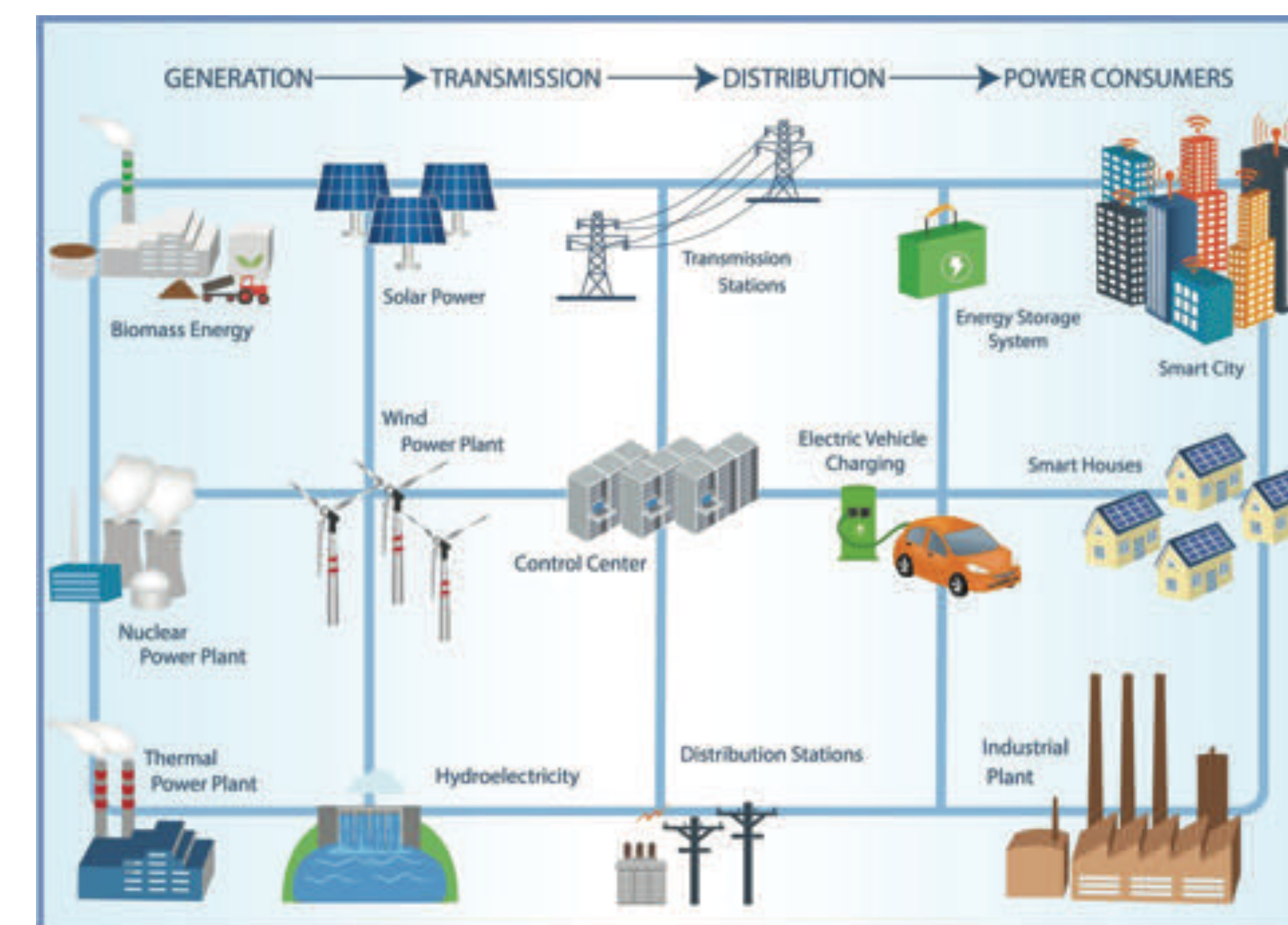


How Monitoring Hydrogen Gas in Transformers and Battery Storage Systems can Improve and Increase Asset Reliability.

H2scan
ADVANCED HYDROGEN SENSING

By Traci Hopkins, Sales Manager, H2scan

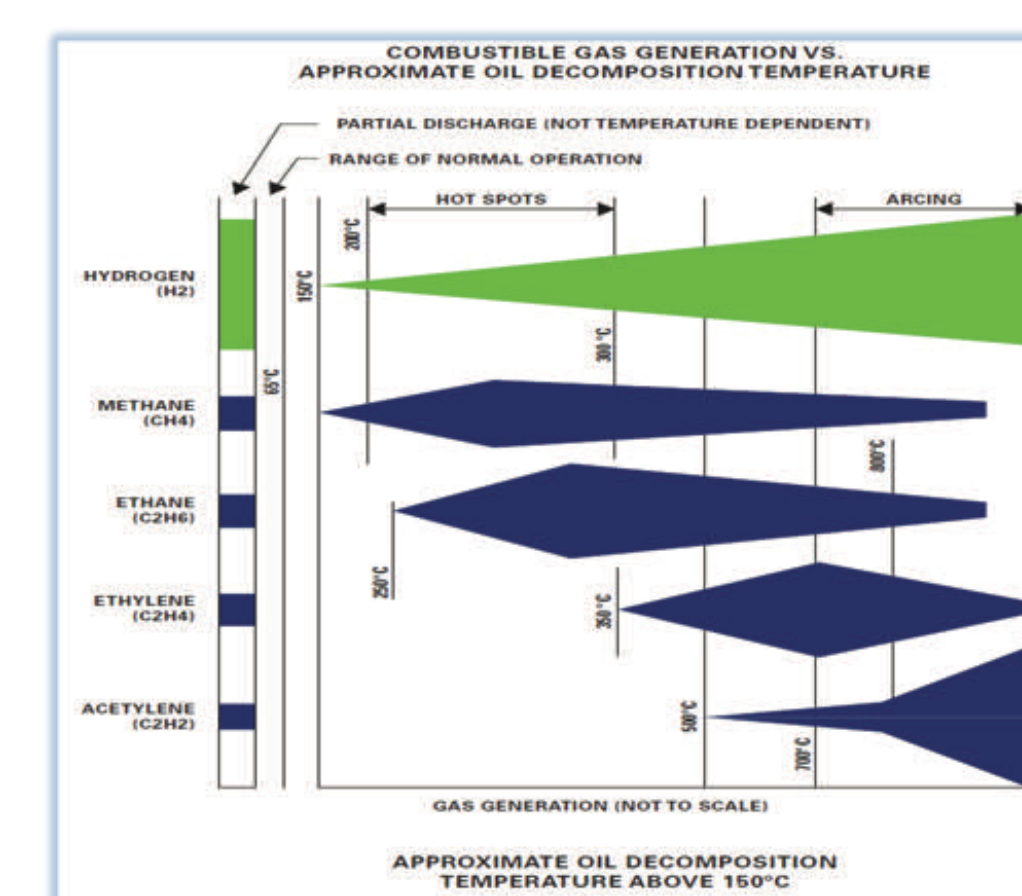
The world is moving from a traditional single-direction power grid to a bi-directional, multi-faceted smart grid. In doing so, there have been a host of new challenges, and an exacerbation of existing challenges to the current grid design. This has pushed many electric power maintenance professionals to transition from a time-based maintenance program to one that is condition-based. Encouraging power system custodians to become experts in a world of exponential options, from testing, to monitoring and everything in between.



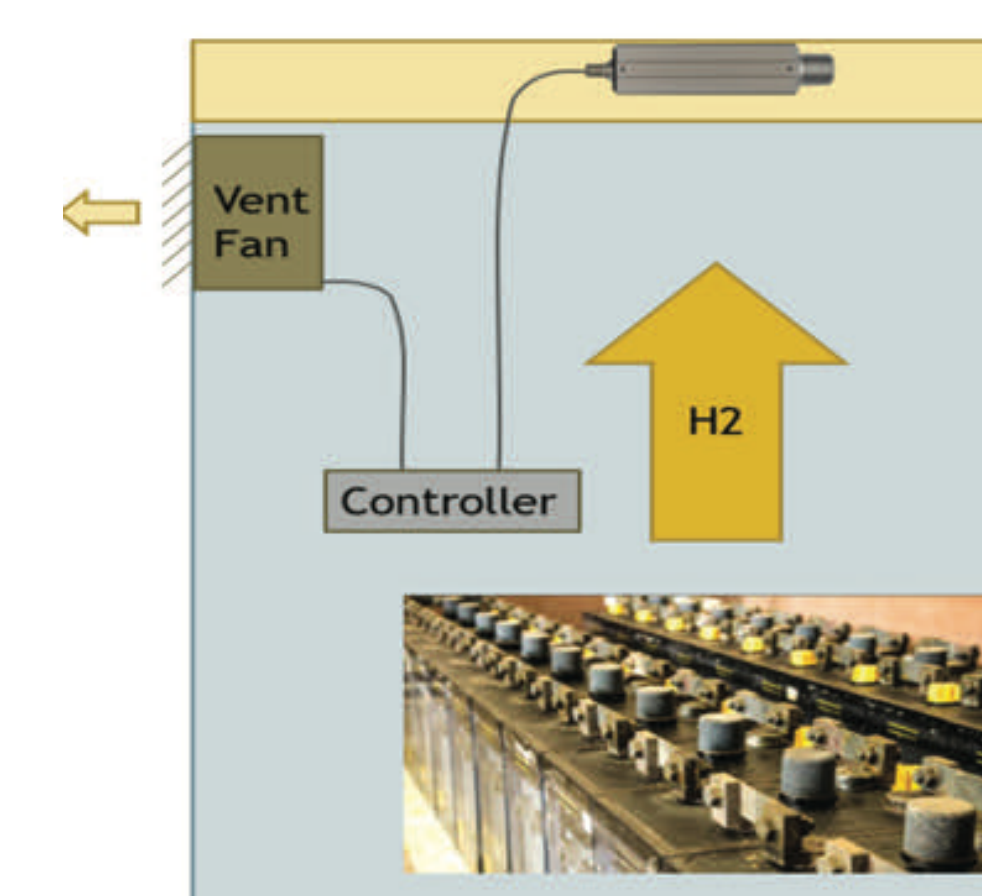
How Does Hydrogen Monitoring of Transformers And Battery Storage Systems Work?

Real-time hydrogen monitoring of transformer assets provides busy maintenance professionals with early warning when an abnormality has occurred inside the transformer. Hydrogen is produced in small quantities during the aging process and when an abnormality occurs that accelerates this aging process it is the first gas to appear and the only gas to maintain a constant and increasing presence as the fault increases.

In the case of battery storage applications, the savings applied when managing the presence of hydrogen in battery rooms comes in the form of reduced risk assessment values and hazardous mitigation analysis (HMA) values such as battery quantity thresholds, equipment spacing, ventilation, fire & deflagration hazards, design, installation and operations.



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Which Technology Is Right?

Selecting a gas monitoring or detection system that is right for your organization can be overwhelming. Deciding between a Fuel Cell Detector, Gas Chromatography (GC), Photoacoustic Spectroscopy (PAS), Non-dispersive Infra-Red (NDIR), Semiconductor or Solid-State Sensors may cause frustration. Below are some points to consider when selecting the right technology:

- 1 Initial cost of the device or system
- 2 Cost of maintenance after installation
- 3 Replacement costs? Time?
- 4 Reliable life (how long will it last)
- 5 Accuracy of detection
- 6 Calibration (how often is calibration needed?)
- 7 Additional products needed (reference gases) etc.



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