

## COMPANY PROFILE

**IVANHOÉ CAMBRIDGE** is a global real estate industry leader, investing in high-quality properties and companies around the world. Founded in Quebec in 1953, the Company is a real estate subsidiary of the Caisse de dépôt et placement du Québec.

### HIGHLIGHTS

- More than **\$55 B** in assets
  - More than **1,500** employees
  - Close to **500** properties
  - Key expertise: investment, asset management, development, operations, leasing
  - Presence on **four** continents
  - 34 projects under development totalling **\$3.8 B**
- “real estate is more than buildings – it’s about how we live”*

## INTERNSHIP ROLE

Assist with the collection, tracking, and quality control of energy data for managed properties, including researching opportunities for improved energy performance and reductions in consumption.

## TASKS

### UTILITY OVERVIEW

Develop a general understanding of the energy market across Canada

### COST DRIVERS

Identify cost drivers through utility bill breakdown



### BILL COMMONALITIES

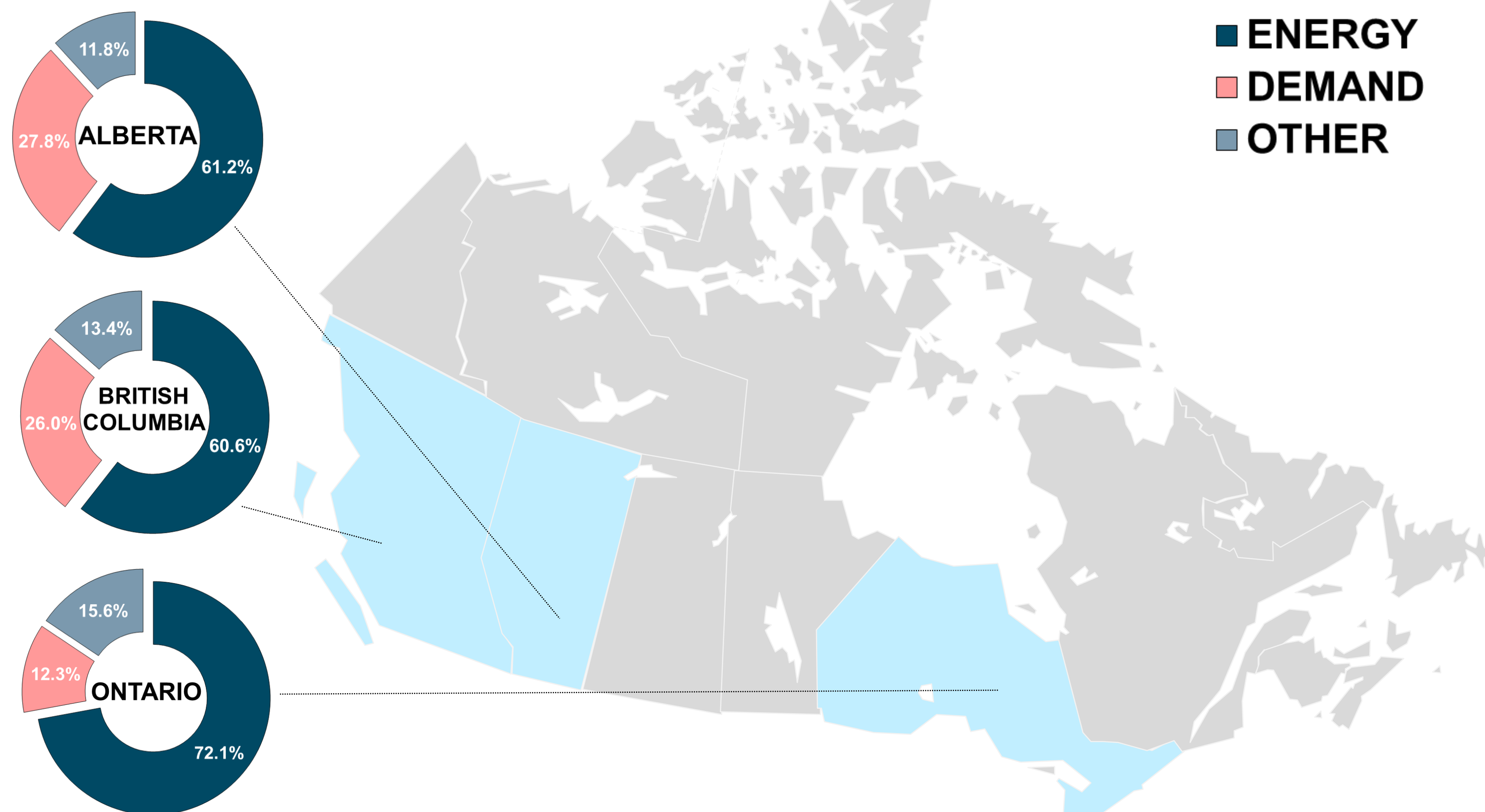
Create a “consistent language” for utility bills

### ENERGY EFFICIENCY

Research technologies related to improved energy performance

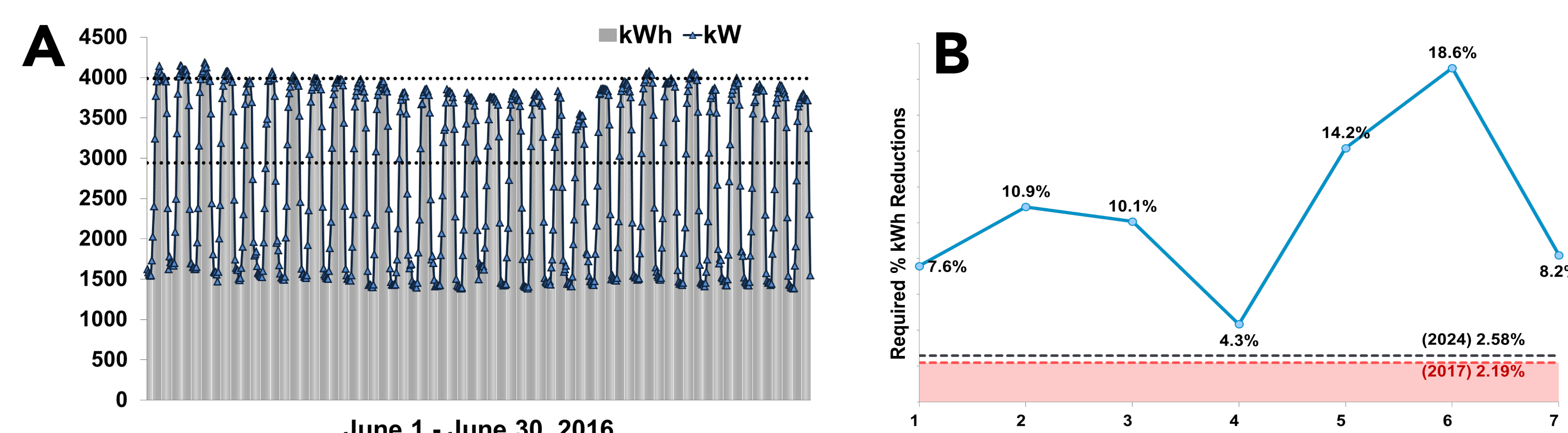
## RESULTS

Complex nature and variety in rate structures across the country, calls for the use of a software system capable of accurately accounting for portfolio changes, recording historical data, and performing calculations and analysis of utility bills.



- 60-72% of the cost of an energy bill is due to electricity consumption (kWh)
- 12-28% of the cost of an energy bill is due to demand consumption (kW)
- Price/kW is greater than price/kWh
- Potential to reduce demand costs through Energy Storage Solutions

## ENERGY STORAGE SOLUTIONS (ESS)



(A) Demand profile, dotted lines indicate potential demand peak shaving profiles. (B) % kWh reductions required to save same value as proposed demand reduction. kWh reduction goals for 2017 and 2024 are noted.

## ESS OUTLOOK

- Indirect environmental benefits
- Integration of renewables: combining ESS and wind or solar
- Improving carbon footprint
- Frequency regulation

## TAKEAWAY

- There exists a need for the private sector to scale up their efforts and support actions to reduce emissions. Creative alternatives such as ESS may be the answer.
- By creating an understanding of utility bill rate structure and cost drivers, improved energy performance will be more attainable.
- Asking others for help goes a long way

## SUSTAINABILITY

- Policy and incentives play a large role in determining a company’s willingness to invest in renewable energy
- Opportunities for real estate: energy efficiency increases market value of properties
- First vs. second movers advantage for large capital investments
- Decreasing technology costs are making ESS a more viable option, creating the opportunity for renewable microgrid energy generation

## Acknowledgement

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## References

Ivanhoé Cambridge Activity Report, 2015.  
Hovorka, Frank; *Monetary value of energy efficiency and its impact on aligning incentives*, May 2016.