

**Project : Upgrading of a corn-ethanol facility**  
Varenes (Québec)

**Client : Greenfield Ethanol**

**Project Description :**

The Greenfield Ethanol Varenes plant was successfully commissioned in the first quarter of 2007. Built mostly around a standard ICM license for a 30 MMGPY nameplate (115 MMLPY), the operation team's commitment and determination has enabled the plant to achieve unsuspected throughputs of 135 MMLPY.

Having identified some of the bottlenecks and operating limitations internally, Greenfield Ethanol called upon Ultragen for additional support and expertise to undergo a site wide expansion. The new production target was identified as 175 MMLPY, thereby necessitating the addition of a fourth fermenting tank.

Ultragen has successfully completed this mandate by preparing the site for the future capacity throughout 2008. This involved the upgrading of the vacuum distillation section, modifications to the existing plate & frame exchangers, the addition of a new centrifuge and a new cooling tower and the upgrading and replacement of various pumps. These changes have enabled the current yearly capacity to be increased to 160 MLPY, with the processing units downstream of the fermentation section validated for an instantaneous rate of up to 185 MLPY. The site is currently awaiting the go-ahead for the installation of the new fermenter.

**Biofuel**

**Year of realization :** 2008  
**Project Value :** 5.5 M\$

**Services offered by Ultragen :**

- Real time heat balance throughout the fermentation cycles
- Troubleshooting, simulation and design modifications for the vacuum distillation column and its auxiliary systems
- Establishment of current and future site-wide cooling needs
- New distribution network and cooling water usage optimization plan
- Hydraulic calculations, pumps, exchangers and relief valve specification sheets
- Design, engineering, construction support and start-up assistance

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