The background features abstract, overlapping geometric shapes in various shades of green, ranging from light lime to dark forest green. These shapes are primarily located on the left and right sides of the page, framing the central white area where the text is placed.

Local Policy Making and Climate Change in Eastern Ontario

The Need for an Equity Lens

Climate Change

- ▶ Climate Change - Changes in long-term weather patterns caused by natural phenomena and human activities that alter the chemical composition of the atmosphere through the buildup of greenhouse gases which trap heat and reflect it back to the earth's surface (Environment Canada, 2013).

Canada's Climate Role

- Canada is heating up faster than the global average
- 1.7° C warmer since 1948
- 2.5° C to 3.7° C warmer by 2050
- Differs by Region
 - Latitude topography weather

“Canada doesn't even have much sense of where we are most vulnerable. People still react with outrage and disbelief to climate-related disasters and extreme events and expect government to look after them whatever the circumstances or the costs. Meanwhile, we continue to worsen our vulnerability, for example by destroying the wetlands and woodlands that help us moderate floods and droughts, and by building more homes in vulnerable areas.”

~Diane Saxe

Climate Impacts

- ▶ Increased Precipitation and Flooding
- ▶ Forest Fires
- ▶ Extreme weather:
 - ▶ Storm Surges
 - ▶ Tornados, Hurricanes, Blizzards
 - ▶ Extreme Heat and Cold
- ▶ Drought
 - ▶ Water scarcity

Climate Change and Vulnerable Populations

- ▶ While everyone will feel the effects of climate change, some people will feel them to a greater degree due to a variety of factors, including individual susceptibility, geographic location and socioeconomic status.
- ▶ For example, certain individuals could be more vulnerable to extreme heat events due to where they live (parts of cities may be warmer than others), characteristics of their dwelling that affect the inside temperature, as well as their age, fitness level, and other factors.

Why does Climate Equity Matter

- ▶ Climate affects low income and vulnerable communities more than others
 - ▶ Fewer resources to purchase mitigation
 - ▶ Housing less resilient and often located in situations more likely to be impacted by changing and adverse climate issues including heat, storms, flooding
 - ▶ Seniors medication may make them more prone to impact from heat related issues
 - ▶ Children are less able to respond to extreme temperatures due to body size and immature temperature regulation
 - ▶ Poverty exacerbates environmental health impacts

Other Relevant Climate Impact Issues

- ▶ Energy Accessibility
 - ▶ Extended power losses in communities without alternatives
- ▶ Infrastructure failure from flooding
 - ▶ Insurance not covering infrastructure damage
- ▶ Food insecurity from droughts
 - ▶ Crop failure
 - ▶ Changing growing conditions
- ▶ Lack of shelter (homelessness) and extreme weather
- ▶ Higher energy bills for heating and cooling
- ▶ Generally, increased health impacts
 - ▶ Such as from air pollution, extreme heat
- ▶ Employment insecurity
 - ▶ Irregularity in various industries but especially Farming

Climate Change Social Dimensions and Equity

- ▶ Low-income and vulnerable communities are the least responsible for climate change, yet face the most impacts
- ▶ Need to design policy to address the unfairness

Environmental Justice

The fair treatment and meaningful involvement of all people regardless of race, color, culture, national origin, or income, with respect to the development, implementation, and enforcement of environmental laws, regulations, and policies⁴ to ensure that each person enjoys (1) the same degree of protection from environmental and health hazards; and (2) equal access to any federal agency action on environmental justice issues in order to have a healthy environment in which to live, learn, work, and recreate.

Disproportionately Exposed or Vulnerable Community

A community in which climate change, pollution, or environmental destruction have exacerbated systemic racial, regional, social, environmental, and economic injustices by disproportionately affecting Indigenous peoples, communities of color, migrant communities, deindustrialized communities, depopulated rural communities, the poor, low-income workers, women, the elderly, the unhoused, people with disabilities, or youth.

Role of the Municipality Overview

- ▶ Municipalities are on the front lines of climate change.
 - ▶ From forest fires to ice storms to flooding, cities and communities are where the economic and human costs of global warming hit hardest.
- ▶ Extreme weather affects our local economies, the environment and quality of life in our communities.
- ▶ Municipalities own most of Canada's infrastructure, so investing in sustainable local projects will help meet provincial emission targets and also to protect residents and economies from the effects of climate change.
 - ▶ Infrastructure must respond to, and be more resilient to climate change, but also be part of the solution
- ▶ Climate change is the single biggest challenge of our time. With municipalities influencing roughly half of Canada's greenhouse gas emissions, it's essential to scale up local solutions.

Relevant Municipal Powers

- ▶ The Supreme Court of Canada has said that all levels of government (even municipalities) have important roles to play in environmental protection and should do so, within their own allowed jurisdictions.
 - ▶ “The protection of the environment is a major challenge of our time. It is an international problem, one that requires action by *governments at all levels.*”
 - ▶ “*Although there is specific legislation dealing with environmental conservation, protecting the natural environment within a municipality’s jurisdiction cannot be regarded as an improper goal for municipal council.*”
- ▶ Municipalities control most development, the location of roads and services, sewage treatment and many things that affect water quality and air quality.
- ▶ More and more municipal resources are being spent on adaptation and mitigation measures in response to climate change
- ▶ Municipalities can set climate policies and actions in their Official Plans.
- ▶ Municipalities play a more direct role in our day to day lives, their participation in climate action is integral

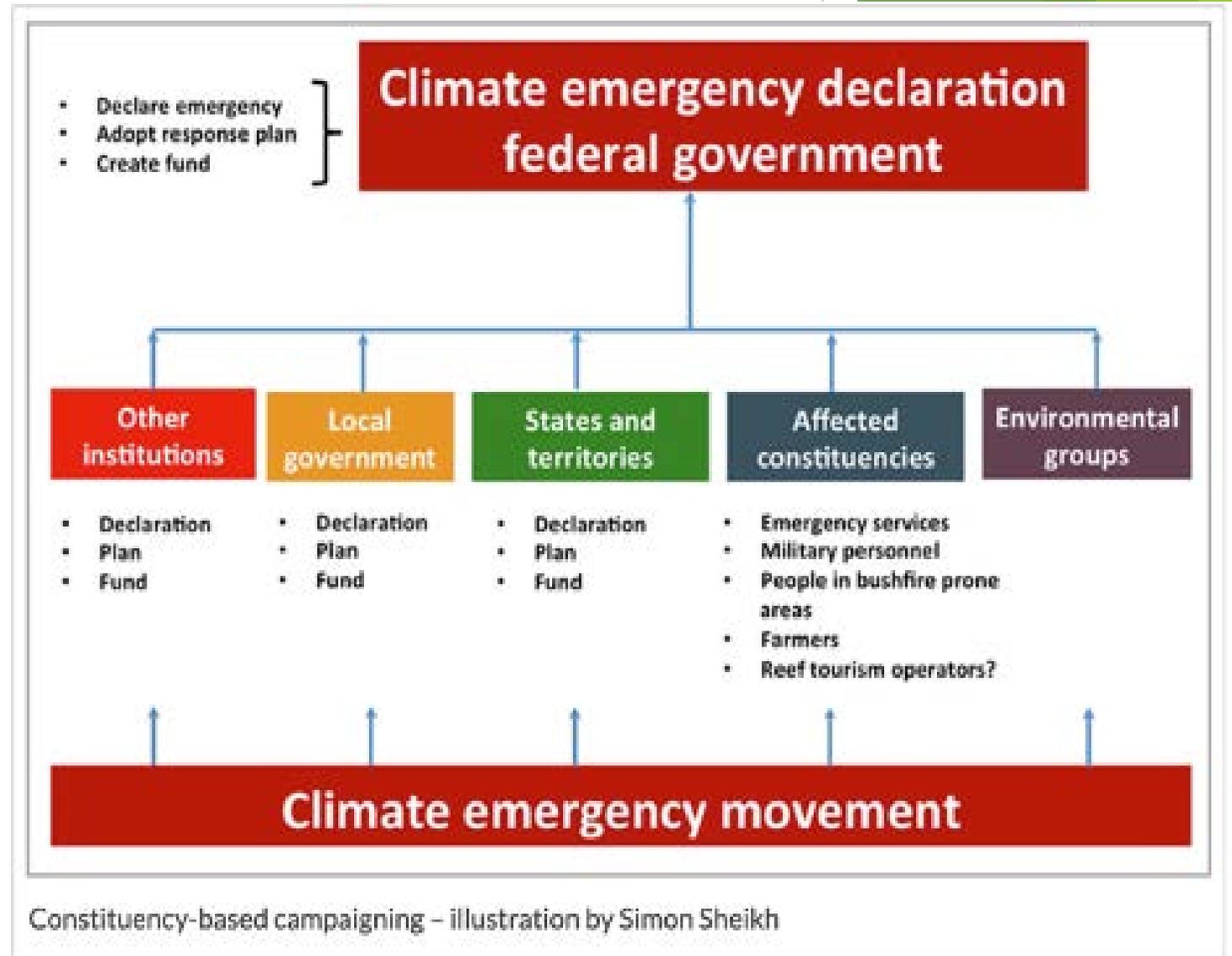
Climate Change Economic Vulnerabilities

- ▶ Tourism Impacts -waterfronts, blue-green algae
- ▶ Employment impacts such as farming and forestry
- ▶ Forest fire and other natural disaster/extreme weather risks
- ▶ Water health
 - ▶ risks to the quantity and quality of water supplies

Climate Emergency Declarations in Eastern Ontario

KINGSTON'S DECLARATION

- ▶ Whereas climate change is currently contributing to billions of dollars in property and infrastructure damage worldwide, stressing local and international economies;
- ▶ Whereas climate change is currently jeopardizing the health and survival of many species and other natural environments worldwide, stressing local and international eco systems;
- ▶ Whereas climate change is currently harming human populations through rising sea levels and other extraordinary phenomena like intense wildfires worldwide, stressing local and international communities;
- ▶ Whereas recent international research has indicated a need for massive reduction in carbon emissions in the next 11 years to avoid further and devastating economic, ecological, and societal loss;
- ▶ Whereas an emergency can be defined as "an often dangerous situation requiring immediate action";
- ▶ Therefore be it resolved, that the City of Kingston, officially declare a climate emergency for the purposes of naming, framing, and deepening our commitment to protecting our economy, our eco systems, and our community from climate change.



Diane Saxe Post Declaration Steps

- ▶ First thing is looking at municipal carbon footprint
 - ▶ Look where the carbon footprint comes from
 - ▶ what should they be prioritizing (vehicles and transportation normally in Canada)
- ▶ NEXT set a target based on science
 - ▶ set Paris consistent targets - for a 2 degree world, for a 1.5 degree world
 - ▶ short and long term targets
- ▶ THEN set a budget - what will it take to reach the target
 - ▶ Just like managing financial budget
 - ▶ Trade-offs, discipline, accountability

2 OF 3 MUST HAVES ARE MUNICIPAL

- a. Price Climate Pollution
- b. **Stop Sprawl**
- c. **Protect Nature**

Urban

City's Annual Cost, per Household



\$1416

(Total)



Parks & Recreation
\$69



Solid Waste
\$185



Fire Department
\$177



Governance
\$158



Police
\$192



Transportation
\$91



Libraries
\$38



School Bussi
\$13



Culture / Economy
\$19



Roads
\$26



Transfers to Prov
eg. School Bo
\$232



Transportation
\$171



Libraries
\$72



School Bussing
\$87



Culture / Economy
\$36



Roads
\$280



Transfers to Provinces
eg. School Boards
\$435



Sidewalks & Curbs
\$27



Storm & Waste Water
\$147



Water
\$42



Sidewalks & Curbs
\$194



Storm & Waste Water
\$613



Water
\$197

Suburban

City's Annual Cost, per Household



\$3462

(Total)



Parks & Recreation
\$129



Solid Waste
\$185



Fire Department
\$406



Governance
\$297



Police
\$360



Transportation
\$91



Libraries
\$38



School Bussi
\$13



Culture / Economy
\$19



Roads
\$26



Transfers to Prov
eg. School Bo
\$232



Transportation
\$171



Libraries
\$72



School Bussing
\$87



Culture / Economy
\$36



Roads
\$280



Transfers to Provinces
eg. School Boards
\$435



Sidewalks & Curbs
\$27



Storm & Waste Water
\$147



Water
\$42



Sidewalks & Curbs
\$194

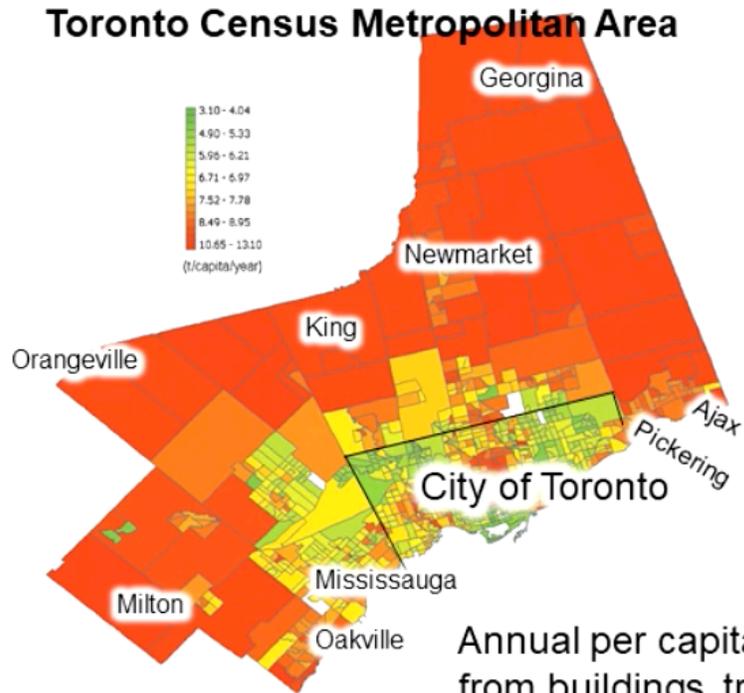


Storm & Waste Water
\$613



Water
\$197

What matters most: land use



Annual per capita residential GHG emissions from buildings, transportation

- GHG emissions closely tied to density and urban form
- Compact, mixed use communities support rapid transit, provide more options for mobility, and allow low-carbon energy solutions (e.g., district energy)

Municipalities Can

- ▶ Build resilience within the community to withstand and recover from current and future global warming-related impacts such as increasingly frequent and severe storms, floods, heatwaves, coastal inundation / erosion, fires and food scarcity
 - ▶ For example helping people grow their own food at home or expanding community gardens can help people improve their nutrition, reduce food insecurity, provide a physical activity and can also increase social activity
- ▶ Strategic plans for towns to improve walkability, housing affordability, build inclusive community are in line with climate policies

Protecting Nature

- ▶ Green infrastructure: buffer planting and storm water, protection of wetlands (flooding), green building, grey water reuse,
 - ▶ Natural Infrastructure
 - ▶ The natural vegetative systems and green technologies that help increase resilience to and mitigate the impacts of climate change for communities
 - ▶ Benefits: high returns on investment, job rich, saves money for municipalities, green spaces in urban areas
 - ▶ Wetlands: provide crucial ecosystems services including:
 - ▶ Water storage
 - ▶ Storm protection and flood mitigation
 - ▶ Shoreline stabilization
- ▶ MNAI (municipalities natural asset imitative)

- ▶ In these dispiriting circumstances, municipal climate leadership is of great importance. Municipalities are at the front line of much climate damage. Municipalities, as the owners and operators of most of Ontario's infrastructure, quickly feel the impacts of physical damage from extreme events. They are also much more vulnerable to liability lawsuits than senior levels of government. Climate change also exacerbates inequalities, disproportionately affecting the poorest and most vulnerable, often increasing social welfare needs just when the municipality itself is least able to meet them. **In many ways, it is municipalities, rather than the senior levels of government, that have the most to lose from climate inaction and paralysis.**
- ▶ **Municipalities can also do something about it.** They have a substantial role to play in both climate adaptation and mitigation. Municipalities have a lead role in land-use planning, the major driver of greenhouse gas emissions in Ontario as documented in chapter four of my 2019 energy conservation report. Municipalities also have large direct fossil fuel footprints and play a highly visible leadership role in their communities.
- ▶ ~Diane Saxe

Next Steps

- ▶ Keeping Attention on Climate
- ▶ Green and Justice Recovery