

## **TRANSITION TO CLEANER TECHNOLOGIES - BIOGAS CITIES- PRACTICAL EXAMPLES FROM WEST SWEDEN**

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Alternative fuels which generate substantially lower emissions of carbon dioxide are essential to counteract the greenhouse effect. The slow change process to adopt these fuels is due to inadequate infrastructure, uncertainty of change and technical problems as well as political-economic issues. However, there are possibilities for a less controversial transition from today to the possible hydrogen society of tomorrow. By taking small steps with available technology the change doesn't have to be a paradigm shift. By using alternative fuels in combination with conventional technology, the heavy lead time for a clean technology will be more acceptable for society. Meanwhile, we will learn how to use new technology and energy resources. The Volvo Bi-Fuel cars available today can be powered by either LPG or methane. Methane is available as both biogas and natural gas, which can also be mixed together. Swedish methane gas in vehicles comprises an average of 40% biogas, which equates to a 55% CO<sub>2</sub> reduction compared to petrol. This 'mix' principle also opens up the possibility for low blending of hydrogen. Today, hydrogen production is expensive and energy demanding yet it is likely to become a viable alternative future fuel. The use of fuels in the car industry has remained fairly static for the last hundred years; diesel and petrol have been the major players. Now, it's certainly time to take the next step. Volvo Car Corporation presents its current Bi-Fuel technology and also explores the industry's options to cleaner future fuels.