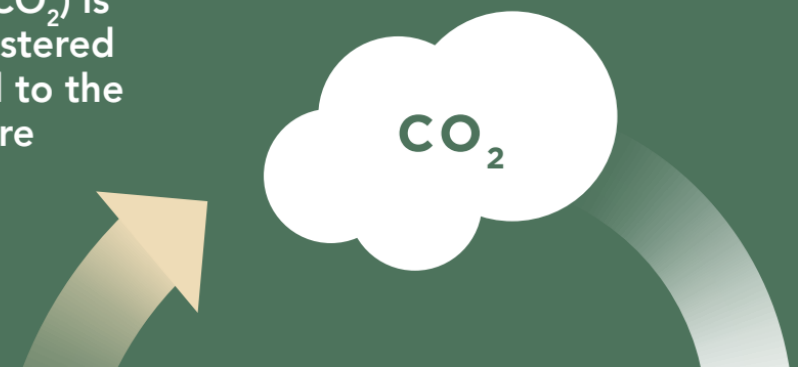
FOREST CARBON 101

HOW CANADA CALCULATES FOREST CARBON

THE CARBON CYCLE

FORESTS ARE PART OF A LIVING SYSTEM

Carbon dioxide (CO_2) is continually sequestered from and emitted to the Earth's atmosphere



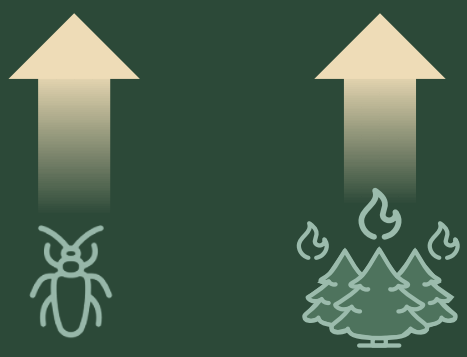
CO_2 is a greenhouse gas (GHG) that traps heat in the atmosphere. Increased concentrations are causing the Earth's climate to change.

Biological **carbon sequestration** happens when CO_2 is captured from the atmosphere and stored in the natural environment.

THE CARBON CYCLE IS IMPACTED BY NATURAL PROCESSES AND HUMAN ACTIVITIES

CO_2 EMISSIONS

NATURAL PROCESSES

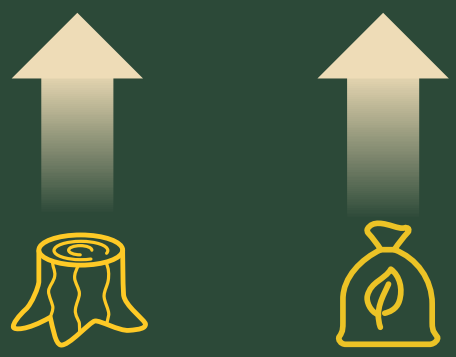


PESTS

WILDFIRES

In Canada's forests, GHG emissions from natural disturbances can vary significantly from year to year

HUMAN ACTIVITIES

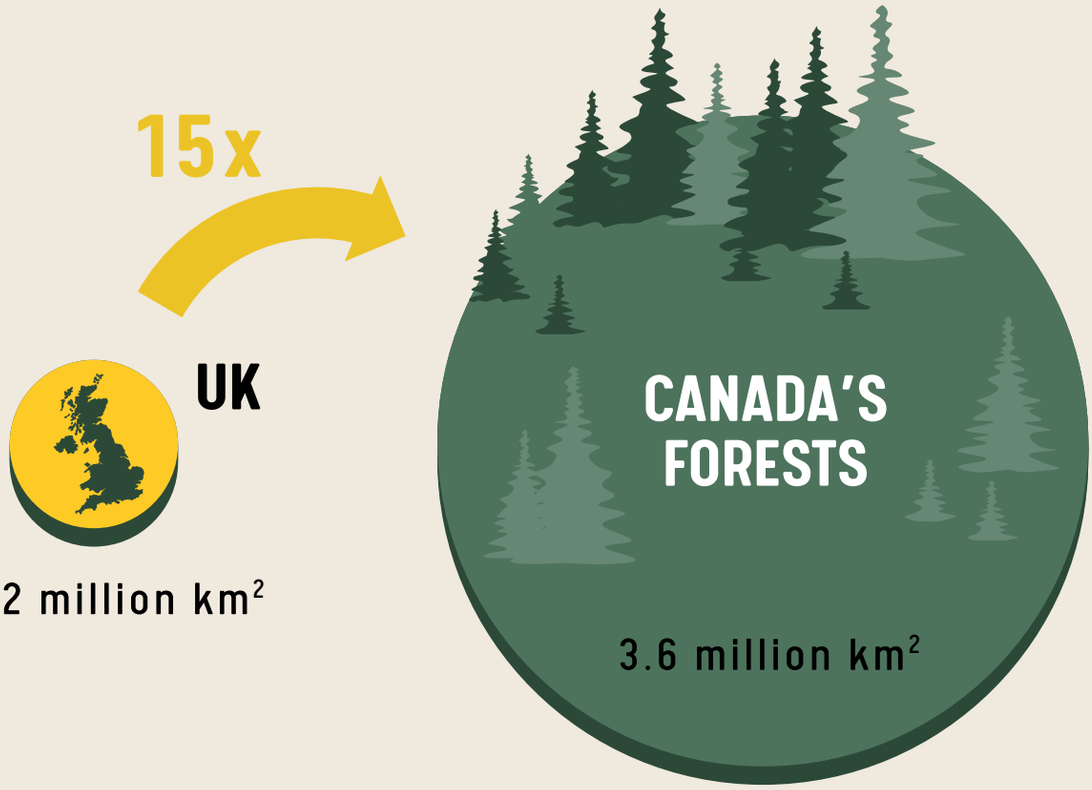


HARVESTING

WOOD PRODUCTS DISPOSAL

CALCULATING FOREST CARBON

CANADA'S FORESTS AREA IS LARGER THAN MOST COUNTRIES



Canada reports on all its ***managed forests,*** which gives a full picture of how human actions are impacting forest carbon.

NON-FOREST LAND

UNMANAGED FORESTS

MOSTLY NORTHERN FORESTS WITH NO HUMAN ACTIVITY

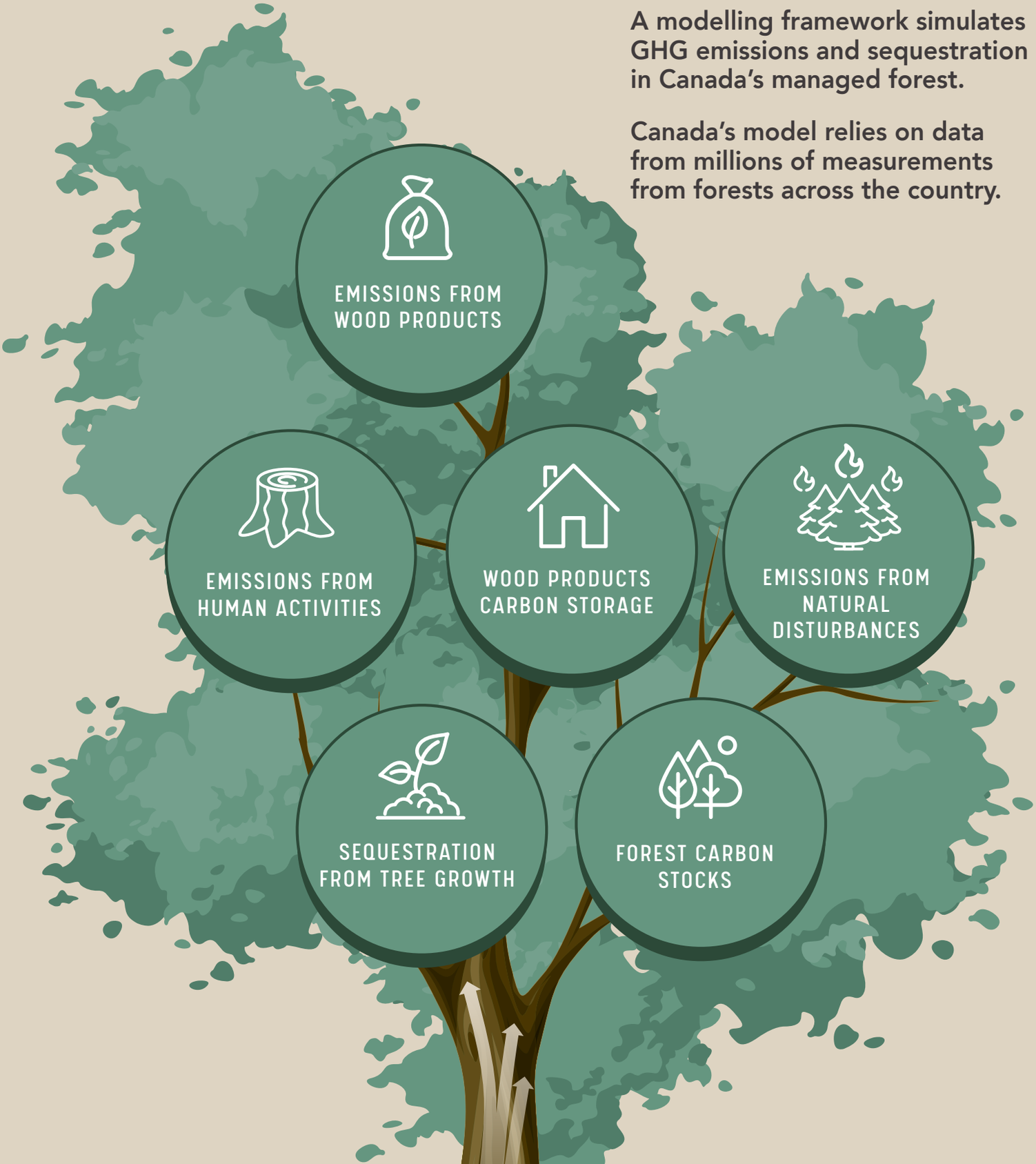
MANAGED FORESTS

CONSERVATION AREAS | PARKS | WATERSHEDS | WILDLIFE RESERVES | AREAS PROTECTED AGAINST NATURAL | COMMERCIAL FORESTS | COMMUNITY FORESTS

SO HOW DOES A COUNTRY WITH THE THIRD LARGEST FOREST AREA IN THE WORLD CALCULATE CARBON?

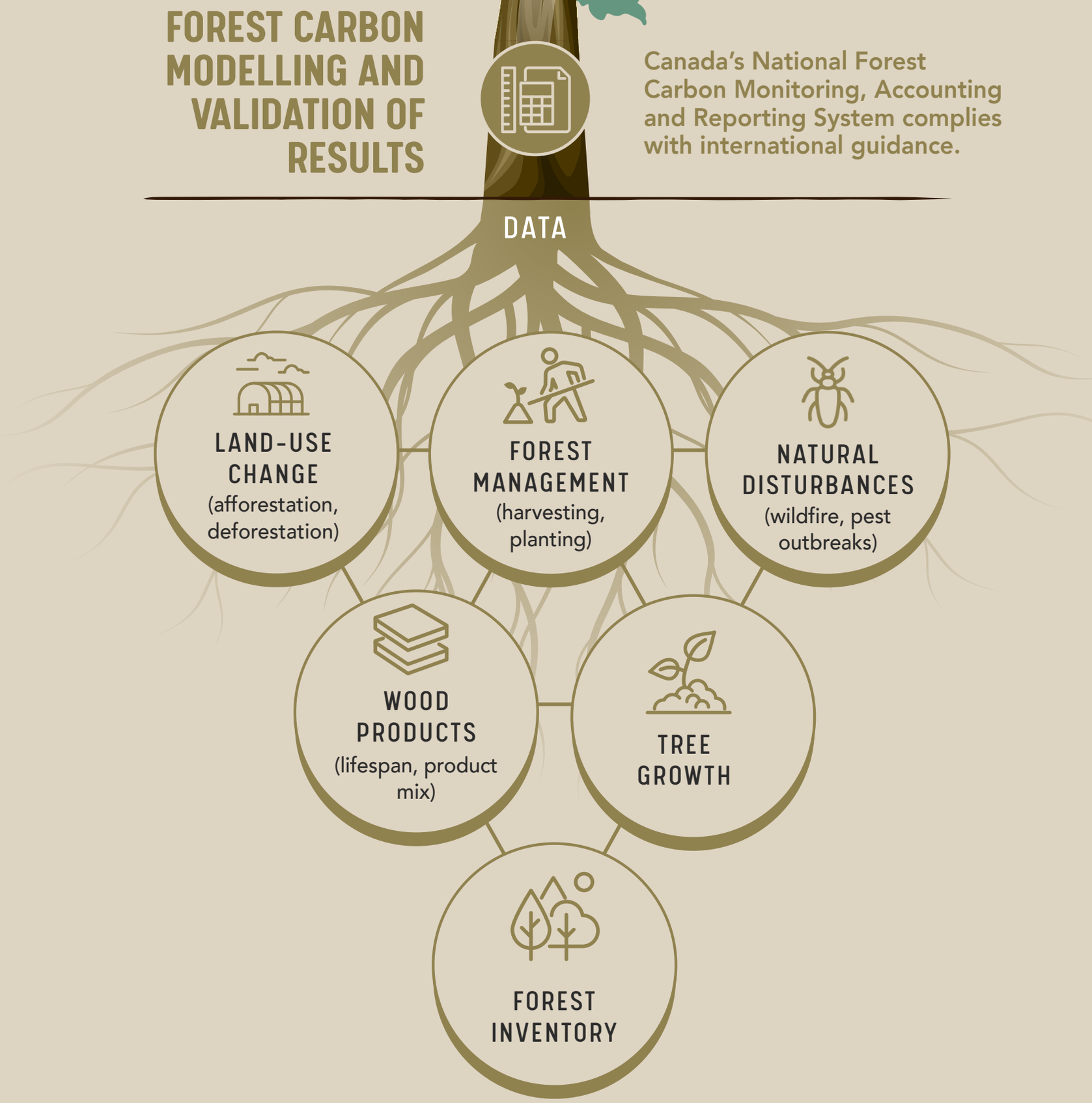
A modelling framework simulates GHG emissions and sequestration in Canada's managed forest.

Canada's model relies on data from millions of measurements from forests across the country.



FOREST CARBON MODELLING AND VALIDATION OF RESULTS

Canada's National Forest Carbon Monitoring, Accounting and Reporting System complies with international guidance.



OUR PRINCIPLES

CANADA FOLLOWS INTERNATIONAL RULES FOR FOREST CARBON REPORTING

- Canada participates in international efforts to mitigate climate change, including the UNFCCC.
- The IPCC provides international guidance for GHG reporting.
- Countries are required to report on anthropogenic (human caused) GHG emissions and sequestration.
- Countries are required to continuously improve GHG calculations based on the best available data and science.
- Canada and other countries follow the rules to ensure they are participating in fair and unbiased GHG reporting procedures.
- International experts review Canada's GHG reports to the UNFCCC to ensure compliance.

UNFCCC

UNITED NATIONS FRAMEWORK CONVENTION ON CLIMATE CHANGE

The treaty that sets out the framework and principles for international climate change cooperation. Its ultimate goal is to stabilize GHG concentrations "at a level that would prevent dangerous anthropogenic interference with the climate system."

IPCC

INTERGOVERNMENTAL PANEL ON CLIMATE CHANGE

The United Nations body responsible for assessing science related to climate change. The IPCC sets scientific standards and provides guidance for GHG estimations under the UNFCCC.

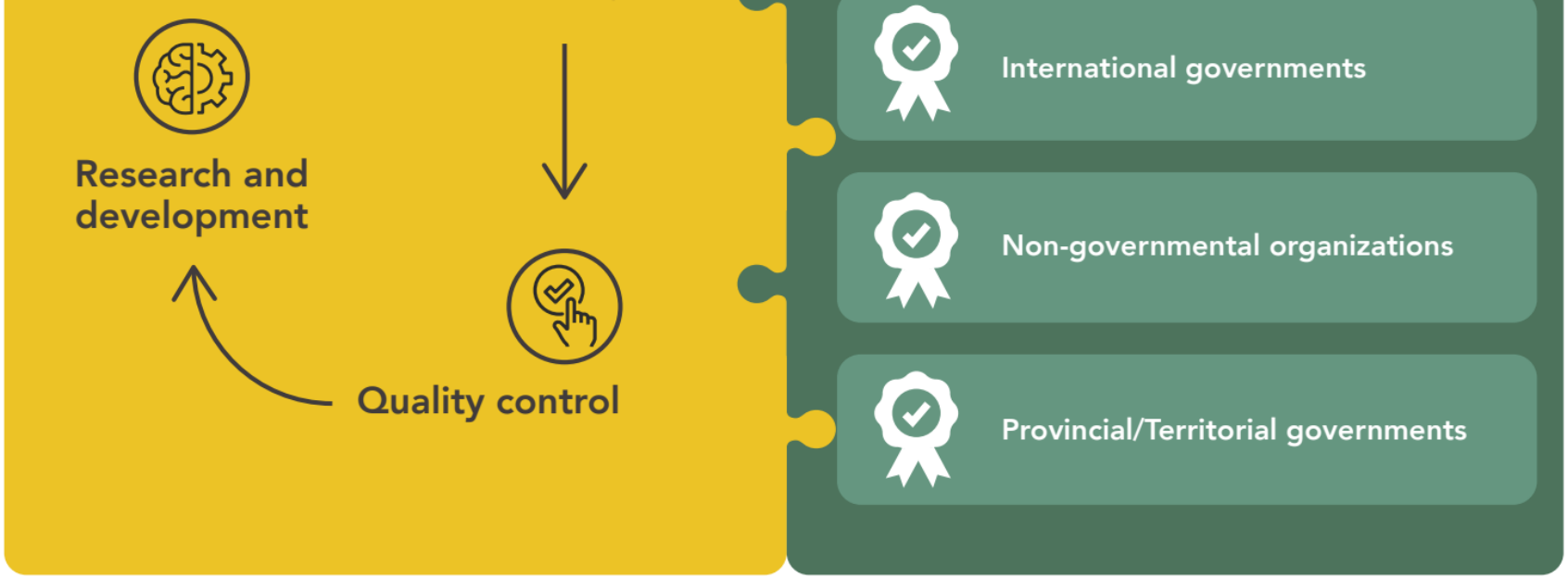
CANADA'S FOREST CARBON ESTIMATES ARE CONTINUOUSLY BEING **IMPROVED**

Improved forest carbon estimates

New data/scientific understanding

COLLABORATION IS KEY TO IMPROVING CANADA'S FOREST CARBON ESTIMATES

- Academia
- Federal government
- Forest industry



Calculating the impact of human actions on forest carbon is a complex, but critically important task. Collaboration with experts and stakeholders is key to developing and continuously improving Canada's forest carbon estimates.

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