

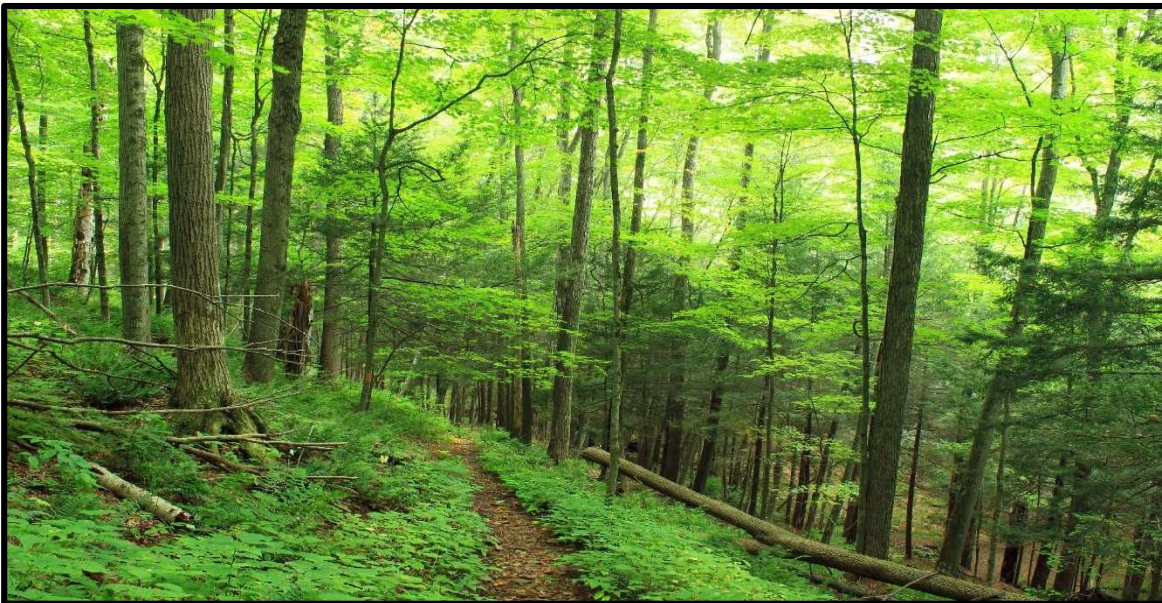
## **THE IMPORTANCE OF TREES**

### **Climate Action**

- **It is crucial that we do all we can to prevent cutting down mature trees to reduce negative impacts of climate change, support sustainable development and build a safe future.**
- **Cutting down a mature tree requires planting more than 100 young saplings, requiring a lot more land to replace the carbon capture.**
- **To meet Canada's climate goals we need to plant more trees, not simply maintain and certainly not reduce our tree cover.**
- **Trees and forests are central to building a resilient, healthy and prosperous community.**

### **Questions**

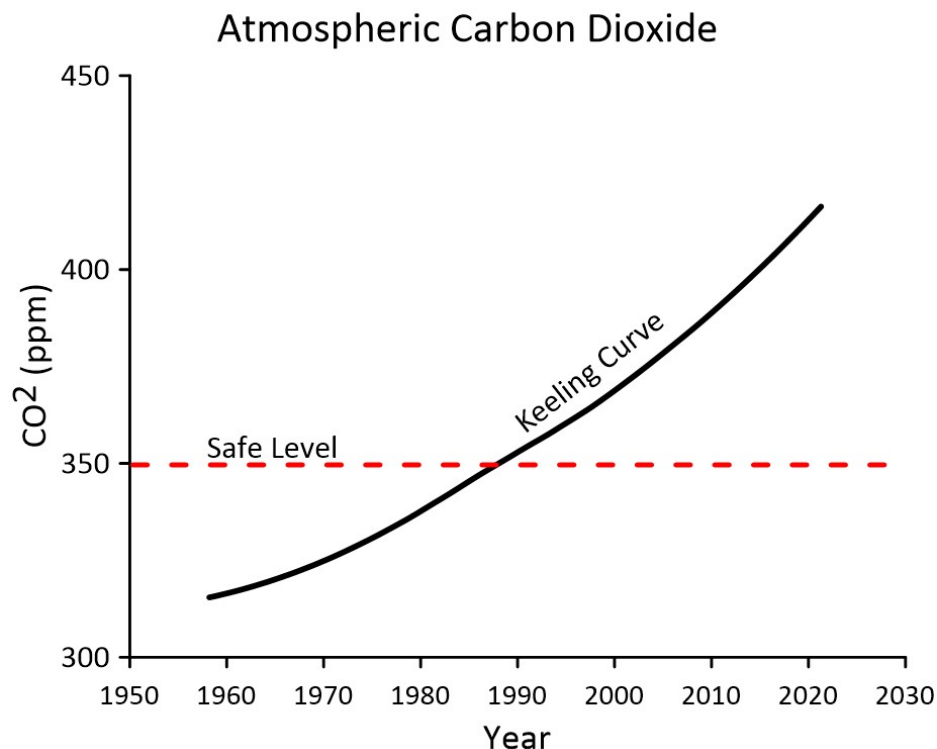
- Should mature trees be cut down to allow for development and, if so, what level of compensation should be provided by developers?
- As a municipality, should we be planting more trees? If so, where?



## Benefits of Trees

- Absorbs Carbon Dioxide

- Trees breathe in carbon dioxide (CO<sub>2</sub>) and exhale oxygen (O<sub>2</sub>).
- In a stable climate system CO<sub>2</sub> would not increase over time. Our climate was stable for thousands of years, until recently.
- Atmospheric CO<sub>2</sub> has been increasing for decades and is now well beyond the level of 350 ppm that scientists predict for a safe and stable climate system.



- Lowering human driven atmospheric CO<sub>2</sub> levels is **the** top priority for climate action.
- A mature maple tree in Grey County absorbs 25 to 92 kg of CO<sub>2</sub> each year, for trees 50 to 100 years old.
- A private vehicle emits 4.6 tonnes of CO<sub>2</sub> each year, requiring 50 mature trees to offset this pollution.
- Biodiversity
  - A mature mixed forest provides habitat for many species of plants, insects, birds and animals creating a diverse and resilient ecosystem.
  - Hedge rows and tree corridors connect diverse ecosystems to enhance biodiversity and build resilience to extreme events.



- Diverse ecosystems are more resilient to climate impacts and extreme events like flooding, heat waves, erosion and wind damage.
- Water Security:
  - Trees, woodlots, forests and wetlands reduce flooding and erosion by absorbing water.
  - A mature one hundred year old tree intercepts 4,300 liters of rainfall each year and reduces runoff by 24 liters.
  - Trees act as a green filter purifying the water that enters our water systems and providing a buffer during periods of drought.
  - A forest can reduce 76% of the phosphorous and 88% of the nitrate from agricultural runoff.
- Wind Security:
  - Trees reduce wind velocity to protect people and built infrastructure.
- Heat Security:
  - Trees provide shaded areas that reduce summer heat in open areas and lower temperatures for natural and built infrastructure.
  - Trees placed around buildings can reduce air conditioning needs by 30% and can save from 20% to 50% in heating costs.
- Human Health and Wellbeing:
  - Trees provide green spaces that reduce heat, precipitation and wind impacts to improve human physical and mental wellbeing.
  - Trees improve the value of property and can stimulate economic development.
  - Trees filter airborne pollutants and can reduce the conditions that cause asthma.

## **Reforestation and Afforestation**

- A maple tree continues to mature and absorb more CO<sub>2</sub> each year up to 115 years old, reaching a height of 33 meters (109 ft) and absorbing 147 kg CO<sub>2</sub>.
- Over a lifespan of 100 years a maple tree will absorb a total of 4.5 tonnes of CO<sub>2</sub>. That is a lot of carbon sequestration.
- A one-foot maple sapling absorbs 0.3% of the CO<sub>2</sub> of a mature 100 year old tree.
- If you cut down a fifty year old maple tree it would require 100 saplings to equal the amount of CO<sub>2</sub> absorbed that year.
- To replace one mature tree with 100 saplings would require 900 m<sup>2</sup> of land, compared to the 9 m<sup>2</sup> occupied by the mature tree. That's a lot of land.
- In 2020, the cost of CO<sub>2</sub> in Canada was \$40 per tonne, and this will rise each year to \$170 per tonne in 2030.
- In autumn 2021, the Federal government will announce a greenhouse gas (GHG) Offset Program that will pay for reducing emissions.
- By 2030, mature trees could be worth a lot of money.

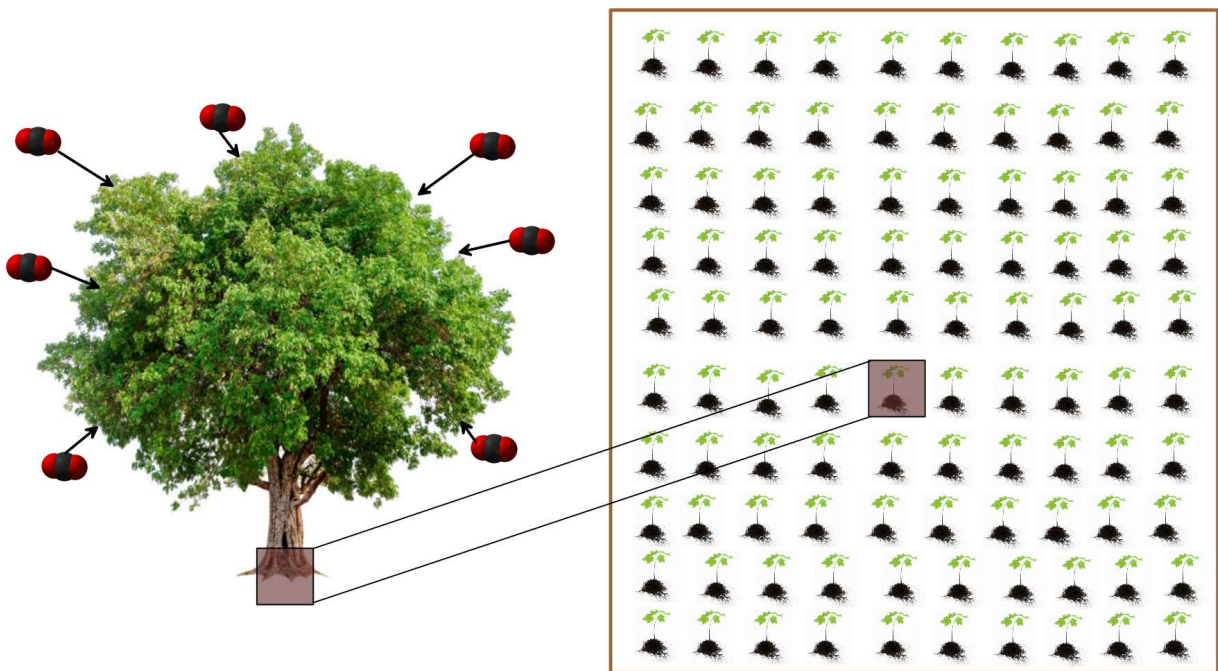


## Planting Trees

- To address climate change and its many impacts we need to do more than maintain the status quo, we need to enhance and expand our natural assets, especially our trees.

A mature tree absorbs a lot of CO<sub>2</sub>.

A lot of space is needed to replace one mature tree.



John Anderson  
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Email: [jta350@gmail.com](mailto:jta350@gmail.com)