



From Policy to Practice: Leveraging Subwatershed Planning for Climate- Resilient Conservation

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Welcome!



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Introductions

GEI Canada is supported by:

- ★ Approximately 400 staff in Canada and 1500 in North America, providing ecological, municipal/civil engineering, geotechnical, geotechnical, ecological restoration, and infrastructure planning.
- ★ GEI has 7 offices in Ontario and recently expanded to British Columbia, serving Canadians all over the country.



Session Purpose



**CLIMATE
POLICY**



**MUNICIPAL
PLANNING**



**ON-THE-GROUND
ACTION**

Ontario is at a turning point: we are turning climate policy into on-the-ground action

This session provides a practical, science-based framework for infrastructure & land use.

Provincial Priorities

- Matters of provincial interest are set out in Section 2 of the *Planning Act*.
- These matters are further described in the *Provincial Planning Statement* (PPS; previously the Provincial Policy Statement)
- Municipalities are required to adopt these priorities into their local Official Plans



Legislative History

- **May 2017:** Climate change was first added to the *Planning Act* as a provincial interest

Provincial interest

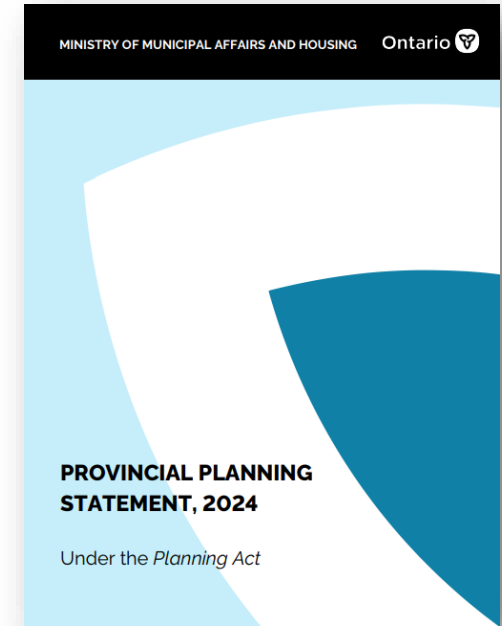
2 The Minister, the council of a municipality, a local board, a planning board and the Tribunal, in carrying out their responsibilities under this Act, shall have regard to, among other matters, matters of provincial interest such as,

(s) the mitigation of greenhouse gas emissions and adaptation to a changing climate.

- **May 2020:** The *Provincial Policy Statement* sees an update. No changes to climate change considerations.
- **October 2024:** The *Provincial Planning Statement* comes into force, replacing the *Provincial Policy Statement*. It provides updated language on climate change policies

PPS – What’s Changed?

- Better organization of text into **Section 2.9** Energy Conservation, Air Quality and Climate Change.
- Stronger language
- No changes to climate change incorporation into natural hazard policies (**Section 5.2**)
- New definition of *Watershed Planning*



Stronger Language

1.8 Energy Conservation, Air Quality and Climate Change (PPS 2020)

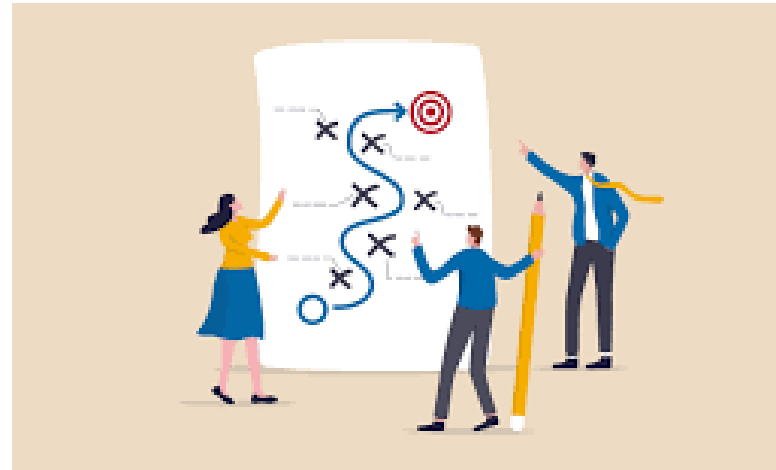
1.8.1 Planning authorities **shall support** energy conservation and efficiency, improved air quality, reduced greenhouse gas emissions, and preparing for the impacts of a changing climate through land use and development patterns...



2.9 Energy Conservation, Air Quality and Climate Change (PPS 2024)

2.9.1. Planning authorities **shall plan** to reduce greenhouse gas emissions and prepare for the impacts of a changing climate **through approaches that:**

- b) Incorporate climate change considerations in planning for and the development of infrastructure, including stormwater management systems, and public service facilities;
- e) Take into consideration any additional approaches that help reduce greenhouse gas emissions and build community resilience to the impacts of a changing climate.



Watershed Planning

Watershed planning: means planning that provides a framework for establishing comprehensive and integrated goals, objectives, and direction for the protection, enhancement, or restoration of water resources, including the *quality and quantity of water*, within a *watershed* and for the assessment of cumulative, cross-jurisdictional, and *cross-watershed* impacts. *Watershed planning evaluates and considers the impacts of a changing climate on water resource systems* and is undertaken at many scales. It may inform the identification of *water resource systems*.

Provincial Policy Statement (2020)

- No definition or mandate
- Describes general concepts

Provincial Planning Statement (2024)

- New definition
- Incorporates climate change considerations
- Makes it **mandatory** for *large and fast-growing municipalities* (Schedule 1 of the PPS 2024)

From Policy to Practice



Mandated Integration



Consistency Across Ontario



Stronger Decision-Making

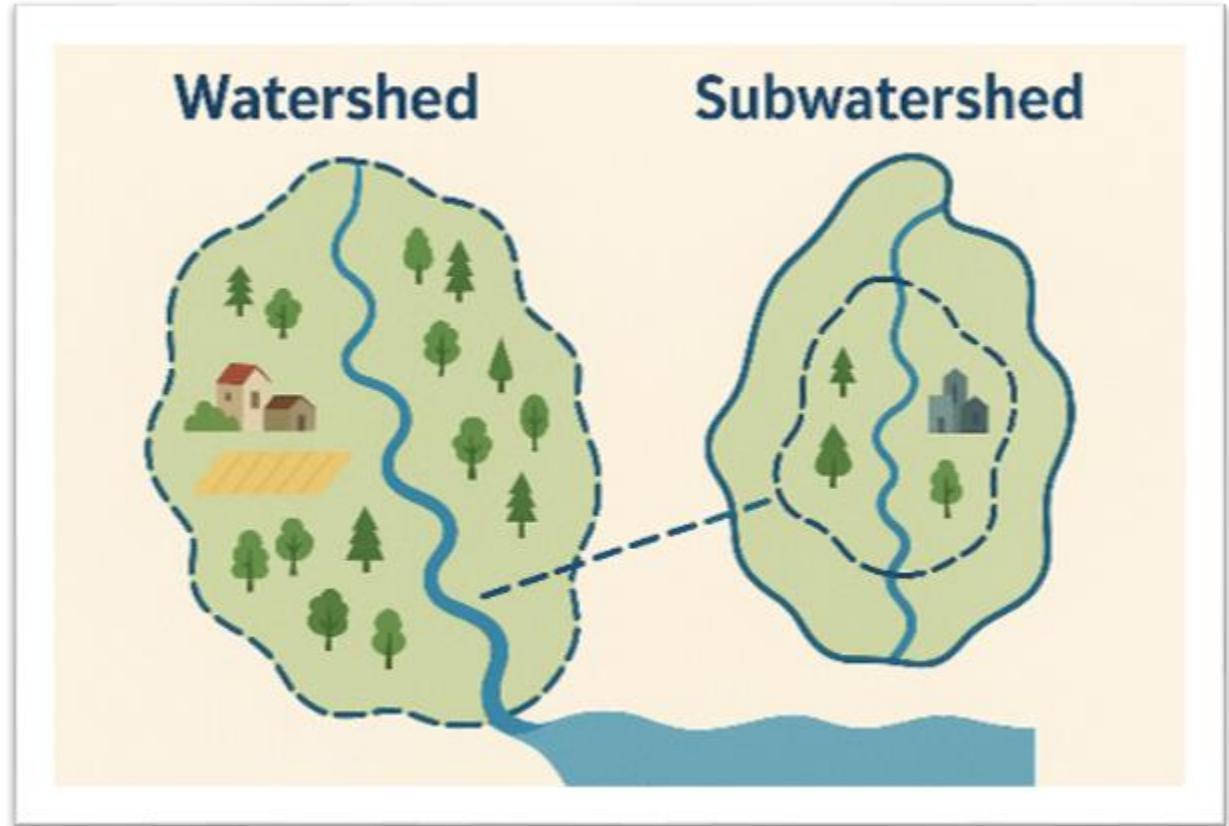


Broader Buy-In



What is a Subwatershed?

- A **subwatershed** is a smaller drainage area within a larger watershed
- It captures how water, land use, and ecosystems interact at the local scale
- This is the *practical scale* where climate policy becomes on-the-ground action



From Understanding to Action: Subwatershed Studies as Bridges



Subwatershed



Subwatershed Study



**Climate-Resilient
Outcomes**

What does a Subwatershed Study Do?



1. Identify natural heritage and hydrological features



2. Assess potential impacts of land use changes



3. Recommend strategies to avoid cumulative impacts



4. Develop measures for protection and restoration



5. Inform efficient land use and infrastructure planning

Using Subwatershed Studies for Climate Adaptation and Mitigation

Under the new PPS, municipalities are now required to *plan for climate change* (Section 2.9: Energy Conservation, Air Quality & Climate Change)

That means we now need to:

- **Understand** vulnerabilities to extreme heat, flooding, drought, etc.
- **Assess** how future climate and land use scenarios interact
- **Plan to adapt** through protection, restoration, and green infrastructure
- **Advance mitigation** through carbon storage, low-impact design, and natural asset management



From Conservation Goals to Climate Resilience

- ★ Traditional goals like hazard mitigation and ecological integrity are becoming more urgent under climate change.
- ★ We can use conservation as a form of adaptation by utilizing the ecosystem benefits they provide →

Conservation as Adaptation



Wetlands

Provide natural flood storage during extreme rain events.



Riparian zones

Regulate stream temperatures, protect biodiversity, and reduce erosion.



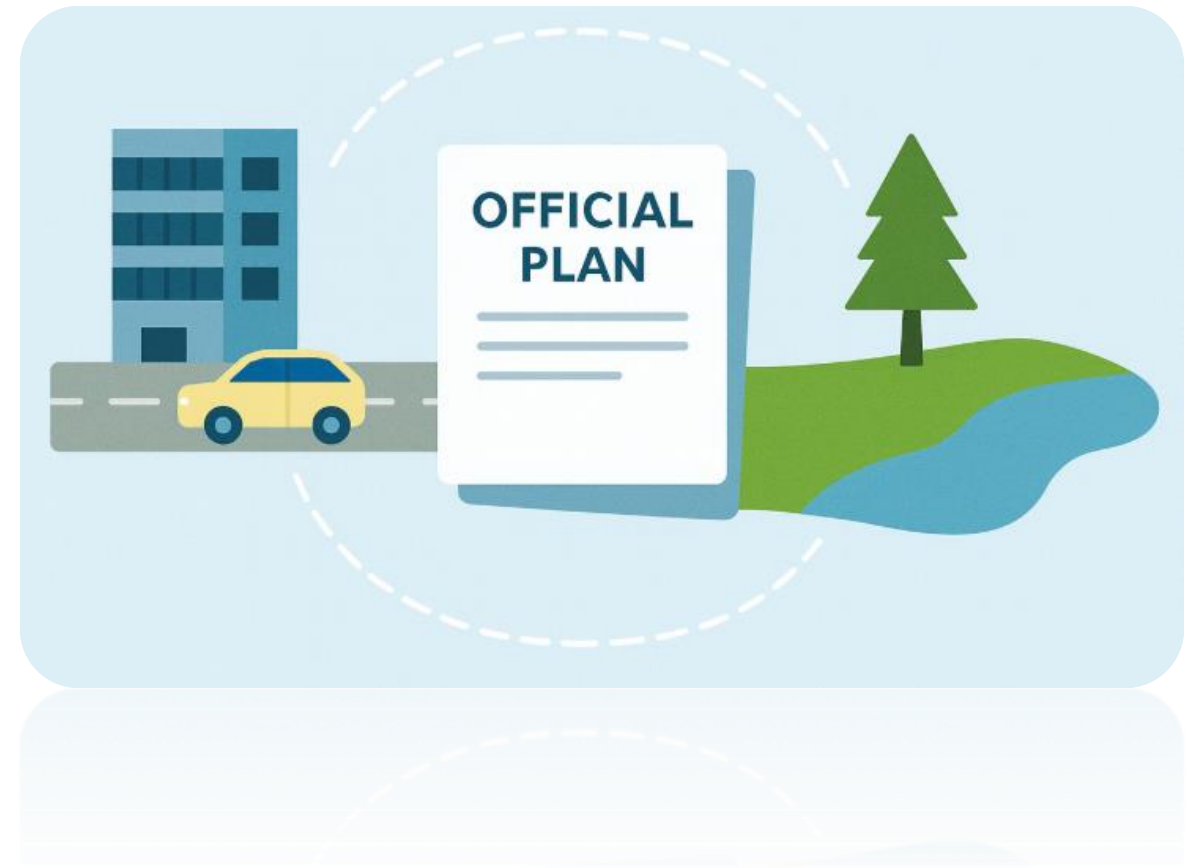
Ecosystem integrity

Strengthens resilience against climate-related hazards.

From Conservation Goals to Climate Resilience

Integration with Policy

- ★ Align subwatershed findings with PPS requirements to “plan for climate change.”
- ★ Ensure land use and growth decisions reflect climate risk and adaptation needs.
- ★ Align with previous climate and conservation commitments in previous local plans (e.g., Official Plan, Climate Adaptation/Action Plan etc.)



What are Other Municipalities Doing? – Town of Caledon (Future Official Plan)

Pretty Impressive:

- Includes an entire section on Climate Change (Section 5)
- Requires all new residential, employment, and commercial buildings to meet the Town's *Green Development Standards*
- Also Includes
 - 'Pathway to Low Carbon Communities'
 - 'Pathway to Climate Resilient Communities'
 - Green Development Standards; and
 - Urban Forest policies



“The Town and community will do everything in their power to mitigate the effects of climate change at a scale aligned with global science, and to adapt to the impacts of a changing climate system...” (Future Caledon Official Plan, Section 5)

What are Other Municipalities Doing? – City of Ottawa

Strong and clear language:

- In order to mitigate the impacts of development and climate change on drainage systems, local plans will....
- The City shall lead the development of subwatershed plans.. The Terms of reference shall include consideration of future climate conditions.
- The City will require that infrastructure is durable, adaptive and resilient to the current and future climate



What are Other Municipalities Doing? – City of Pickering

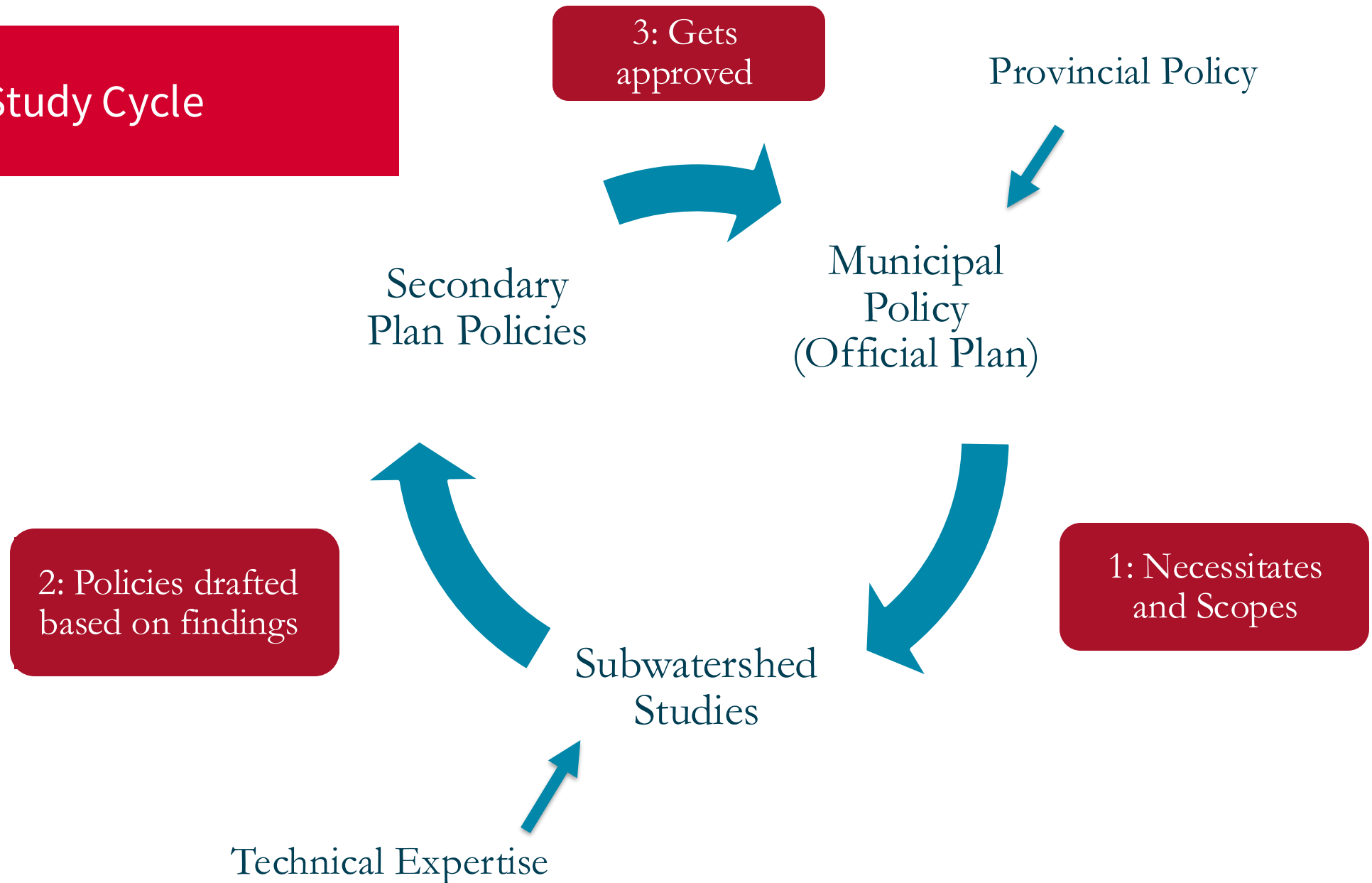


Unique Approaches and Clear Guidelines:

- Require the planting of tree species and vegetation that are resilient to climate change and provide high levels of carbon sequestration
- Council shall identify, evaluate and introduce appropriate mitigation and adaptation strategies to reduce the environmental, social and economic effects of predicted climate change and severe weather events on the community, which may include the preparation of a Climate Change Mitigation Plan.



Subwatershed Study Cycle



Call to Action!

Subwatershed studies are not just technical exercises, they are a practical, science-based framework to deliver on new PPS requirements. The tools and legacy already exist; we just need to apply them with **climate change** front of mind.

Invitation for Practitioners:

- ★ Apply these tools locally,
- ★ collaborate across disciplines, and;
- ★ bridge policy to practice!



Thank You!

Questions?



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