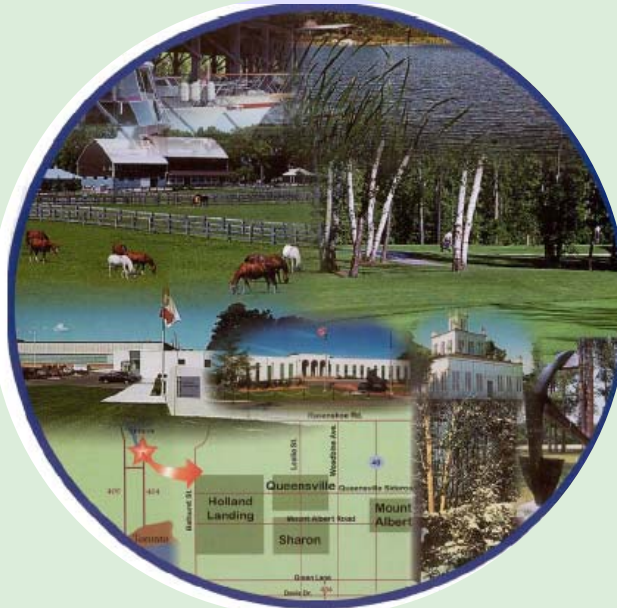


# Community Energy Plan

*Supporting a Sustainable Future*



*Our Town, Our Future*

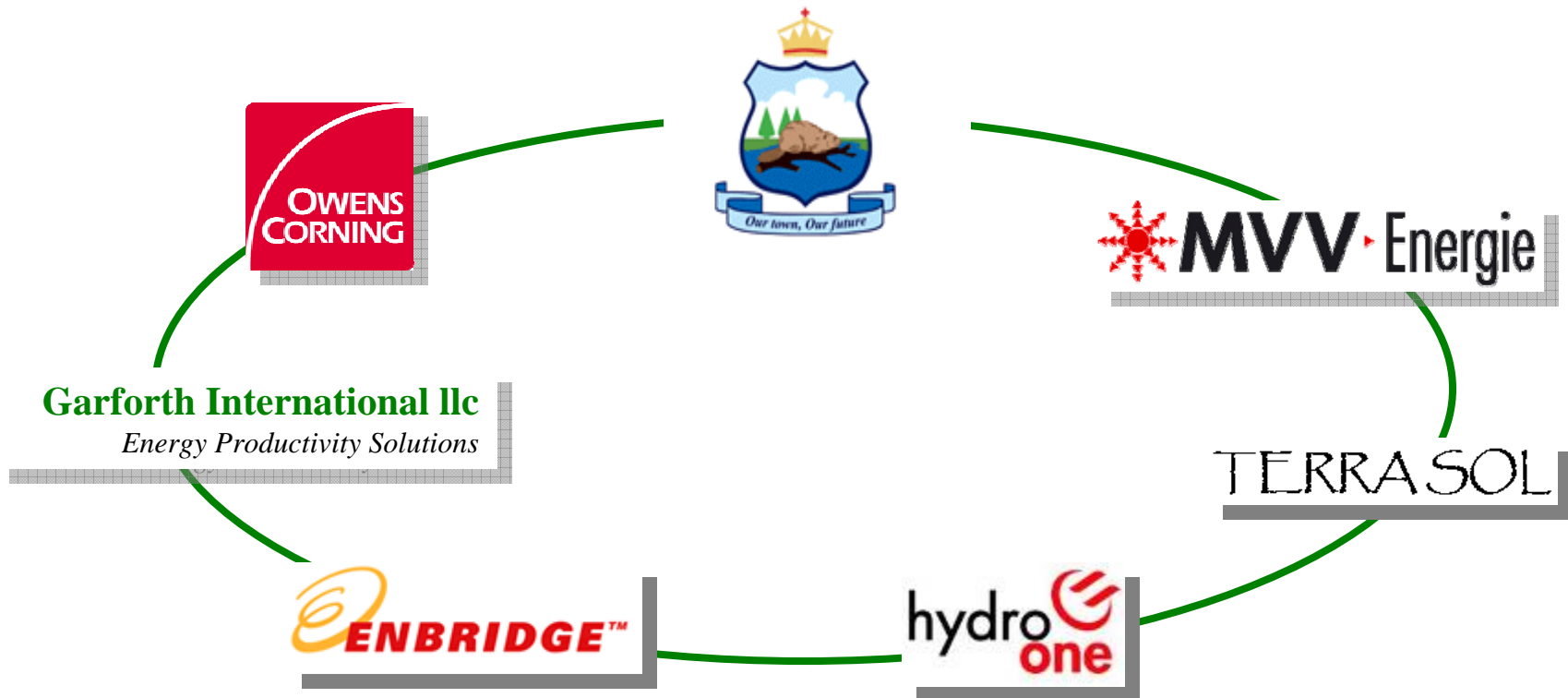
*Town Council Update  
East Gwillimbury, November 17<sup>th</sup>, 2008*



# Community Energy Plan *Topics*

- Team Structure
- Team Introductions
- CEP Working Targets
- CEP Framework
- Examples
  - *Mannheim*
  - *City of Guelph*
- Milestones and Timelines
- Questions

# Pre-feasibility Assessment *Core Team Structure*



**Global Perspective – Local Expertise**

# Team Members

Name	Org	Role
<b>Robin Skinner</b>	Town	Liaison with Town based resources
<b>Dianne Perkin</b>	Terra Sol	Liaison with Town; supporting community workshops
<b>Peter Garforth</b>	GIL	Integration of CEP; Lead community workshops
<b>Tim Grether</b>	OC	Homes & buildings, energy needs, efficiency options and costs
<b>Richard Liesen</b>	OC	Homes & buildings, energy needs efficiency options and costs
<b>Stefan Blüm</b>	MVV	Energy distribution & supply choices; industrial energy
<b>Gerd Fleischhammer</b>	MVV	Energy distribution & supply choices; greenhouse gas balance
<b>Norbert Pätz</b>	MVV	Energy distribution & supply choices; business structures
<b>Tim Adamson</b>	Enbridge	Gas regulation, operation and technical expertise
<b>Jim Hall</b>	Hydro One	Electricity regulation, operation and technical expertise
<b>John Palmisano</b>	Horizon	Monetizing greenhouse gas reductions

# East Gwillimbury Community Energy Plan

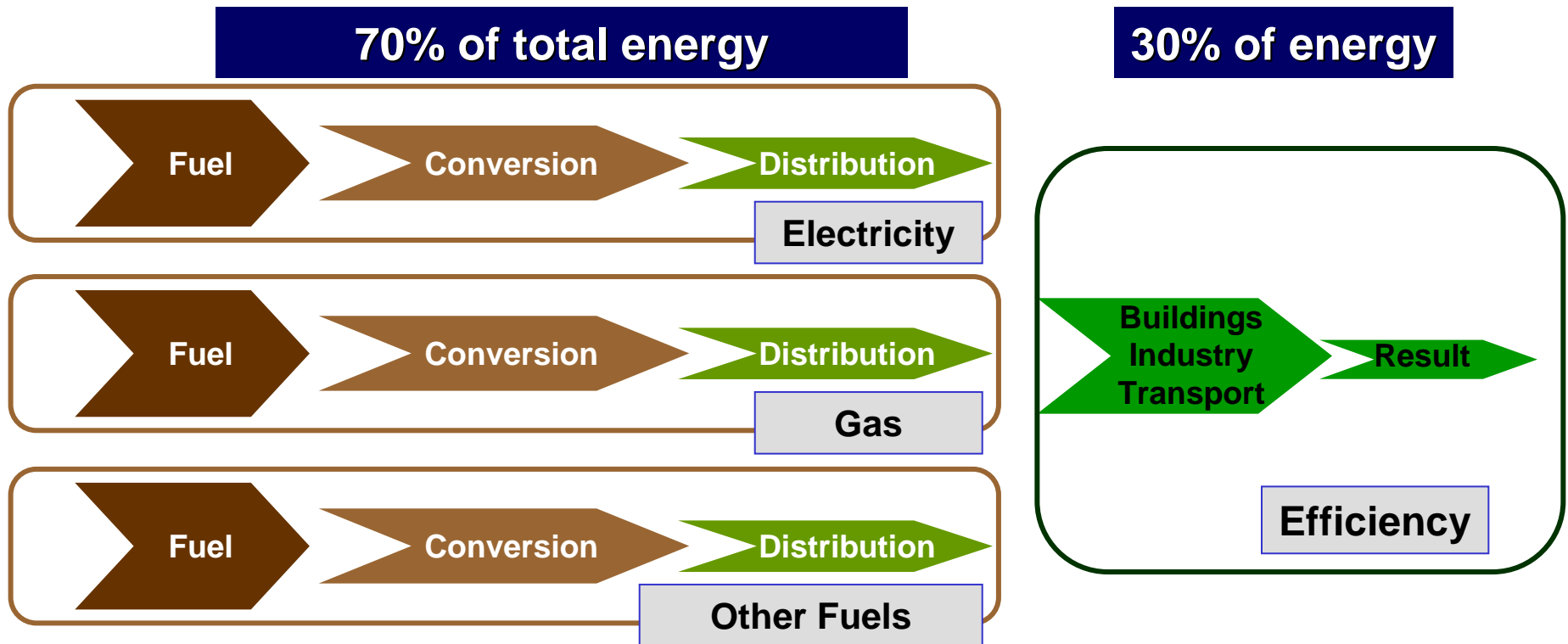
## *Working Targets*

- Support local employment
  - *Lower energy costs than neighbouring towns*
  - *Reliable and technically flexible*
  - *Tailored to needs of inbound investors*
  - *Stimulus to incubate local businesses*
- Good economics
  - *Positive returns for the entire energy value chain*
- Breakthrough environmental performance\*
  - *2033 - 6 Tons Greenhouse Gas per capita*
  - *2050 - 4 Tons Greenhouse Gas per capita*
  - *Current estimate 17 Tons*

**From Vision to Reality**

# Dysfunctional Energy Supply Chain

*From fuel to service*



- High-cost with low returns
- High risk
- High greenhouse gas

**Pay for 100 get less than 10**

# CEP Framework

## *Trias Energetica / California Loading Order*

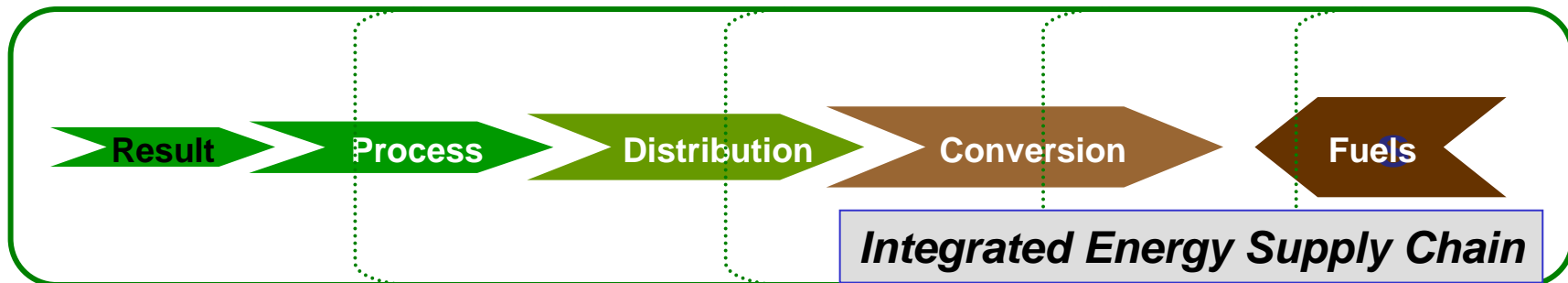
- Efficiency - *If you don't need it don't use it*
- Heat Recovery - *It it's already there – use it*
- Cogeneration – *Why waste fuel at power plant?*
- Renewable energy - *If realistic, go carbon free*
- Team with utilities – *Invest where it makes sense*

**Seek Efficiencies Through Integration**

# Change the Thinking

## *Service-to-fuel at community level*

100% of total energy

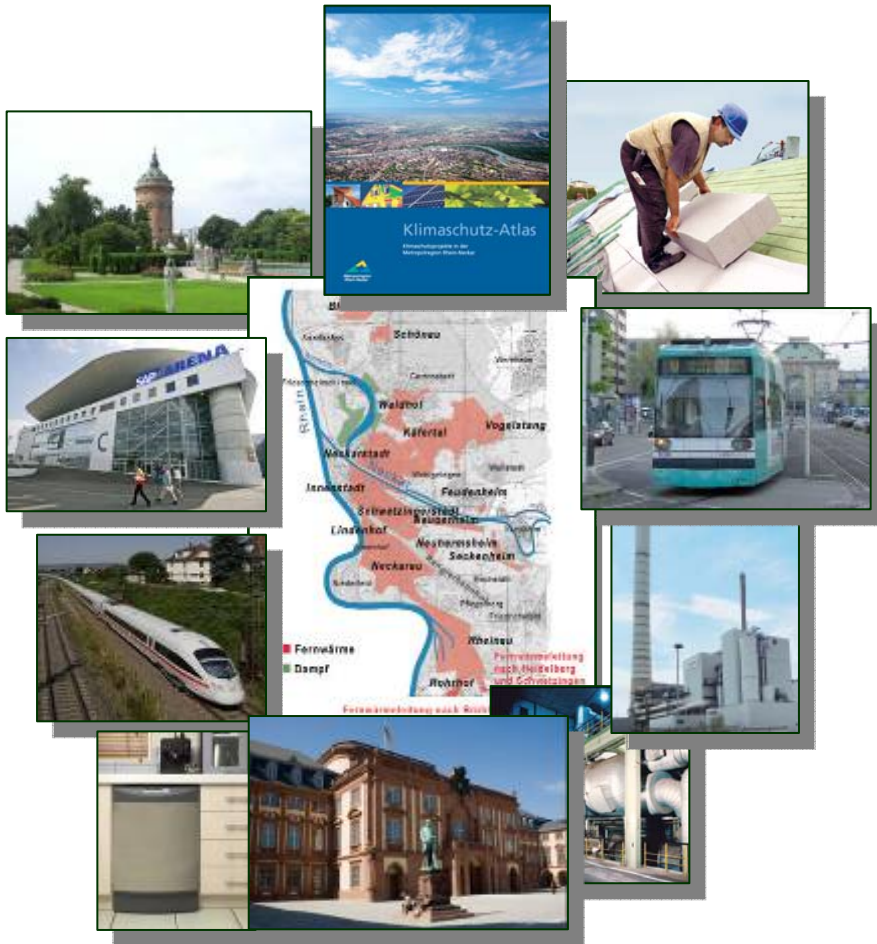


- Key questions
  - *“How much energy is really needed?”*
  - *“How to minimize greenhouse gas emissions?”*
- Multi-Decade Community Energy Master Plan
  - *Optimize investments between efficiency, distribution, conversion, fuel*
  - *Sustained consistent approach*

**Pay for 100 get 30 to 50 !**

# Mannheim

## *Community Energy Benchmark*



- Energy Efficiency
  - *Building efficiency*
  - *Industrial efficiency*
  - *Higher living density*
  - *Mixed use – Live / Work /Play*
  - *Multi-modal Transport*
- Energy Distribution
  - *Electricity*
  - *District heating and cooling*
  - *Industrial Steam*
  - *Natural gas*
- Multiple energy sources
  - *Regional Gas/Electric Grids*
  - *Power generation heat recovery*
  - *Bio-mass*
  - *Waste-to-Energy*
  - *Wind/solar/geothermal*
- Public-Private Energy Services

**Low cost, clean, technically flexible**

# City *of* Guelph

## A Role Model for Community Energy Planning

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



# Guelph Community Energy Plan

## *Prioritized strategies 2007-2031*

- Building efficiency standards
  - *Above code on all construction – new and retrofit*
- Energy Performance Labelling
  - *Required on all construction – national pilot*
- Transport efficiency
  - *Urban design and vehicle choices*
- Heat recovery
  - *Invest in new district energy infrastructure*
- Renewables
  - *Biomass and solar in large scale*
- Restructured energy services supply company
  - *Challenging regulatory status-quo*
- Immediate start on 6 “Scale Projects”
  - *Gain early critical mass*

**Low cost, clean, technically flexible**

# Guelph Community Energy Plan

## *Aggressive 2031 Targets*

Sector	2005 GWh <sub>e</sub> /yr	2031 GWh <sub>e</sub> /yr	2005 MWh <sub>e</sub> /cap	2031 MWh <sub>e</sub> /cap
Residential	1,610	1,473	14.00	8.18
Commercial	1,046	1,076	9.10	5.98
Industrial	1,631	1,848	14.18	10.27
Transport	1,743	1,126	15.16	6.26
<b>Total (Net)</b>	<b>6,030</b>	<b>5,523</b>	<b>52.44</b>	<b>30.68</b>
Electrical conv.	2,445	612	21.26	3.40
<b>Total (Gross)</b>	<b>8,475</b>	<b>6,135</b>	<b>74.04</b>	<b>34.08</b>

- Growth from 115,000 to 180,000 people
- Greenhouse Gas Per Capita:
  - *7.0 Tons in 2031 from 16 Tons in 2005*
  - *Slightly lower than Germany and Sweden today*

**Results reported at Council Meetings**

# CEP Timeline and Milestones

- Remote data gathering - Completed
- On-Site Assessment – November 17–21, 2008
- Potential Scenario Selection – Early December 2008
- Review Alternatives Scenario – Mid December 2008
- Final selection of Scenario(s)\* - Mid January 2009
- Community Workshops – Mid January 2009
  - *Builders / Developers*
- Community Workshops – Early February 2009
  - *Environmental Community*
  - *Chamber of Commerce / Business*
- Preliminary Recommendations Review\* – Mid February 2009
- Community Workshops – March 2009
  - *Schools*
  - *Public*
- Draft Recommendation Review – Mid March 2009
- Final Team Review\* – Mid April 2009
- Council Approval – by April 30, 2009?

**..and Decades of Consistent Execution!**

**“A hundred years after we are gone and forgotten, those who have never heard of us will be living with what we have done”**

*Oliver Wendell-Holmes*

**“We shape our buildings and afterwards our buildings shape us”**

*Sir Winston Churchill*

**Thank You!**

