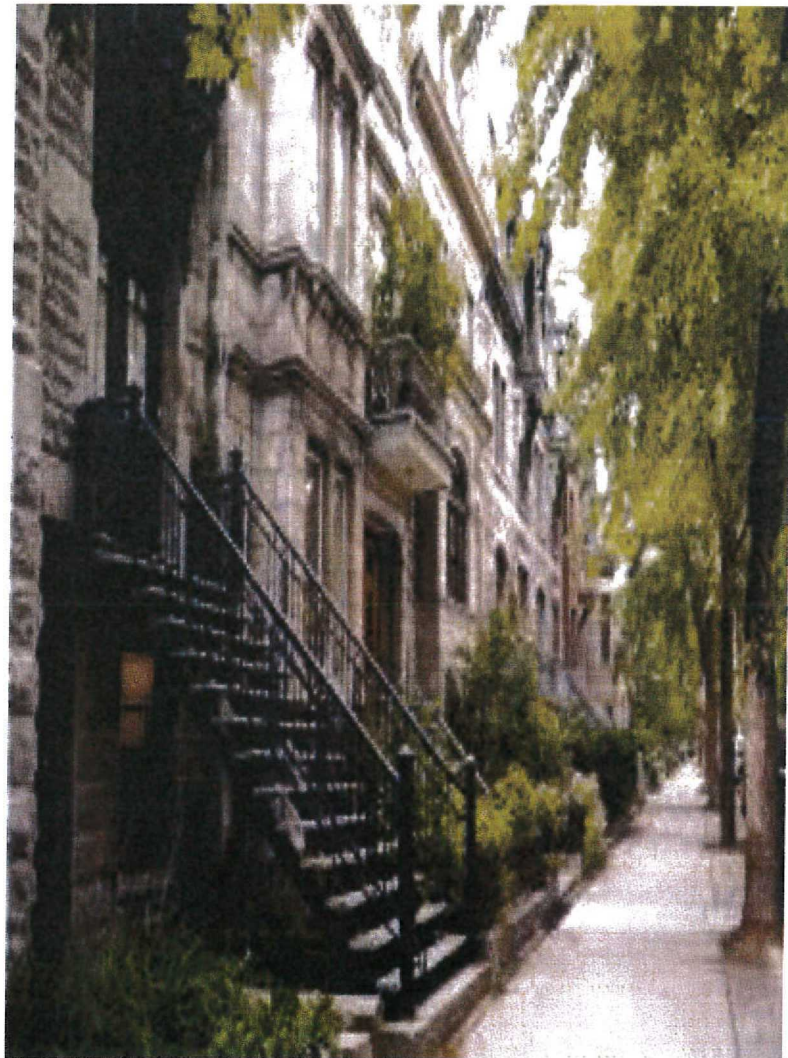
Inspirations



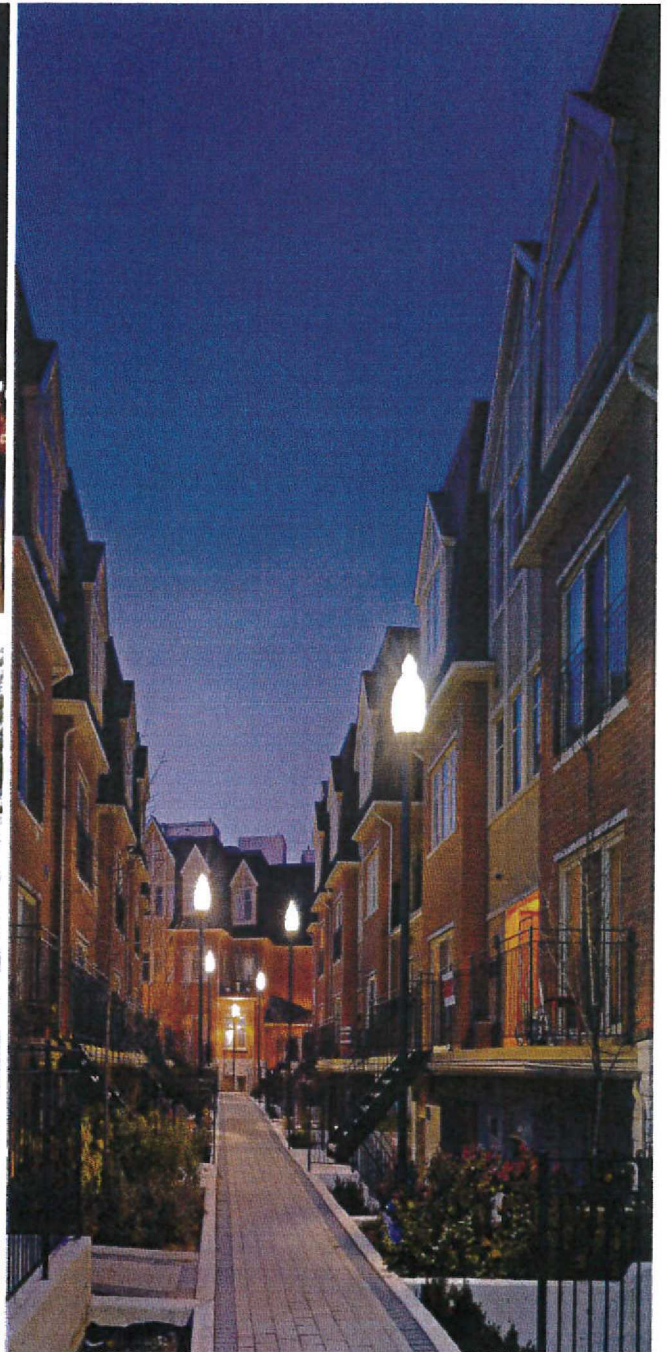
Inspirations



Inspirations



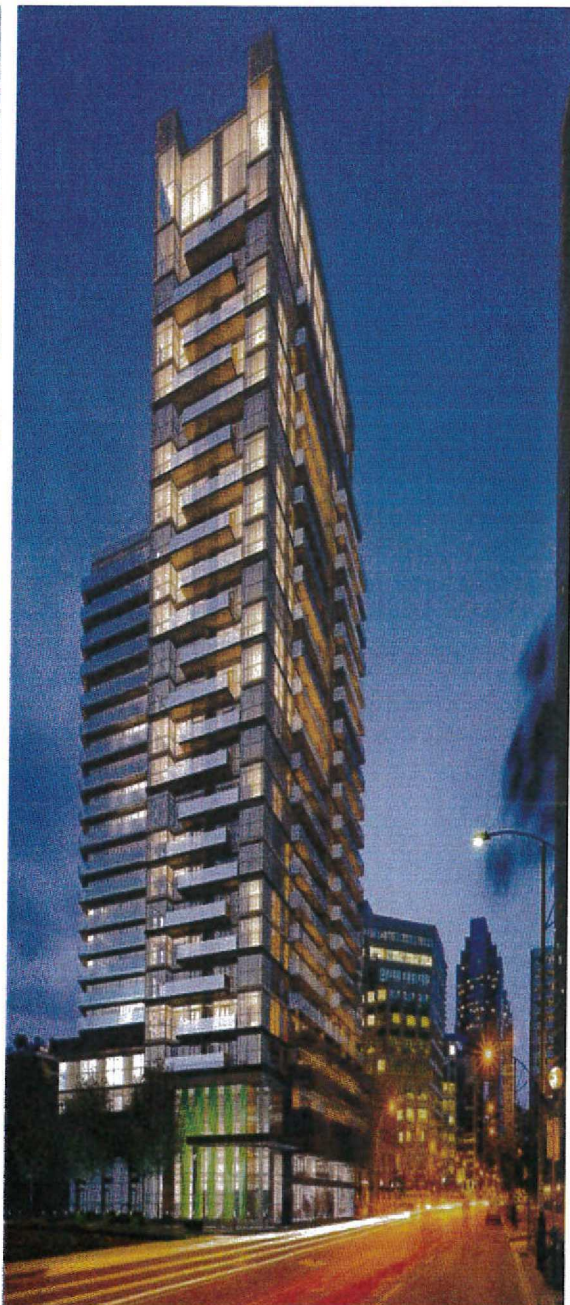
Inspirations



Inspirations



Inspirations



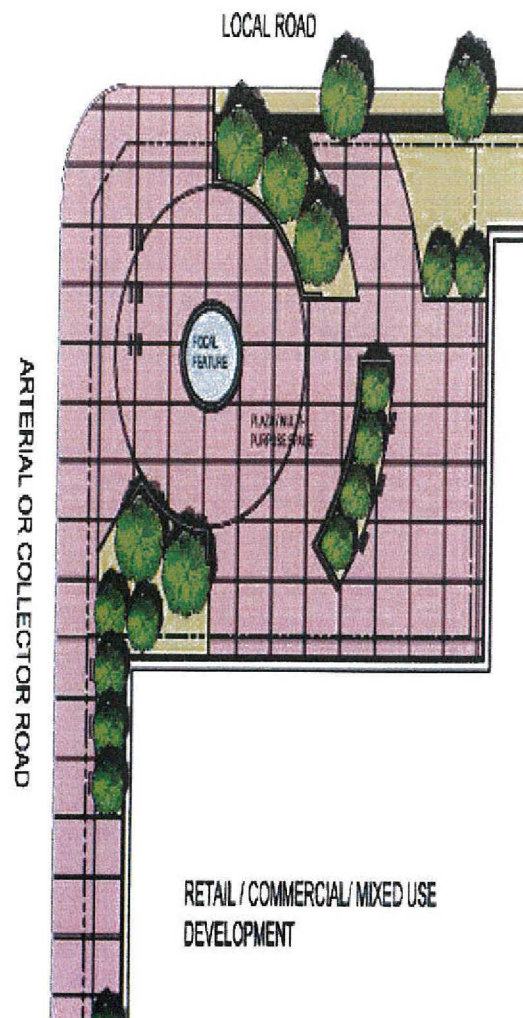
Inspirations

Parks Policy Development Manual

The Redevelopment Component

4.2 Utilizing Urban Squares & Plazas

Figure 6: Conceptual Diagram of an Urban Plaza

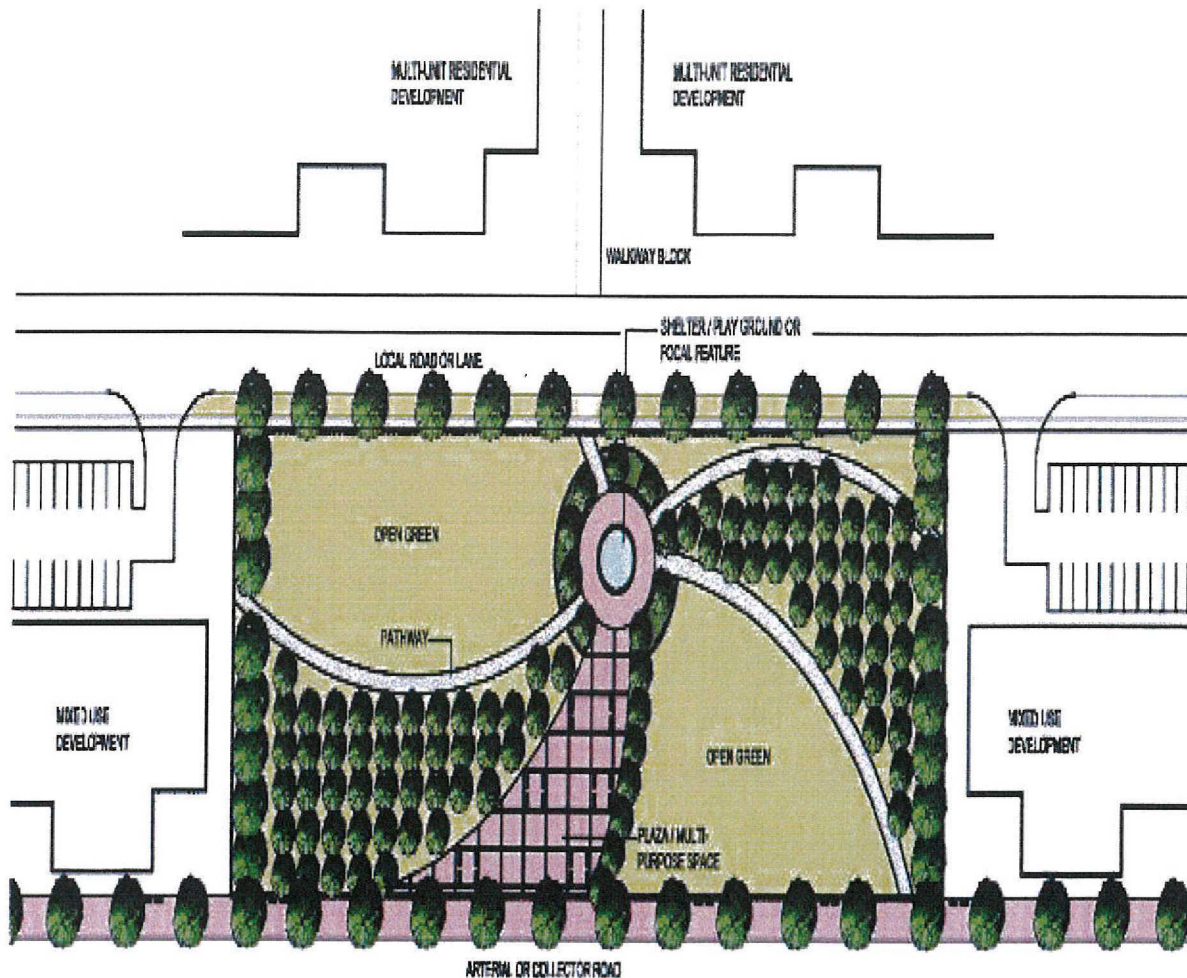


Inspirations

Parks Policy Development Manual

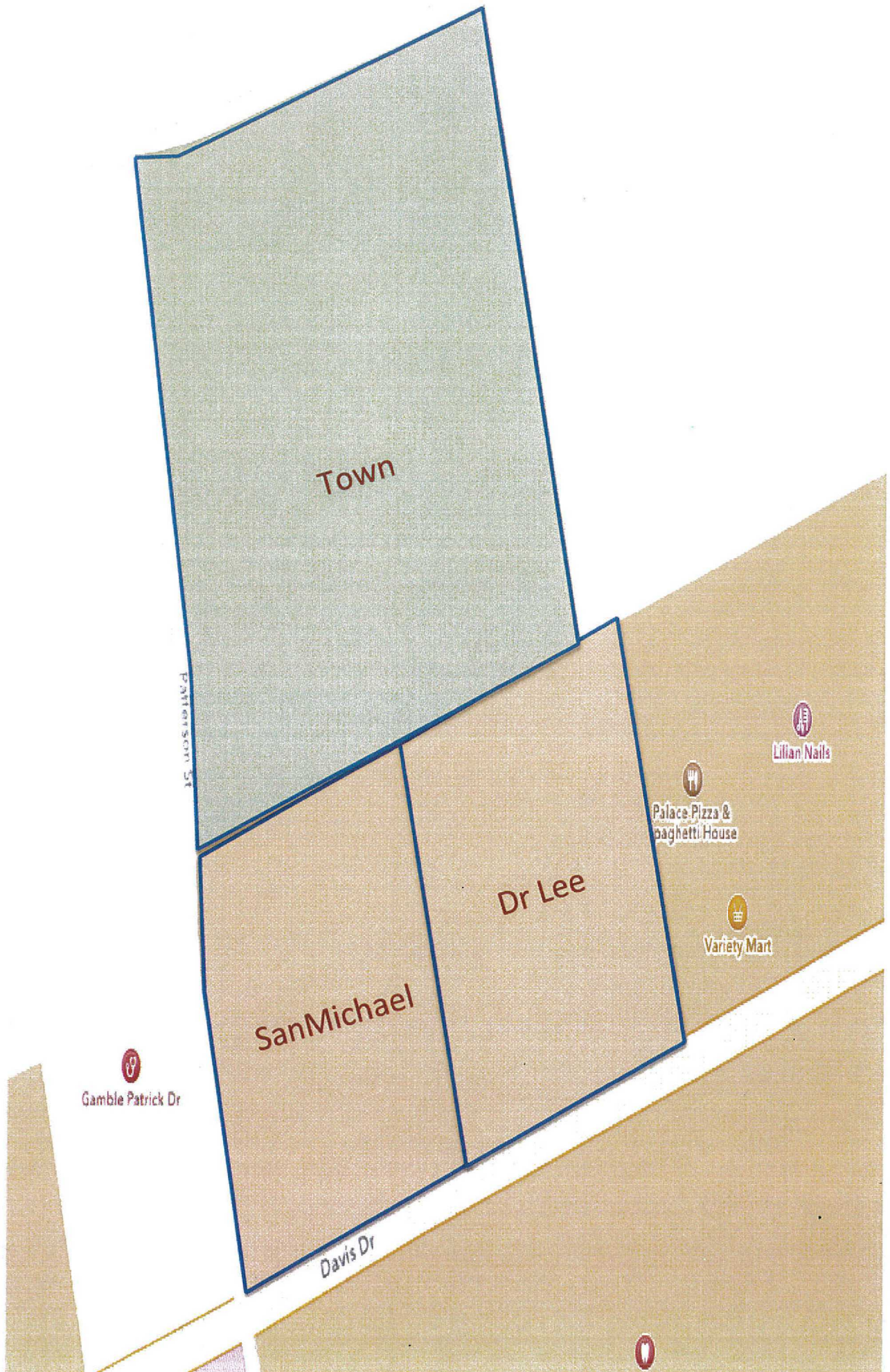
The Redevelopment Component

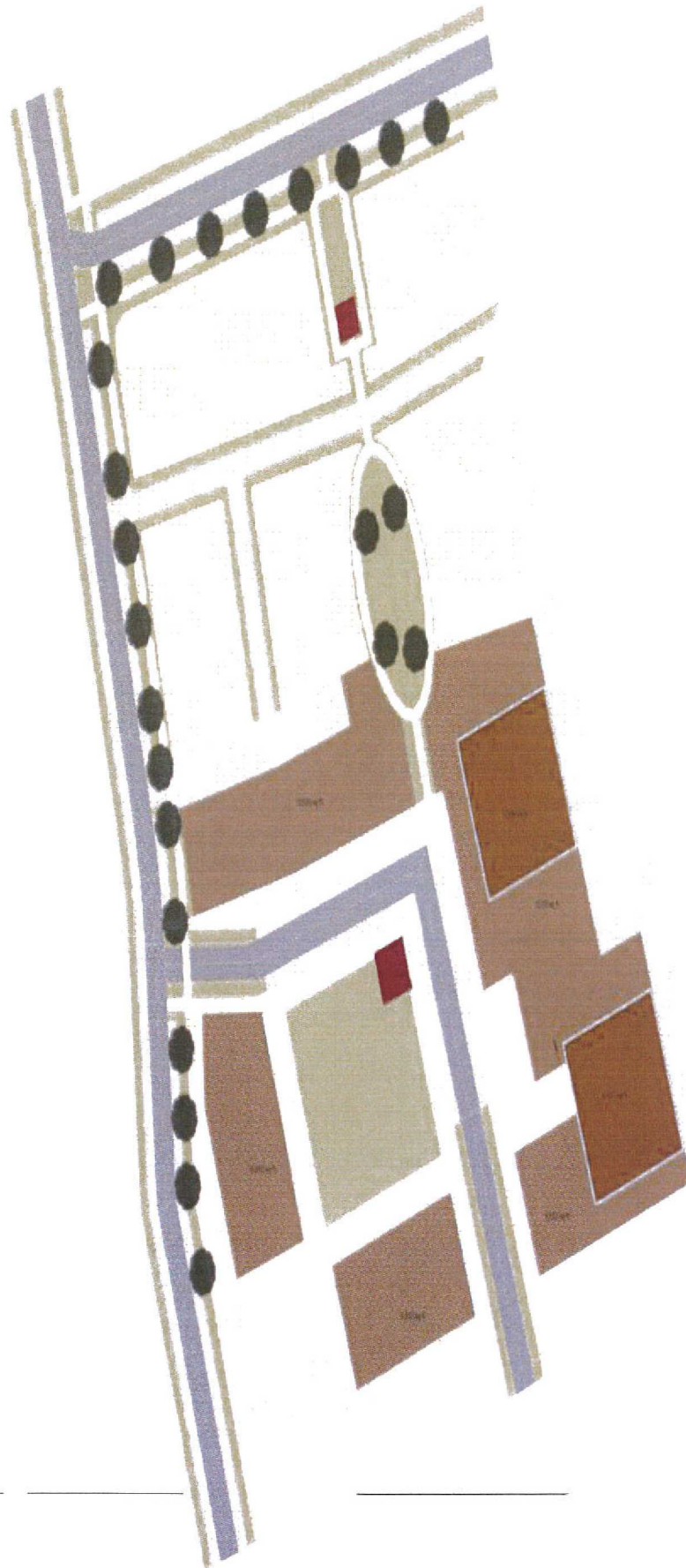
Figure 7: Conceptual Diagram of an Urban Square



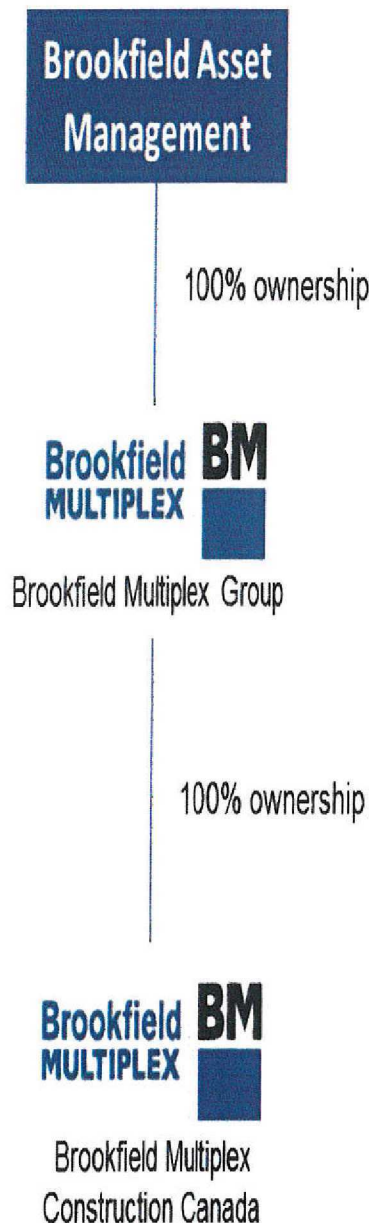
Inspirations







COMPANY PROFILE



- BM is a full service construction company
- 827 completed projects since 1962
- 300 high rise projects globally
- 7 countries 3,900 staff
- \$59 BN of work to date
- Toronto office established in 2010
- Current Ontario project value \$1 BN
- Robust local supply chain with over 350 pre-qualified trades
- Canadian project size between \$12M - \$300M

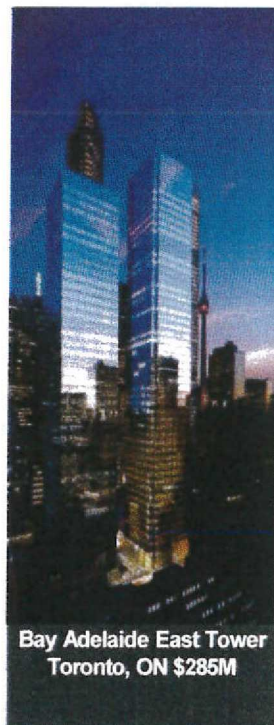
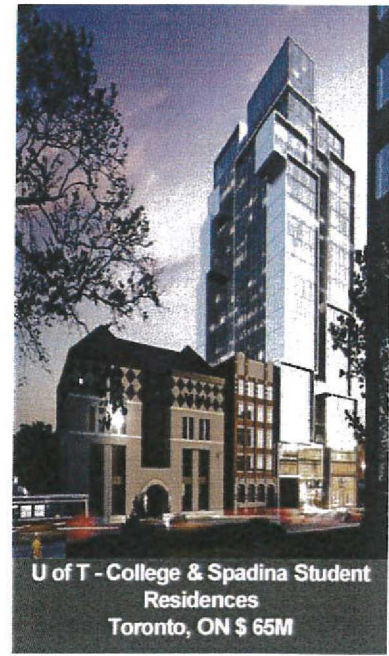
SELECTED GTA PROJECTS

- Hotel X, Toronto



- ✦ Hotel Development; 406 Rooms; 29 storeys; \$160M
- ✦ Retail, Sports and Entertainment Podium
- ✦ Retail Frontage along Princes' Boulevard
- ✦ CM contract converted to GMP
- ✦ BMCC was involved since schematic design phase

SELECTED CANADIAN PROJECTS

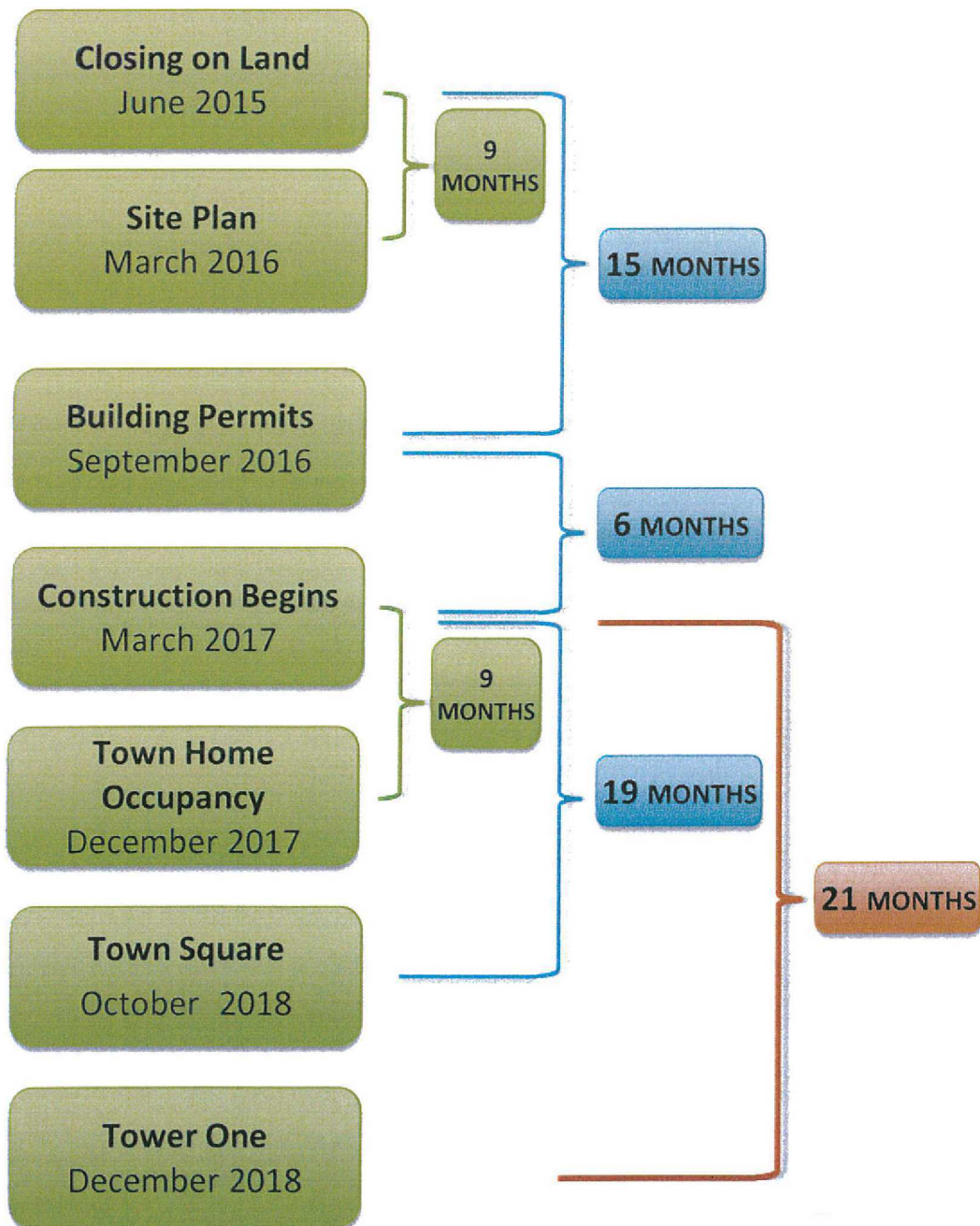


CASE STUDY – TRUMP TOWER, TORONTO

- First Canadian project for BMCC
- Assumed Construction Management of Tower **in distress** in 2011
- Hand selected several staff members from previous CM and integrated them into BM
- Site staff supplemented by existing BM expertise (facade, schedule, technical)
- Pre qualified all existing trades on site to BM standards
- Re-finished most of already completed hotel suites to bring them to BM quality standards
- **Met targeted budget and schedule**



Schedule





DEFINING & MANAGING RISK

May 2015

DEFINING RISK: WHAT IF ?

1. Prior to closing conditions are not met ?
2. Closing occurs but the construction does not begin ?
3. Construction begins but the townhomes are not completed ?
4. Town Square is not completed ?
5. 1st Tower is not completed ?

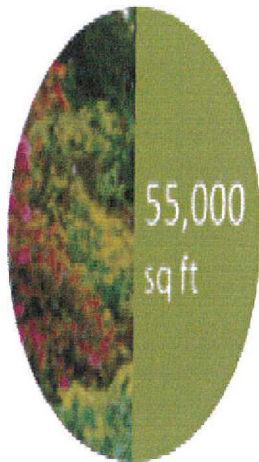
MANAGING RISK:

1. \$100,000 deposit.
2. \$100,000 plus \$1,200,000 plus arena land
3. Occupancy permits not released and mortgage on title
4. The Town will exercise the \$1.0M letter of credit.
5. Lenders will complete project Town exercise \$1.0M letter of credit

- is this the right location ?
- high speed transit system at the doorstep
- directly across from Southlake Hospital
- 2 blocks away from Go Station
- around the corner from Main Street
- in the heart of newmarket

- how will it impact the town ?
- \$1,000,000 annual income
- contribute to the usage of the high speed transit system
- meet the objectives of “ places to grow”
- driving force behind new development

63,000 sq today



60 %
=
OPEN
SPACE

... this will serve as an urban stage, a celebration of life with space for events, exhibitions and gatherings.

During the winter months, as a tribute to the old arena that will no longer be, this space will be transformed into an outdoor skating surface.

People of all ages will interact and form lifelong connections.

- what about the local residents ?
- there will be a public engagement process
- my objective is to revitalize and be the heart and soul of the neighbourhood
- perfect transition from existing low rise homes
- the design will create a genuine, identifiable, and enduring neighbourhood
- they will love it