



## The seven key messages of the Energy Drill program

The Energy Drill program carries seven key messages that form the framework for understanding why and when to do an Energy Drill. The messages help teachers, staff and students appreciate the importance and wide scope of electricity demand response. The messages equip Energy Drill participants with the ability to advocate energy conservation and demand response at home, amongst family, friends and the general public.

The seven key messages are very closely interconnected to each other, and relate closely to the four triggers of the Energy Drill program. While a brief outline of each message is included here, a full explanation of each according to their most closely associated triggers is included in a set of documents entitled "*Background and key messages for triggers*".

- 1. Electricity use burns fossil fuels:** The electricity we use in Ontario comes from a mix of sources; burning fossil fuels (like coal and natural gas), nuclear, hydro and renewable resources. When the demand for electricity is high, our additional needs are often met by increasing the amount of fossil fuels burned. Using fossil fuels to generate electricity has two major problems. First, fossil fuels, including coal, oil and natural gas, are non-renewable resources; one day the earth's supply will run out. Second, when burned, fossil fuels create harmful emissions.
- 2. Electricity use affects local air quality:** As high electricity demands are met through increased burning of fossil fuels, and the burning of fossil fuels creates harmful, polluting emissions, high electricity demands contribute to local pollution. Poor local air quality, including smog, contributes to health problems such as irritation to the eyes, nose, throat, lungs and heart, and various cardiovascular and respiratory conditions like asthma. Ironically, poor local air quality often leads us to close our doors and windows, turn up the air conditioning, and use more electricity!
- 3. Electricity use contributes to climate change:** Burning more fossil fuels to meet high electricity demands increases the amount of emissions that are created in the combustion process. Emissions from burning fossil fuels contain greenhouse gases, the gases which contribute to climate change. Climate change causes many negative effects around the world related to changes in weather patterns. It is a vicious cycle! Changing weather patterns in Ontario often lead to more extreme outdoor temperatures than normal, causing us to use more electricity to heat and cool our indoor spaces.
- 4. When we use electricity matters:** Electricity, like any other commodity, is subject to supply and demand. The combined amount of electricity

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everyone uses at a time forms the total 'demand' for electricity. In order to meet our electricity needs, the supply of electricity must always be equal to or more than the demand. When demand is very high, or when supply is limited (such as when a generator is closed for maintenance), we risk brownouts and blackouts. During these times, we need to decrease our demand in order to reduce the risk of brownouts and blackouts. This is called 'demand response'. We can predict quite well when our demand will be high. Decreasing our electricity use during peak times means we need to think about when we use electricity, as well as how much electricity we use.

5. **Electricity costs money:** All electricity consumed must be paid for. Consumers who use relatively small amounts of electricity, like families at home, pay regulated rates for electricity. Consumers who use large amounts of electricity, like factories, pay a 'market price' based on the supply and demand of electricity. The market price reflects the supply and demand of electricity: the higher the demand compared to the available supply, the higher the price. Soon, all consumers in Ontario will pay prices for electricity that vary depending on what time of day the electricity is used. So, it won't just be energy conservation that saves us money, but demand response too!
6. **Electricity is a highly valued resource that we need to manage wisely:** Maintaining a balance between demand and a clean, healthy supply of electricity is important to ensure we take care of our daily needs as well as our environment. If we do not manage our electricity wisely, we risk brownouts and blackouts. Brownouts and blackouts are a nuisance to our everyday activities, and can stop us from learning and working effectively. For some people, like people in hospitals or with certain health problems, brownouts and blackouts can be life threatening. If we manage our demand for electricity wisely, we can continue to enjoy the benefits electricity brings to our society.
7. **Electricity management is everyone's responsibility, together:** Everyone uses electricity. The amount of electricity everybody uses at one time adds to create our total demand. When our total electricity demand is high, we burn more fossil fuels, create more harmful emissions, worsen our local air quality, risk brownouts and blackouts, and drive the price of electricity higher. Each person is responsible for using less electricity, especially at peak times. To use less electricity, we must also work together and help each other.

