



---

## Abstract Format

Technologies reshaping the electricity supply industry  
**2017 IERE-TNB Putrajaya Workshop**  
November 20-23, 2017

### **Maximizing Energy with Power to Gas**

**Alan Kneisz**  
**Director Business Development – Hydrogenics Corp.**  
**Mississauga, Canada**

**Keywords:** *Excess Energy using Power to Gas (hydrogen)*

#### **Abstract**

Power-to-Gas can provide a rapid, dynamic response to the Independent Grid Operator's signal to adjust to the variations in renewable or non-renewable generation output. The location of a Power-to-Gas facility is not restricted to any geologic formation; it can be deployed wherever the power and gas grids intersect.

Power-to-Gas is a scalable technology. It provides unparalleled energy storage capacity in the TWh range for seasonal storage capability.

It can charge energy for several days, or even consecutive weeks, without needing to discharge the stored energy.

Unlike other energy storage technologies, Power-to-Gas provides the means to both store and transport energy.

The stored energy can be discharged where and when it is needed most. This results in higher overall integrated system efficiency.

#### **Renewable hydrogen as a Solution for Transportation, Storage, Power and Blending of Gases**

Power-to-gas can help maintain local balance between power generation and consumption where distributed power generation is added to the distribution grid, hence allowing to avoid power grid expansion for absorbing excess production.

**note: This document will be upload on IERE website for participants to download. And finally open to the public on IERE website.**