Who we are?

- **Global network** of sustainability consultants, energy analysts, commissioning authorities, mechanical, electrical and plumbing engineers
- 300 employees located in offices across the US, Canada, and the UK
- Sustainability Highlights: 29 LEED Platinum certifications, 43 Net Zero projects, 8 Living Building Challenge projects

Diana Visic, Senior Sustainability Advisor  
dvisic@integralgroup.com

Edmonton City Center Master Plan (LEED Gold)  
Silver Springs Master Plan (LEED Gold)  
Uptown Vancouver Mixed Use Development (LEED ND Gold)
Groundbreaking High-Performance Building District

Founding Sponsors
The Problem

- Today, over half of the world population lives in urban areas.
- Urban environments (cities) are responsible for over 70% of global GHG emissions.
- Between 2011 and 2030, the world population is expected to increase by 1.35 billion (from 6.97 billion to 8.32 billion).
- Urban areas are projected to gain about 1.35 billion people by 2030, absorbing the entire population growth estimate from 2011 to 2030.
- By 2030, over 80 billion m² of buildings will be built new and rebuilt in urban areas worldwide, an area roughly equal to 60% of the total building stock of the world.
Graph 1. A carbon emissions peak by 2016 and complete phaseout of fossil fuel CO₂ emissions by the middle of the century will be necessary for a greater than 85% chance (high probability) of holding global warming below 2°C.
Graph 2. If the world exceeds the 2°C threshold, reported models project the planet will keep warming and it will be virtually impossible to bring global average temperatures back to current levels, leaving humanity with a continually warming planet and a deteriorating climate system. The only scenario with a greater than 85% chance of holding global warming below 2°C is to quickly peak worldwide fossil fuel CO$_2$ emissions and reach zero emissions by the middle of the century.
New Construction Goals

The 2030 Challenge for Planning: New Buildings & Major Renovations

Source: © 2011 2030, Inc. / Architecture 2030. All Rights Reserved.
*Using no fossil fuel GHG-emitting energy to operate.
Existing Building Goals

<table>
<thead>
<tr>
<th>Year</th>
<th>Goal</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td>10%</td>
</tr>
<tr>
<td>2020</td>
<td>20%</td>
</tr>
<tr>
<td>2025</td>
<td>35%</td>
</tr>
<tr>
<td>2030</td>
<td>50%</td>
</tr>
</tbody>
</table>

- Energy, Water, and CO2 from Transportation Reduction
- Energy, Water, and CO2 from Transportation Consumption

The 2030 Challenge for Planning: Existing Buildings

Source: © 2011 2030, Inc. / Architecture 2030. All Rights Reserved.
Aggressive reductions are hard to achieve one building at a time

The answer: District-wide approaches
The Toronto 2030 District is a collective effort by local private and public sector partners to significantly reduce building related emissions in Toronto.
Leverages our sense of community
We are bound by common regulations and market conditions
Considers opportunities beyond the building envelope
Strong and weak performers balance each other out
Enhances the overall value and reputation of downtown
The 2030 District

- Recognized boundary politically and culturally
- Canada’s economic engine
- Pop. growing at 4x the rate of the city of Toronto
- 557,000 square meters of major office under development

In Toronto, downtown has:
- 51% of GDP
- 33% of Jobs
- 25% of Tax Base
- 7% of Population
- 3% of Land Area
Measurement Areas

2030 seeks to impact district level sustainability by tracking four key areas most responsible for building-related GHGs.

Targets are met by District as a whole (new and existing buildings), not by individual buildings.

All targets are relative to the 2003 average consumption intensity for each building category.

All building types may be included.
How do we get there?

2030 Districts lean heavily on the idea of Collective Impact, that addressing city-wide emissions will require city-wide participation and a guiding structure.
Principles of Collective Impact

- **Common Agenda:** All participating organizations (government agencies, non-profits, community members, etc.) have a shared vision for social change that includes a common understanding of the problem and a joint approach to solving the problem through agreed upon actions.

- **Shared Measurement System:** Agreement on the ways success will be measured and reported with a short list of key indicators across all participating organizations.

- **Mutually Reinforcing Activities:** Engagement of a diverse set of stakeholders, typically across sectors, coordinating a set of differentiated activities through a mutually reinforcing plan of action.

- **Continuous Communication:** Frequent communications over a long period of time among key players within and across organizations, to build trust and inform ongoing learning and adaptation of strategy.

- **Backbone Organization:** Ongoing support provided by an independent staff dedicated to the initiative.
# City of Toronto GHG Targets

<table>
<thead>
<tr>
<th>Year</th>
<th>AIR QUALITY CONTAMINANTS</th>
<th>GREENHOUSE GASES</th>
</tr>
</thead>
<tbody>
<tr>
<td>1990</td>
<td>Baseline Year</td>
<td>Baseline Year</td>
</tr>
<tr>
<td>2004</td>
<td>Baseline Year</td>
<td>--</td>
</tr>
<tr>
<td>2012</td>
<td>20%</td>
<td>6%</td>
</tr>
<tr>
<td>2020</td>
<td>--</td>
<td>30%</td>
</tr>
<tr>
<td>2050</td>
<td>--</td>
<td>80%</td>
</tr>
</tbody>
</table>
Conservation Spending in Ontario ($millions - 2011)

- Ontario Power Authority: $317.8
- Enbridge Gas Distribution: $27.4
- Union Gas: $28.1
The Time is Right

- The city is undergoing a major growth study of the downtown core called Comprehensive to the Core.
- Programs including Race to Reduce and 20 by 15 are approaching the end of their life and will be evaluating their targets.
- Updates are planned to the Toronto Green Standard.
- ENERGY STAR is being Canadianized and will see major increase in use.
- Utility programs including HPNC and Savings By Design are pushing performance targets beyond code and must renew annually.
- Electricity conservation programs (CDM) updating in 2015.
2030 Districts are Data Driven

Understanding the current state of the market and building performance will require an understanding of market conditions.

We are currently pursuing a framework and methodology for collecting three types of market data:
Building Level Data

2030 Districts use ENERGY STAR Portfolio Manager for reporting building utilities. In Canada we are moving toward ENERGY STAR for some sectors and exploring alternative approaches in others.

- Free Tool
- Easy to Use
- Widely adopted
- Useful for benchmarking
- Adopted by many programs (i.e. BOMA BESt)

Challenges

- New to Canada
- To all building types well represented in Canada
District-Wide Mapping

In Partnership with the Canadian Urban Institute the Toronto 2030 District is pursuing a pilot for a unified building consumption map for the city including:

- Building Inventory – All Building Types, Uses, Floor Area
- Energy Consumption – Gas, Hydro, Enwave
- Water Consumption
- Transportation Modal Splits
- GHG Intensities

Possible Other Info

- Waste
- Real-Estate Data
- Infrastructure Inventory
- Other metrics
District-Wide Mapping

District-Wide Mapping Applications

- Improved benchmarking
- District energy opportunities
- Growth & infrastructure planning
- Detailed emissions analysis
- Targeting conservation spending
Conservation Activities

2030 is also committed to identifying and making available information on programs, activities, and incentives that support conservation and conservation capacity building in the Toronto area.

<table>
<thead>
<tr>
<th>No.</th>
<th>Category</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>Localized Building Approaches</td>
<td>Technologies, processes, best practices</td>
</tr>
<tr>
<td>2.</td>
<td>Performance Verification</td>
<td>Frameworks, tools and institutions to assess performance</td>
</tr>
<tr>
<td>3.</td>
<td>Finance</td>
<td>Financial tools and methods</td>
</tr>
<tr>
<td>4.</td>
<td>The Public</td>
<td>Building public awareness, demand, and capability</td>
</tr>
<tr>
<td>5.</td>
<td>Industry Capacity</td>
<td>Industry training and promotion</td>
</tr>
<tr>
<td>6.</td>
<td>Policy</td>
<td>Political leadership, objectives and regulation</td>
</tr>
<tr>
<td>7.</td>
<td>Legal</td>
<td>Legal processes and contractual frameworks</td>
</tr>
<tr>
<td>8.</td>
<td>Infrastructure Integration</td>
<td>Power, water and transportation infrastructure</td>
</tr>
<tr>
<td>9.</td>
<td>Procurement</td>
<td>Markets, Supply chains, and purchasing</td>
</tr>
<tr>
<td>10.</td>
<td>Mobilization &amp; Leadership</td>
<td>Coordination, promotion, and mobilization</td>
</tr>
</tbody>
</table>
2030 District Impact

2030 District Programs and Activities
- Facilitating Dialogue
- Motivating Stakeholders
- Defining Goals & Objectives
- Aggregating Data
- Disseminating information
- Promoting the District

District Scale Coordination

Market Transformation

Implementation
- Collection of data
- Transformation Campaigns
- Service delivery
- Education and Training

STAKEHOLDERS Programs and Activities
- Market needs assessment
- Baseline and performance measurements
- Research and Development

Program Development
- Collection of data
- Transformation Campaigns
- Service delivery
- Education and Training

Facilitating Dialogue
- Motivating Stakeholders
- Defining Goals & Objectives
- Aggregating Data
- Disseminating information
- Promoting the District

Monitoring & Feedback
- Market needs assessment
- Baseline and performance measurements
- Research and Development

Program Development
- Collection of data
- Transformation Campaigns
- Service delivery
- Education and Training
- Strong Market Presence
- Multiple Performance Metrics
- NC, CI, ND – all align well with water targets
- EB O+M addresses operational issues
- All programs provide strategies for transportation emissions, but no performance targets included.
- Generally Minimum Energy Targets are less aggressive than 2030 Challenge
Mandatory (Tier 1) in the District
Multiple Performance Metrics
Minimum Energy Targets are more aggressive than Ontario Building Code
No Energy Use Intensity baselines, compliance is based on modelled performance.
ECODISTRICTS

- Smaller Scale – Neighbourhood vs all downtown
- Address multiple sustainability issues, not just GHGs
- Highly engaged citizens
- Formal MOU between Eco-Districts and Architecture 2030
Under Evaluation

Cities like New York and Chicago have similar programs

Would provide data on all buildings over a set size

Does not include smaller buildings and residences

Still a role for analyzing the data
Many programs that collect office and institutional data
Many are moving to ENERGY STAR
Green Up has ended, Race to Reduce and 20 by 15 will end their current cycle this year.
No program for condos
Sponsored by OAA, SBC and BOMA Toronto

**Principles**
- Program neutral
- Data driven
- Cross-sector participation
- Include all building types
- A successful district will benefit all
The Toronto 2030 District will become the first Canadian city to join the growing network of 2030 District charter cities across North America.
2030 District Function

Supports Dialogue Between Industry Leaders
- Board comprised of key stakeholders (Building Owners, Service Providers & Associations)
- Convenes larger multi-stakeholder discussions

Amplifies Existing Market Activities
- Directs participants to relevant existing program and service opportunities
- Co-promotes compatible programs and campaigns

Sets and Tracks District Wide Goals
- Partners with existing data collection programs
- Works to align current program targets with long-term 2030 targets

Promote the District Success
- Promote the District as a good place to live and do business
- Highlight Partners success stories and best practices
A NETWORK of INTERCONNECTED ACTIONS
for the planning and design of sustainable and resilient built environments.

LAUNCH THE 2030 PALETTE >
At the recent International Union of Architects (UIA) World Congress, member organizations representing over 1.3 million architects in 124 countries worldwide unanimously adopted the 2050 Imperative, a declaration to eliminate CO2 emissions in the built environment by 2050.

As important, all of the regional Architect Councils of Europe, Asia, the Americas and Africa also signed on to the declaration, something that is unparalleled in the 65-year history of the UIA.

The 2050 Imperative was initiated and drafted by Architecture 2030, then delivered subsequently by the American Institute of Architects (AIA) to the UIA World Congress in Durban, South Africa. Australian Institute of Architects CEO David Parken, with support from UIA President Albert Dubler, guided the 2050 Imperative through a number of committees and introduced it onto the floor of the Congress where it was unanimously adopted on August 8.
Spreading 2030

As the first Canadian and non-US 2030 District, Toronto is playing a critical role in shaping the model for 2030 expansion across the country and around the world.
CURRENT PARTNERS FOR TORONTO 2030 DISTRICT

The 2030 District is focused on using building performance data to support the efforts of existing stakeholder groups and fostering collaboration and dialogue between conservation-minded organizations district-wide.

PROPERTY OWNERS/MANAGERS

- Avison Young
- BOMA Toronto
- Brookfield
- CAP REIT
- Ellis Don
- Jones Lang LaSalle
- University Health Network
- + 2 more

- Total Floor Area >10 million sq. ft.

SERVICE STAKEHOLDERS

- Airtron
- Ameresco
- Cool Earth Architects
- CS&P
- Dialog
- Hilditch Architects
- Integral Group
- OAA
- Quadrangle Architects

COMMUNITY STAKEHOLDERS

- Canadian Institute for Energy Training
- Canadian Urban Institute
- Civic Action
- CaGBC-Toronto
- Energy Services Association of Canada
- OAA
- Ryerson University
- Sustainable Buildings Canada
Why Get Involved?

PROPERTY OWNERS, MANAGERS & DEVELOPERS
- Increase your understanding of building performance to make better strategic management decisions
- Anonymous benchmarking against local peer buildings
- Training and ongoing support through educational workshops on tools and best practices
- Influence on District-related policy issues and programs

SERVICE STAKEHOLDERS
- Provide guidance and solutions on achieving the 2030 District goals
- Demonstrate market leadership through technical expertise

COMMUNITY STAKEHOLDERS
- Better target conservation programming through improved performance data and sector insights
- Connect to the broader network of organizations with shared goals
How to Participate

There are two ways to get involved in the Toronto 2030 District:

1. Participate on our Advisory Board/Committees
   As we launch the Toronto 2030 District and move toward becoming a full charter District recognized by Architecture 2030, we are setting the framework for 2030 Districts across Canada. We need knowledgeable and engaged private sector partners to help shape our strategies and processes to ensure that they meet the needs of the building industry.
   The Advisory board is a multidisciplinary team of industry leaders representing all building sectors, the public sector, and community groups who meet several times a year to guide the overall direction of the District.
   A series of technical subcommittees will be formed to address specific market needs including data collection and reporting, industry engagement, and program development.

2. Share with the community
   By sharing your anonymous* building performance data and industry experience you are supporting the development of local benchmarks and best practices that support district-wide improvements and better market insights.
   What we looking for (if available):
   - Building energy use and water use through ENERGY STAR Portfolio Manager or BOMA BEST (existing) or modelled performance (new construction)
   - Tenant transportation survey data
   - Best practices and lessons learned
   - Barriers to achieving further improvements

*All information provided to the 2030 District is confidential for the purposes of tracking district progress and supporting the establishment of district baselines. Any published data will be anonymous.
Become a Member Today

No cost to join. Targets are voluntary.

Download membership forms (PDFs):

- **Building Owners, Managers, and Developers**
- **Service Providers, Building Suppliers, Consultants**
- **Public Sector, NGOs, Utilities**