



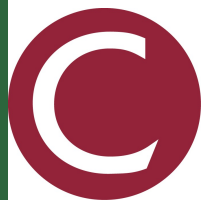
Réseau québécois sur l'énergie intelligente

Exploitation Axée Sur les Données pour l'Optimisation des Coûts, la Flexibilité Énergétique et la Résilience dans le Secteur Résidentiel Québécois

Data-Driven Operation for Cost-Optimality, Energy Flexibility and Resilience in Québec Residential Sector

Matin Abtahi

Superviseurs Scientifiques: Andreas Athienitis (Concordia), Benoit Delcroix (HQ LTE)



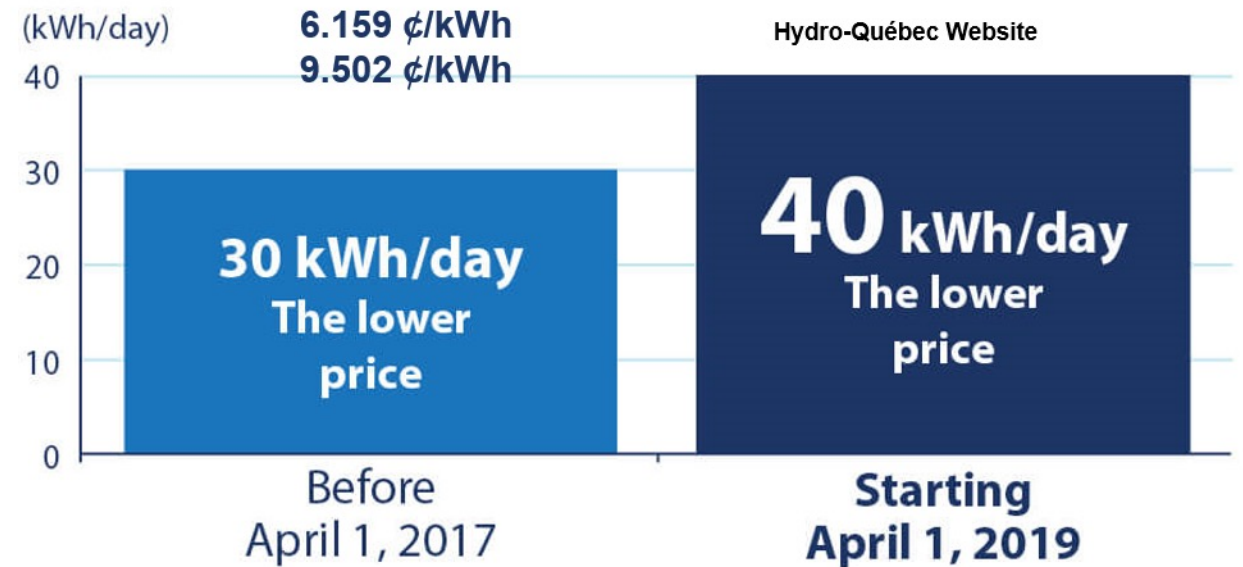
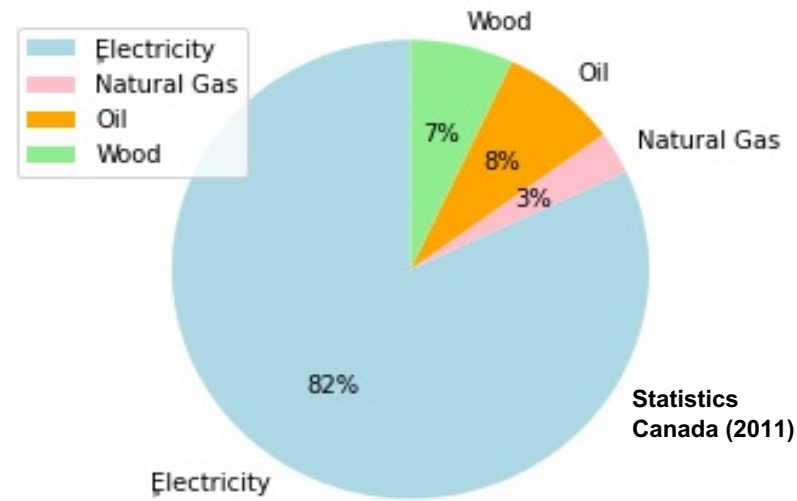
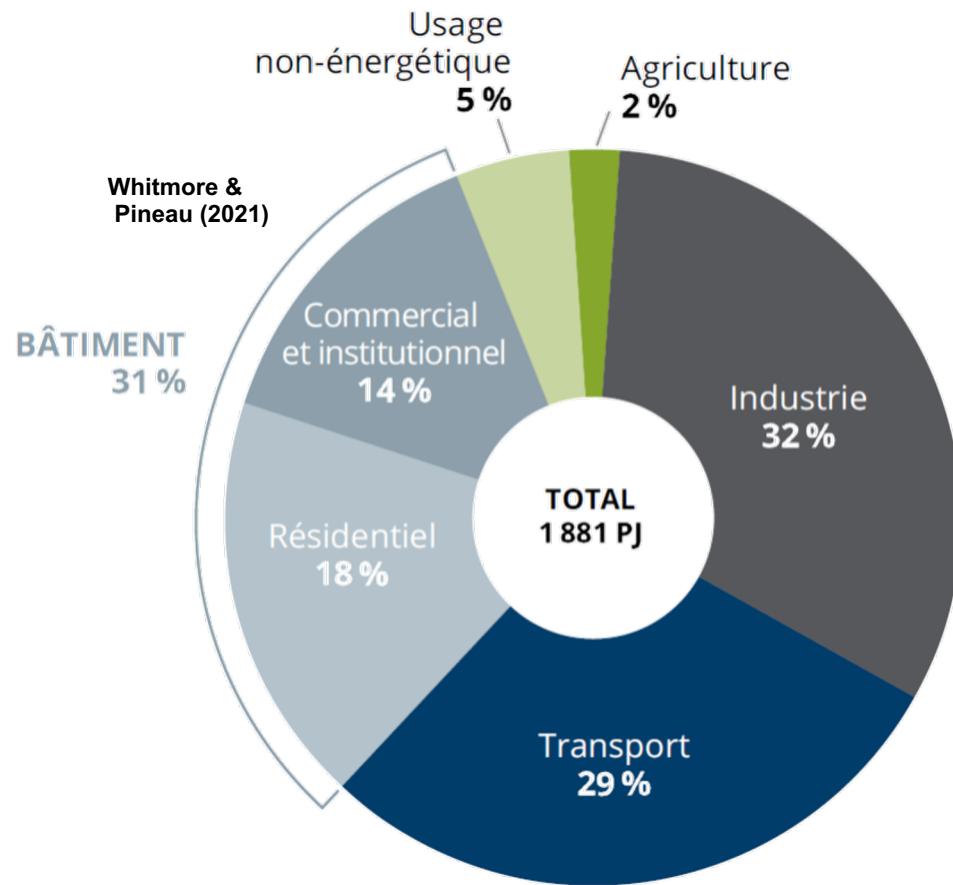
Center for Zero Energy Building Studies
Centre d'études sur le bâtiment
à consommation nulle d'énergie

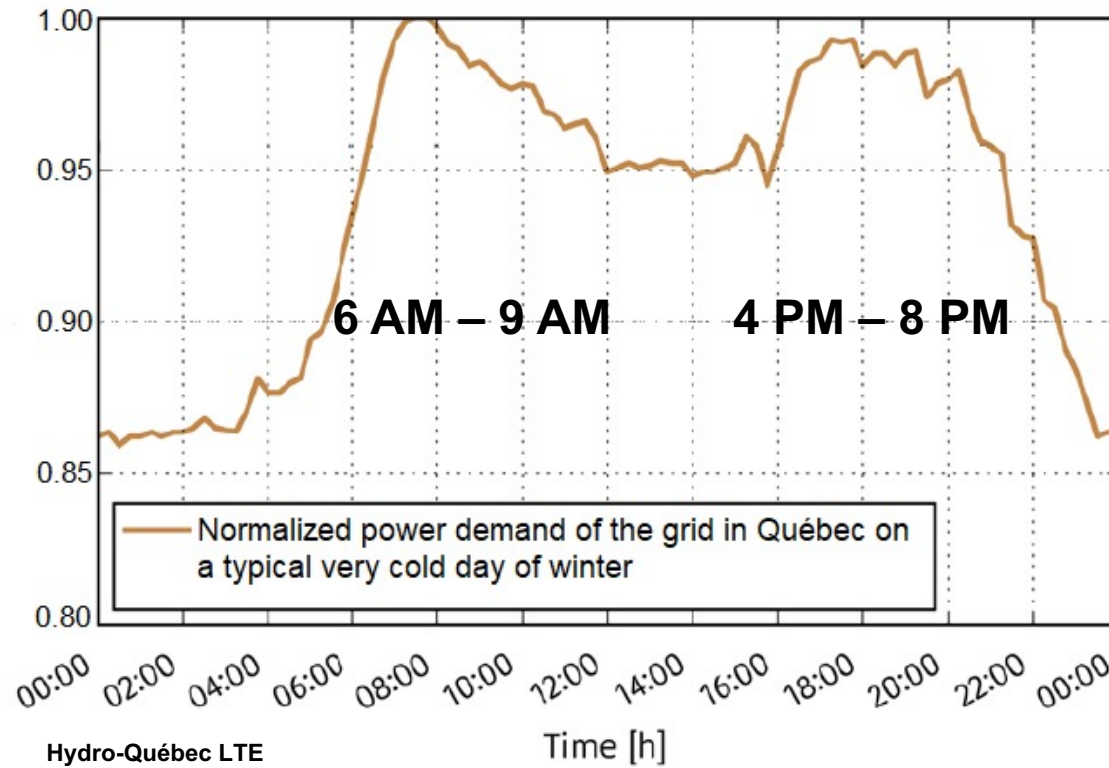


Résumé

- Problèmes à résoudre
- Résultats clés
- Applications dans l'industrie

Problèmes à Résoudre (Pourquoi?)





Quebecers break record for electricity consumption as cold snap grips province



Hydro-Québec says home heating accounted for half the record power use

CBC News · Posted: Jan 11, 2022 6:26 PM ET | Last Updated: January 11

Quebec shatters record for electricity consumption once again



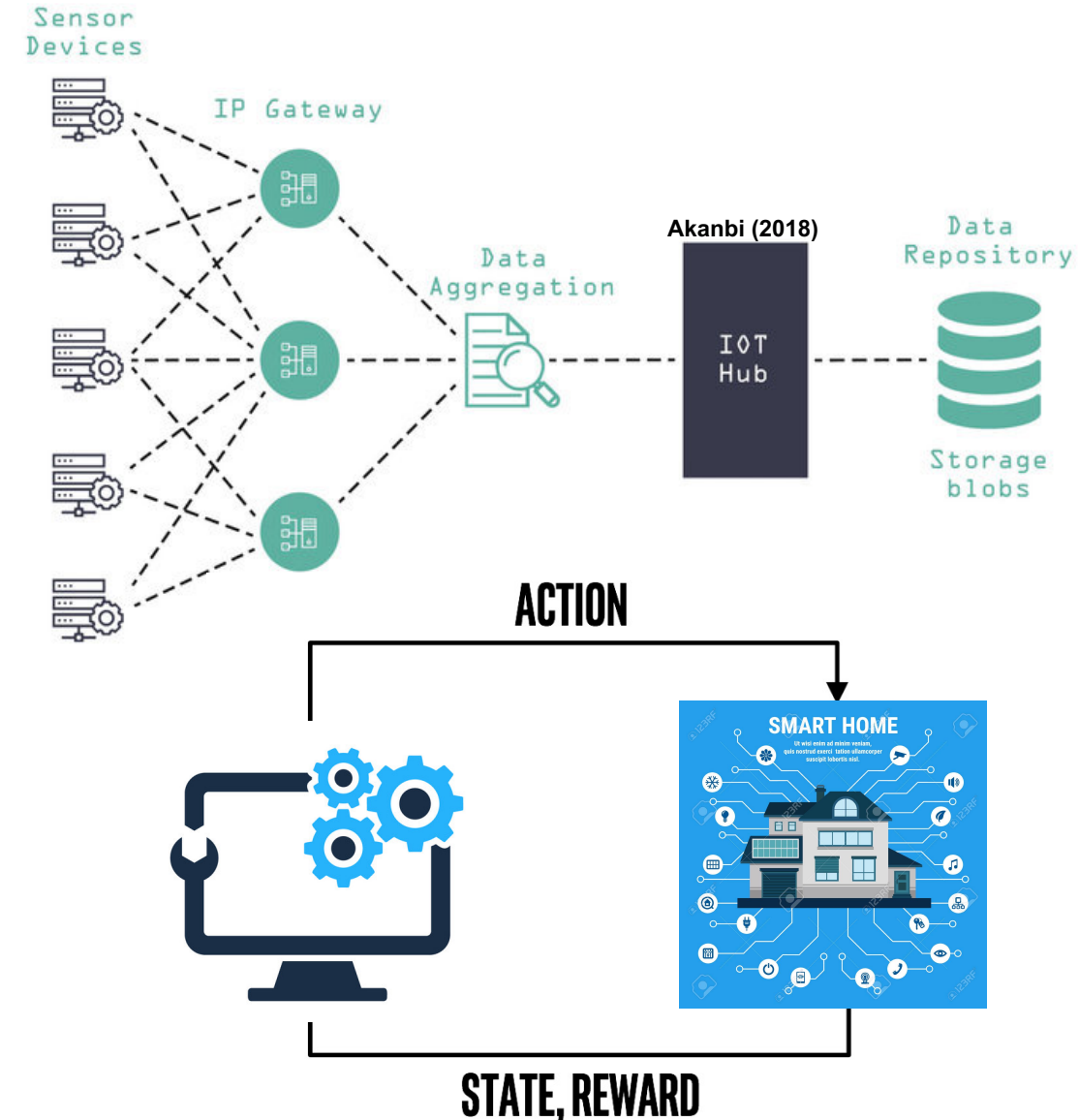
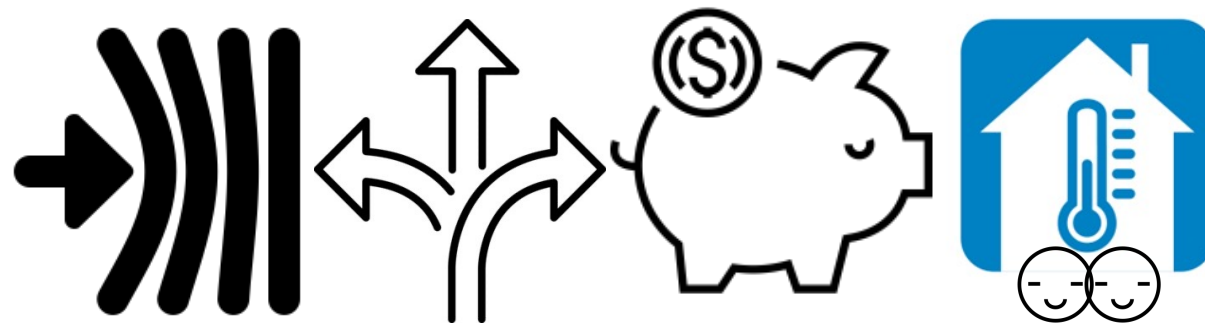
This is the 2nd time this month record electricity consumption levels have been broken

CBC News · Posted: Jan 21, 2022 7:16 AM ET | Last Updated: January 21

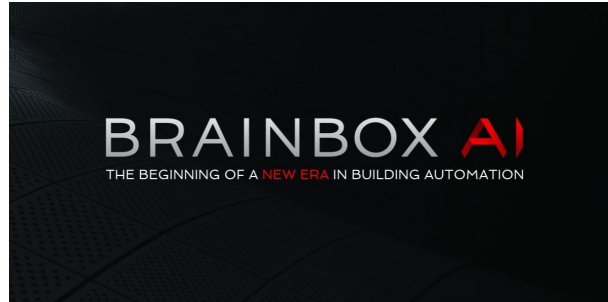


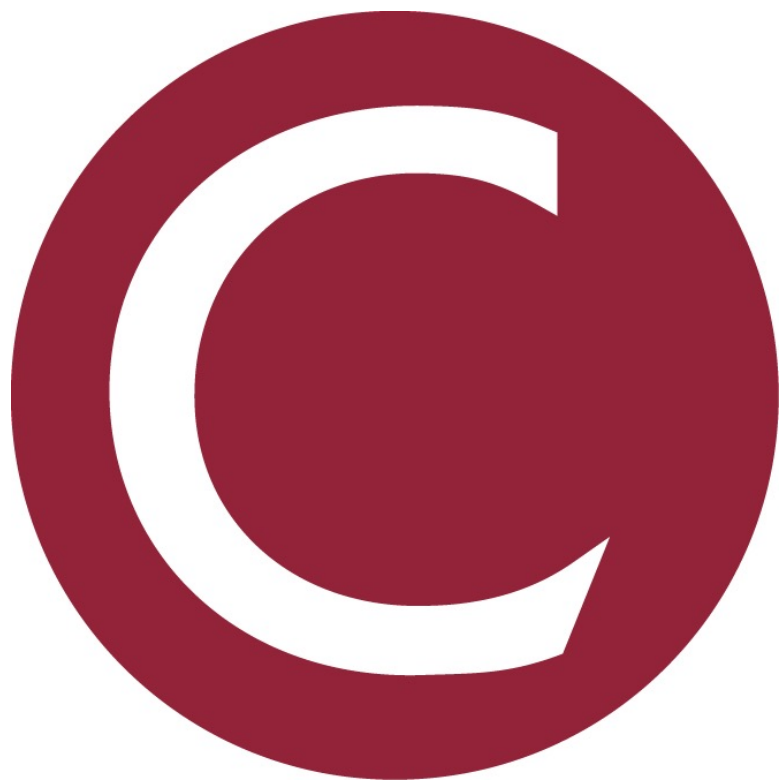
Méthodologie et Résultats Clés (Comment? Quoi?)

- Real-Time Data Processing Workflow
- Control-Oriented Environments
- Recursive Bayesian Calibration
- Control Strategies to:
 1. Retain comfort conditions
 2. Save on the customer's bill
 3. Increase energy flexibility
 4. Increase energy resilience in response to power outages



Applications Industrielles





Merci!



Center for Zero Energy Building Studies
Centre d'études sur le bâtiment
à consommation nulle d'énergie