

## Overall Context

Scream OpenData will use social media to publish structured energy information. This project can be regarded as energy data benchmarking that at its best can be used as a tool to help energy consumers evaluate and prioritize improvement opportunities. Through the benchmarking process, energy consumers can continuously compare and measure their data to gain a sense of efficiency improvement opportunity.

Scream OpenData will be actionable data. The quality of data will be reinforced before entering into the system. However, the quality and accuracy will improve further as participation increases. A practical and suitable example of open data effort is Government of Canada's open data initiative, [Open Data 101](#), as it's described as a practice that makes machine-readable data freely available, easy to access, and simple to reuse.

## Energy Data is Homeless

The problem is energy (big) data doesn't have a permanent home. However, there are solutions to solve the problems of homelessness. Screaming Power has the vision to build a home for energy data. We'll provide opportunities to utilize energy data and provide further insights - ensuring data utilization is more meaningful. Ideological conflict is one important reason for people to be away from home. Unfortunately providers tend to conflict in the way they capture and deliver data to their users. This conflict hinders the standardization process of energy data. Screaming Power's platform will tackle any conflict by providing standardized data and a common source of public energy data.

## What Triggers Scream OpenData?

Below, we highlight some of the more practical grounds that triggered a necessity to create a platform for energy (big) data:

- **No such initiative:** Until now there were no initiatives to gather energy data (which gets bigger by the hour). This gathering of energy data will provide many visible benefits to the community.
- **Lack of standards:** Energy data, at least in Canada, is not standardized yet. This makes the handling of such data in a unique fashion harder for its target users.
- **Lack of collaboration among utilities:** The utility companies primarily focus on providing the power to "keep the lights on". Although not competitive from customers point of view, utilities have a competitive nature. They customize their IT to suite their operational needs. This has created "data islands" that in most cases turn into internal data ownership issues.
- **Lack of communication among consumers:** Even consumers don't communicate with each other while energy usage and data are the concern.
- **Scarcity of centralized data store:** A centralized data store could make life much easier for market analysts and researchers. But utility companies are highly reluctant in storing their proprietary data in a centralized place so everyone can play with it.
- **Collecting data in a unique manner:** Utility companies are using different technologies and methods for collecting the same data from their individual and enterprise customers. Even the infrastructures themselves are not yet fully technology friendly.
- **Scarcity of heterogeneous sources of energy data:** Electrical and gas consumption data are readily available to the consumers from their utility providers. However, many other forms of clean energy data are still not available with full details in an interesting format. The Scream OpenData platform will combine heterogeneous sources of energy data in a generic manner - easing the life of analysts and researchers around the globe.

## Potential Benefits and Applications

There are many potential benefits and applications to have a permanent home for energy (big) data. Below are some benefits achievable through the Screaming Power platform — Scream OpenData.

- According to the Open Data 101 initiative, the primary benefits of open data systems are:
  - **Support for innovation:** Access to knowledge resources in the form of data supports innovation in the private sector by reducing duplication and promoting reuse of existing resources. The availability of data in machine-readable form allows for creative mash-ups that can be used to analyze markets, predict trends and requirements, and direct businesses in their strategic investment decisions;
  - **Leveraging public sector information to develop consumer and commercial products:** Open and unrestricted access to energy data for public interest purposes maximizes its use and value. And the reuse of existing data in commercial applications improves time-to-market for businesses;
  - **Support for research:** Access to public energy data supports evidence-based primary research in Canadian and international academic, public sector, and industry-based research communities. Access to collections of data, reports, publications, and artifacts held in federal institutions allows for the use of these collections by researchers;
- It's hard for providers to experiment with data as their primary goal is to provide energy to their consumers. Therefore, systems like Scream OpenData lets others experiment on the behalf of the energy providers and users;
- Open data systems like Scream OpenData can create new markets;
- New development opportunities will be created based on open data systems like Scream OpenData such as: data visualization and analysis, combining data sets, data mining, and so on;
- Scream OpenData can help in establishing an energy efficiency transparency to prioritize energy improvement opportunities;
- By participating in data benchmarking and creating open energy data through Scream OpenData, energy providers and consumers will increase the value of community based studies;
- Another major benefit is that Scream OpenData will help users understand their energy efficiency relative to technology and climate conditions;
- Other areas where Scream OpenData can create value include: transparency, participation, innovation, improved service efficiency, new knowledge from combined data sources, and patterns in large data volumes;
- More citizens/consumers will engage in policy making processes by the governmental bodies or providers;
- Screaming Power can publish energy data, based on 3rd parties and create tools for analysis and oversight;
- Scream OpenData will also allow external contributions from multiple parties;
- Users can collaboratively monitor, socialize, benchmark, detect issues, give feedback report and resolve;
- The open energy data triggers the development of a standardized set of processes and energy metrics;

## Potential Capabilities

- Import/export energy data that's non-duplicated, structured, and remediated
  - Using Privacy by Design principles, energy data will be uploaded or downloaded to the server via the Scream OpenData app;
- Search for a consumer or a property location
  - Users can search for any consumer within the public data domain;
- Filter data based on provided constraints
  - Users will be able to filter data based on their own constraints or on predefined filtering constraints;
- Energy data may be provided in XML, JSON, XLS, or CSV (a data format conversion engine will help to represent the data interchangeably)
  - Energy data can be provided to the interested party in any of the above formats. Authenticated users give their preference while exporting/downloading the public data;
- There will be options for sharing (in various social media), bookmarking, or refreshing the data.
  - Publicly available data can be shared by authenticated users to any other open media;
- Main Menu items can include: Home, Datasets, Search, Terms, App Details, App Settings, Tutorial/Help, etc.
  - Menu items can be extended and organized in any suitable order/manner;
- Feedback menu items can include: Rate App, Give Feedback, Ask Questions, and (perhaps) Submit Data Portal
  - Upstream communications can be supported through this feedback feature, which could help improve Scream OpenData further;

## Existing Open Data Platforms

- [Open Data Companion \(ODC\)](#), developed by Utopia Software, provides unified access to 170 data portals around the world in several formats (mostly html and textual).
- Other related open data apps include Open Data 101 initiative government of Canada registered apps such as [Community Information Database](#) by Agriculture and Agri-Food Canada, [Canadian Patents Database](#) by Industry Canada, [Canadian Copyrights Database](#) by Industry Canada, [Trade Data Online \(TDO\)](#) by Industry Canada, and so on.

## Conclusion

In summary, energy data is playing a hidden role in governing the energy industry. But the data itself is hidden and, in many cases, incomplete. Scream OpenData will play a significant role in publicizing energy data, opening many windows to analysts and researchers in both industry and academics.