Importance of Trees & Landscaping for Climate Resilience

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Adapting to Climate Change

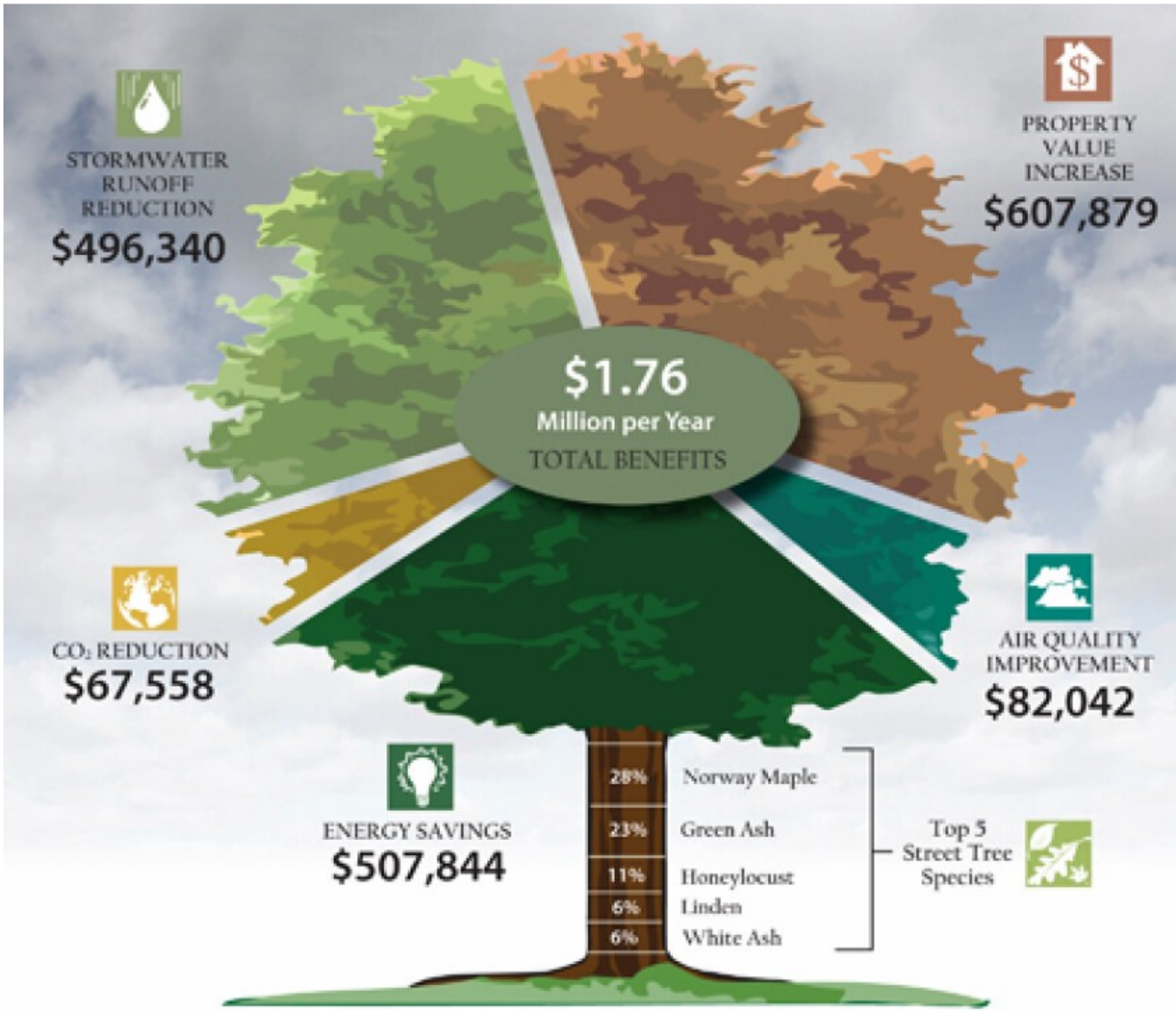
Buses, Bikes & Buildings
to Reduce Carbon Emissions

Soil, Water Storage & Tree Canopy
To Achieve Climate Resilience

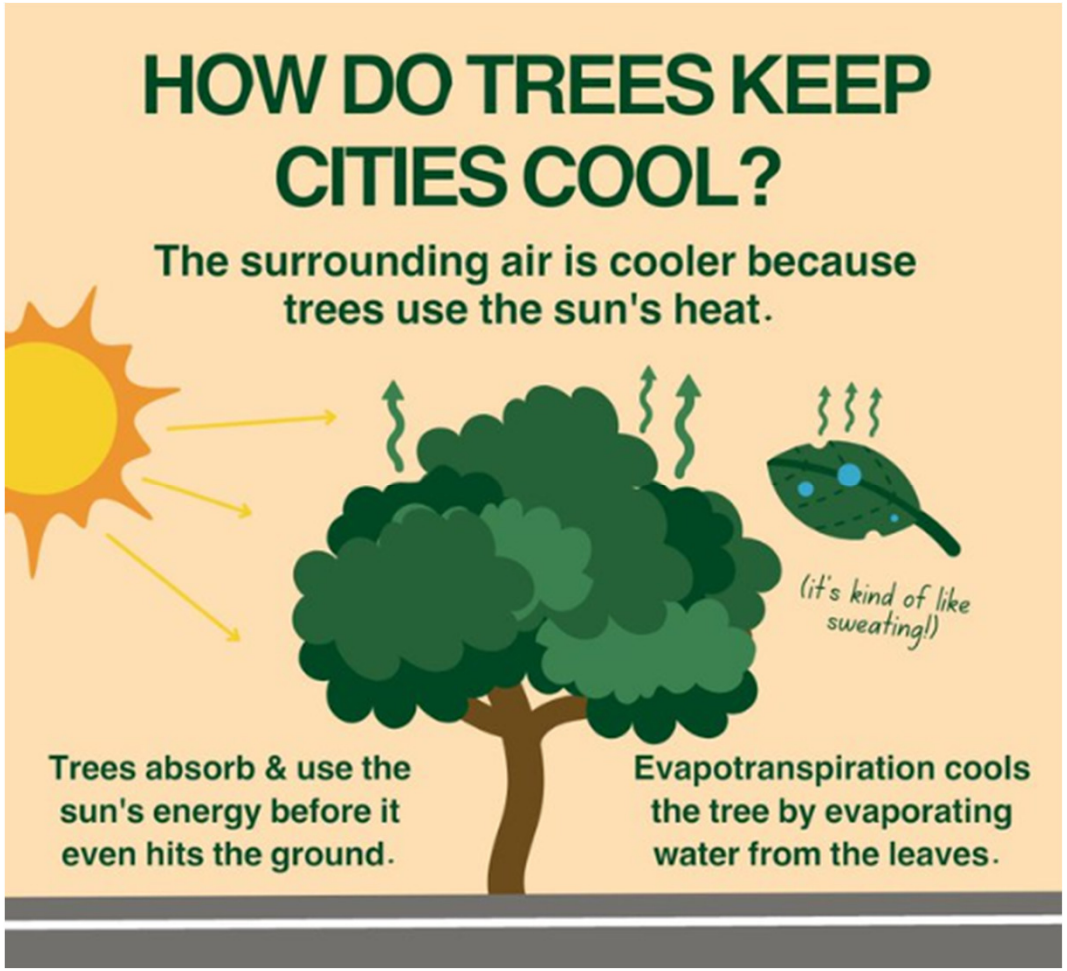
In 2012 the city of Pittsburgh Received $3 in benefits for Every $1 Invested.

The Value of Trees

Lost Environmental & economic benefits with net loss of private Urban tree canopy.



Trees are natures air conditioner



Soil & Plants are Nature – based Solutions

Provide large volumes of absorptive soil

Capture & storage of rainwater

Removal of trees eliminates future assets

2025, Mason Burtnik Uof A study concludes: "*Without policy intervention, we expect Edmonton's private tree canopy to continue to decrease, and Edmonton may fall short of its goal of 20% UTC coverage across the city.*"

Use Zoning Bylaw to mitigate net loss of private tree canopy

UPE02698 Report – No Landscaping Amendments Recommended

Data analysis – few landscaping variances → No amendments are required.

No Landscape Securities required for Row Housing, Single or Semi-detached

No effective regulatory incentive to comply with landscaping.

2023 City Survey - **only 11% of small-scale infill sites complied** with landscaping.

Why apply for a variance?

Significant increase of Urban Heat Island Effect 2011 - 2021

It's getting hotter!

Increase in difference between rural & urban temperature – Heat Island Effect

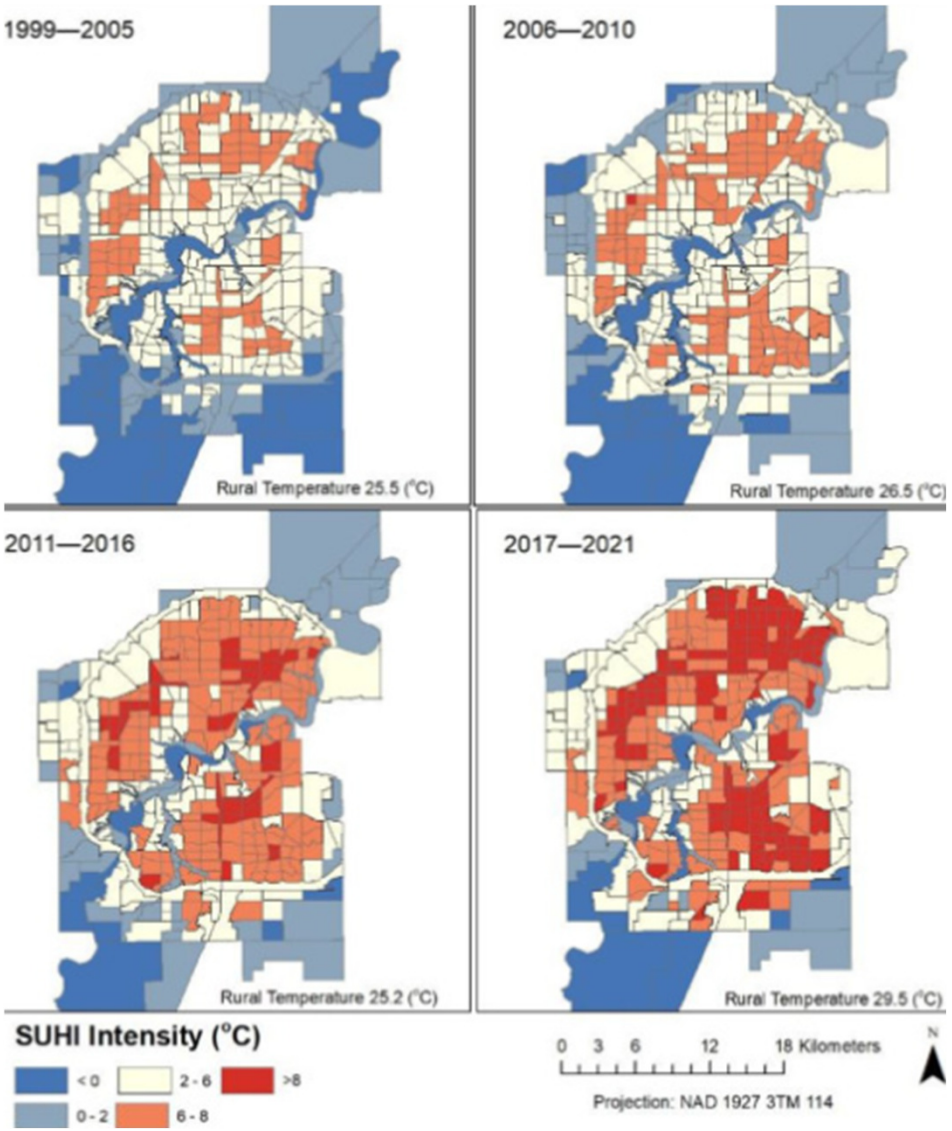
1999 to 2010 - little change

2011 to 2021 – areas >8 C & up to 12 C

It's getting drier!

Evaporation Precipitation = Drought

Tree Stress Climate resilience



Trees are in trouble!

- Trees are removed for development convenience.
- Trees are not protected during construction
- Prolonged drought and extreme heat events add stress to trees
- Trees are less resilient to pests and diseases.

Multi-unit Infill Peak Flow Reduction Systems slowly send water down the drain to reduce flood risk

A 1” rain produces

17,900 L of runoff

to a Peak Flow Reduction System.

Increases reliance on potable water to sustain landscaping

Overflow backs up into depression in landscaping.

RIWG Recommended Amendments to Zoning Bylaw 20001

- **Move Landscaping Regulation** 3.2: *Require a Minimum 30% Soft Landscaping Area* from 5.6 Landscaping regulations to the RS Zone Site & Building regulations.
- **Amend Landscaping Regulation 10.1** to *Require a Landscape Security at time of Development Permit Application for all small-scale residential infill,* including single or semi-detached and row housing to incentivize compliance.
- **Add to Landscaping Regulations:** *Require a tree removal permit to remove private mature trees prior to infill redevelopment.*
- **Add to Landscaping Regulations:** *Require preserved trees to be protected with fencing during infill construction.*