

manufactured in Canada. This will change once Ford introduces the hybrid versions of the Ford Edge and Lincoln MKX in its Oakville assembly plant. The gasoline versions will start production in 2006 as a 2007 model, but production of hybrids is expected to start only in 2010.

Plug-in hybrids could also become more popular in the future. These are hybrid cars with an enlarged battery pack that can be recharged from the electricity grid, not only by the on-board gasoline engine. For the vast majority of trips, only the electric engine would be used and the battery pack recharged overnight or at the office. Only on longer trips would the combustion engine be used. This setup does away with a major disadvantage of the previous generation of electric cars: the risk of getting stranded if the battery runs out.

Much further down the line is the changeover to the hydrogen economy and vehicles driven by fuel cells. Current expectations of most automakers are that by 2010 most of the technical aspects will be solved on the experimental models that are now touring the globe. It is also expected to take until 2020 or so before mass manufacturing would make affordable cars possible. An average sized car currently can store about 3 kilograms of pressurized hydrogen gas which can go about 200 to 280 kilometres under normal conditions before refuelling. Developing reliable storage for hydrogen and rolling out a distribution system are considered the biggest challenges for this new technology. As discussed in Section 1.5, Canada is very active in the development of fuel cells.

#### *5.1.2 Assembly location*

The second great unknown for the industry is whether final vehicle assembly will stay as close to customers as it has thus far. In the first decades after World War II, the industry produced very large production runs of a small number of vehicles in branch assembly plants close to population centres. For example, U.S. sales of the different guises of the main Chevrolet model totalled almost 1,500,000 units in 1966 and these were assembled in six different assembly plants across the country.