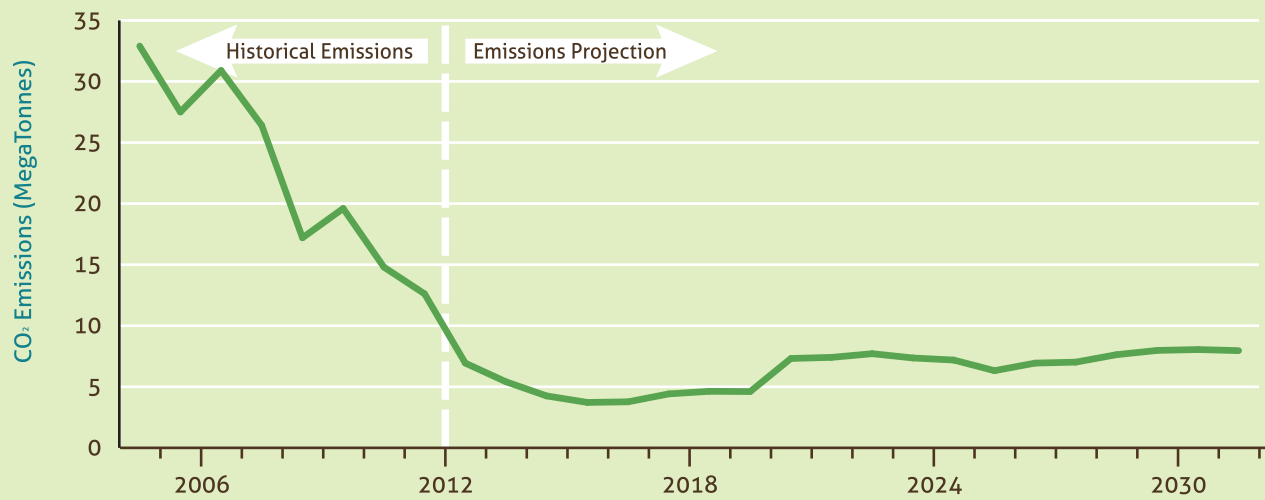


## Figure 20: Greenhouse Gas Emissions Forecast



*Note: Emissions in any one year could be higher, or lower, than the projection depending on the specific operating conditions experienced in the system. For example, changes in demand and/or energy production from non-emitting resources could contribute to higher or lower emissions.*

the current ones have expired, but only if the contract results in cost and reliability benefits to Ontario ratepayers.

Natural gas prices have declined sharply since 2008, and are expected to remain relatively low over the next decade. The price of natural gas, though is historically quite volatile, and is affected by factors outside of Ontario's control. It is therefore in Ontario's best interest to keep a balanced supply mix, and not depend too heavily on natural gas, as a hedge against this volatility.

### Combined Heat and Power

Combined Heat and Power (CHP) can be an efficient way to use natural gas to generate electricity as well as useable heat or steam. Given the right circumstances, CHP can help support regional economic development, and local

energy needs, while reducing carbon dioxide (CO<sub>2</sub>) emissions at a competitive cost.

The OPA has run four rounds of competitive procurements and two standard offer programs for small-scale CHP since 2005, resulting in 420 MW of capacity from CHP projects – 414 MW of which are in commercial operation. Approximately 6 MW are under development, and scheduled to be in service in 2014.

We have learned that in general, CHP projects work better if they are driven primarily by the need for heat, with electricity as a by-product. CHP projects need to be the right size, in the right location and at the right price to ensure optimal benefits to the electricity system, in addition to serving the needs of their heat loads.

The OPA has conducted procurements for CHP projects representing a wide range of technologies, applications, industries and geographic locations. Future procurements will focus on considerations such as efficient CHP applications and locations with regional capacity. These could include a new program for CHP at greenhouse operations, agri-food and district energy projects.

The way that CHP supports economic development while reducing CO<sub>2</sub> emissions is best illustrated in the examples on page 39.

### Energy from Waste

Energy from Waste (EFW) refers to waste treatment technologies that generate electricity and/or heat by burning various kinds of waste material.