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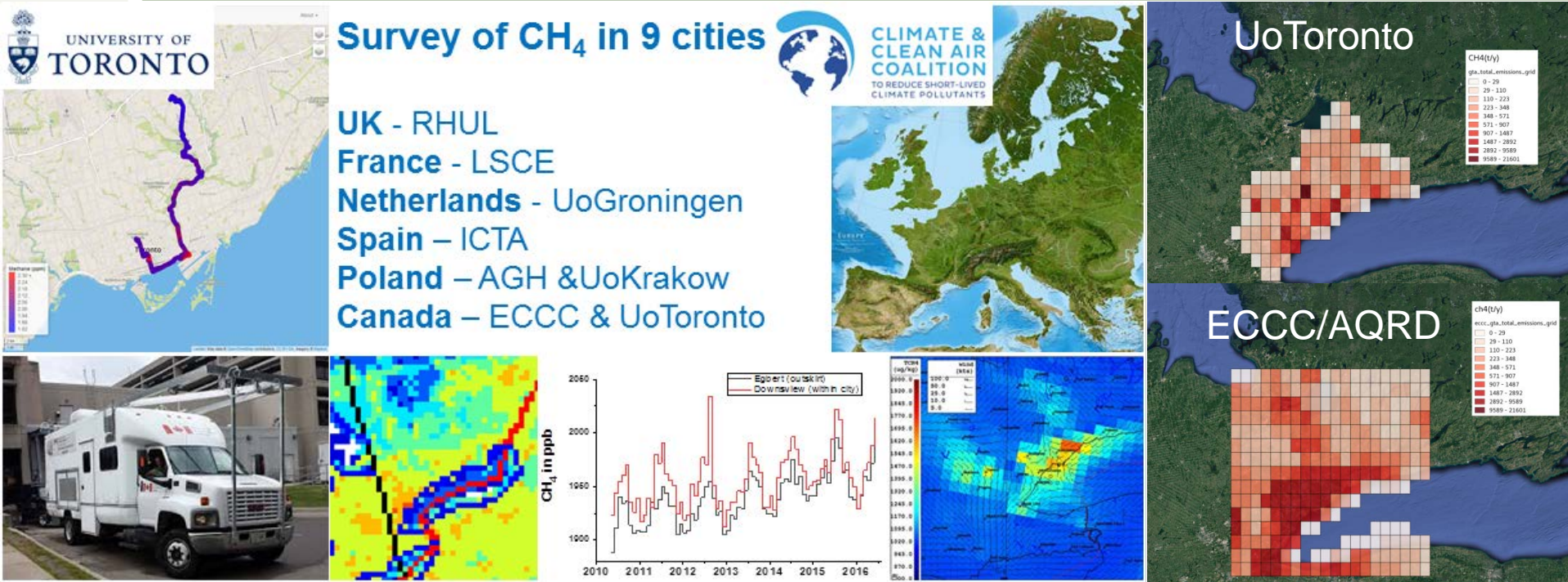


# Urban GHG monitoring in the Greater Toronto and Hamilton Area

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# Monitoring urban CH<sub>4</sub> levels



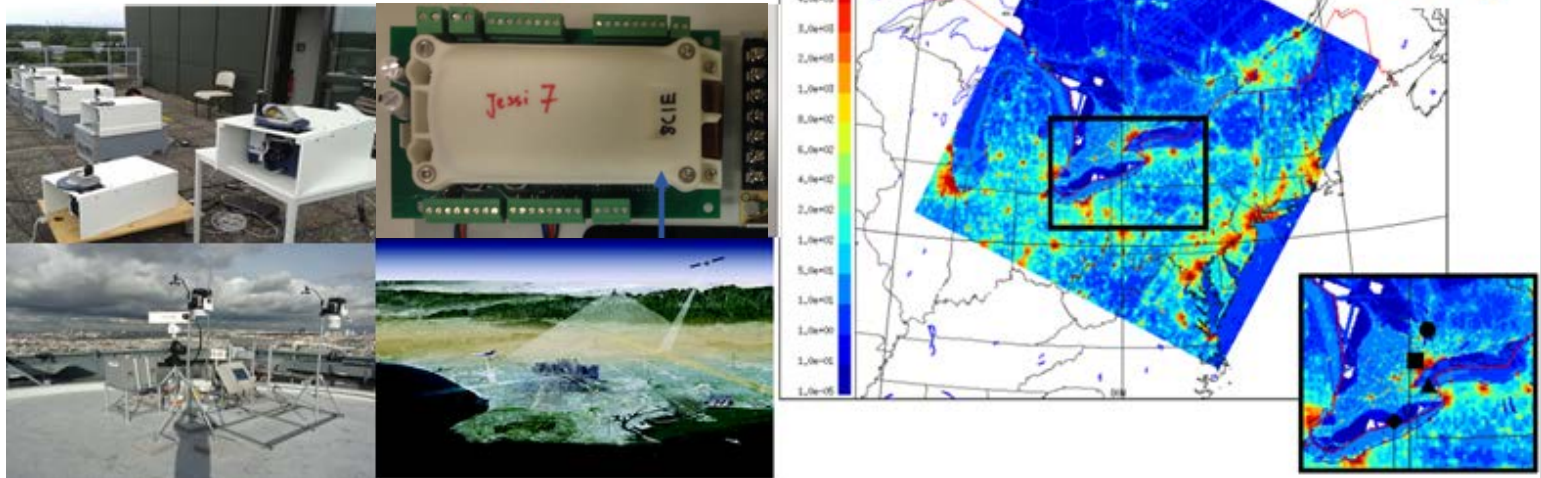
- International coordination
- So far ca. 3000km mobile surveys in Greater Toronto (bike and truck)
- First emission rate estimates (local scale modelling)
- High-resolution modelling (and inventories) 2.5x2.5km<sup>2</sup>

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# Monitoring urban CO<sub>2</sub> levels

## Multi-platform approach

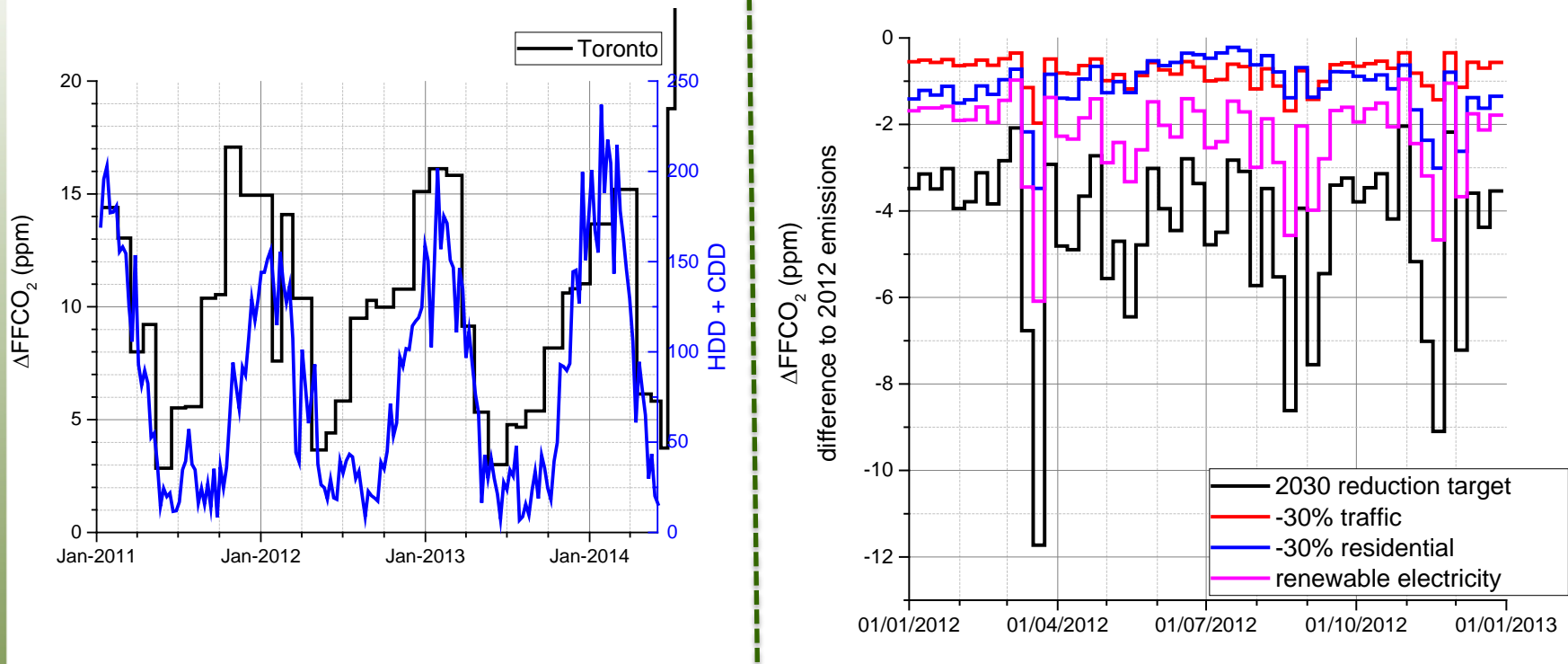


- New high-resolution inventory (2.5x2.5km<sup>2</sup>) and modelling framework developed (including <sup>13</sup>C)
- 4x continuous in-situ stations started 2003 (2) and 2014 (+2)
- Upcoming 4x EM27/SUN stations (2xECCC, 2x UoToronto)
- Lower-cost medium precision CO<sub>2</sub> instruments (SenseAir HPP3.2)

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# Additional focus: FFCO<sub>2</sub> & carbon isotopes



- Continuous  $^{13}\text{C}$  &  $^{14}\text{C}$  in  $\text{CO}_2$  and  $\text{CH}_4$  (in-situ) since 2008 and 2014
- Surveys of  $^{14}\text{C}$  in the biosphere (tree ring sampling Pg and As)
- (Flux tower in Borden Forest Research Station)

