



OVERVIEW

With a goal of making Toronto the most sustainable city in North America, the City of Toronto had been looking for ways to expand their energy efficiency, conservation and demand management initiatives. The City had extensive back-up generation capacity and a large number of facilities dispersed across the City that made the Demand Response (DR) programs being offered by the Ontario government a good fit for their demand management goals.

To take full advantage of the DR programs, the City needed an accurate assessment of their potential for load curtailment and the capacity of their existing generation to offset demand during a DR event. City personnel needed to understand the DR process and be alerted when there was the potential for a DR event to occur. Throughout the program enrollment and during any DR events, their facilities needed to maintain operations and continue to provide services to their 2.79 million citizens.

"Rodan Energy verified our generation and curtailment capacities so that we would meet our DR commitment when called upon during an event."

- Rae-Anne Miller, Senior Engineer, City of Toronto, Energy Efficiency Office

SOLUTION

The City of Toronto enrolled in Demand Response with Rodan Energy as their DR aggregator. Rodan pre-screened City assets and made recommendations on which sites were capable of shedding loads and what DR program would best suit their needs. Following the assessment, **22 separate sites** were enrolled in the DR program for a total combined load reduction of **6.79 MW**.

Approximately **5 MW** of the DR came from generators at the Toronto Water and Exhibition place locations with the remaining capacity shed through multiple sites across the city including water treatment plants, civic centres and arenas.

CASE STUDY



SUMMARY

Organization



City of Toronto, Ontario, Canada

Function

Municipal Facility Management

Challenges

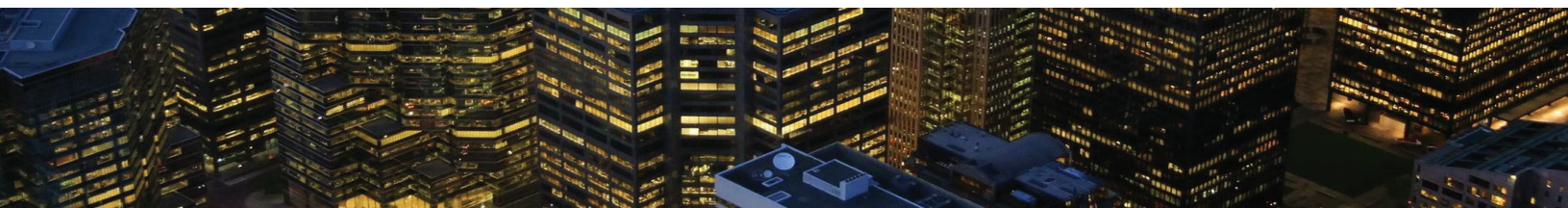
- City of Toronto goal of demand management
- An accurate assessment of DR capability
- Understanding the DR process

Solutions

- Enroll in Demand Response
- Use existing generation to offset load
- Load shedding at multiple sites
- Baseline energy monitoring
- DR event probability indicator

Benefits

- Revenue of \$1.3 million over 4 years
- Maximized DR participation
- Increased use of City of Toronto assets
- Increased energy awareness
- Reduced risk
- No up front costs



In order for City personnel to be prepared for DR events, Rodan provided a snapshot tool that indicates the probability of a DR event occurring within the next day. Data loggers installed at City sites provide staff with a real-time view of their baseline energy consumption and whether they have the necessary capacity to respond in the event of a DR notification.

“Rodan Energy helped us maximize our Demand Response capability based on the individual capacity of each of our facilities, which resulted in a much higher DR capacity.”

- Rae-Anne Miller, Senior Engineer, City of Toronto, Energy Efficiency Office

BENEFITS

To date, the City has received a cumulative total of \$1.3 million for their participation in the CBDR (formerly DR3) program. By using Rodan as an aggregator, the City reduced their risk exposure and avoided the deposit required by the IESO for individual participants.

City assets are being maximized with generation sets that were previously idle providing a substantial revenue stream. Baseline energy consumption data gives City staff a better understanding of their energy use and monitors their DR capability in real-time. City personnel receive a daily indicator of the probability of a DR event occurring and can prepare accordingly.

The City leveraged Rodan’s experience to maximize their demand response while maintaining the integrity of their facility operations and services. It is one of the few municipalities in the Greater Toronto Area participating in a DR program.

“Using Rodan Energy as an aggregator allowed us to participate in demand response at a level we couldn’t have achieved on our own. We now better understand our energy demand and can contribute to the province’s demand reduction initiatives when required.”

- Rae-Anne Miller, Senior Engineer, City of Toronto, Energy Efficiency Office

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