

Feeling a bit gassy & bloated? Increase your energy efficiency, reduce costs and support the environment - Northmore Gordon

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Air Services Air Compressor Leak Audits, Surveys and Benchmarking EEO Assessments (SG)
 Singapore Energy Efficiency Assessments Energy Procurement Navigate energy markets with
 confidence Virtual Environmental Manager Leverage our teams wide experience Certificates Close
 Certificates Open Certificates Certificates Our Environmental Attribute Certificate services help
 businesses accelerate technology adoption, improve project ROI, and manage claims of renewable
 energy, energy efficiency and carbon offset 1 carbon offset = 1 tonne of CO₂-e avoided or removed
 from the atmosphere. Avoided emissions covers activities that alter behaviour that would have
 otherwise caused emissions such as energy efficiency improvements or avoided deforestation.
 Removal covers activities that permanently remove CO₂ from the atmosphere such as new forestry
 plantations, soil carbon improvement or carbon capture and storage. certificates Live Certificate Prices
 The value of certificates change day-to-day, check today's prices Solar VEECs (VEU PBA) VEU PBA
 for Large-scale Solar Measurement & Verification (VEU & ESS) M&V; for Large C&I; Efficiency Projects
 (VEU PBA & ESS PIAM&V;) BESS Calculator Estimate the Peak Reduction Certificate revenue
 available to your NSW battery project in minutes ERF & Carbon Credit Registration ACCUs for
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 2022 Articles Share this article Let us prescribe you a way to reduce your Gas Emissions! The path to
 decarbonising the electrical grid is well underway. Now it's time to think about gas. If you have high gas
 consumption, there are few things you need to be considering. Make your current equipment as
 efficient as possible Consider what equipment can be electrified Look for biogas or green gas
 opportunities Green hydrogen is getting massive investment The Victorian Industrial sector used over
 110 PJ (30 TWh) of energy in 2017 and 65% of that came from gas. The predominant use of that gas is
 steam boilers. The story is the same in other states. The Industrial sector is primarily fueled by gas and
 the commercial sector also has substantial gas usage for hot water. The trends bring gas into the
 spotlight are as follows: Electricity is getting greener. In Australia, 25% of the electrical energy is now
 sourced from renewables. The grid emissions (the emissions factor) are dropping every year. Many
 companies are setting goals to decarbonize, or their customers are demanding they do. The gas is
 getting greener (less emissions), but it is hard and slow, however there are state and federal programs
 accelerating this. Green hydrogen (electrolysis from renewable electricity) is forecast to explode The
 message for C&I; (Commercial & Industrial) is clear if you want to decarbonize you've got to look at
 your gas emissions as well. Gas Efficiency: In NSW and VIC business there are lots of old steam
 boilers it's a no brainer to add economizers and O₂ trim, electronic air/fuel ration and blowdown
 controls or to upgrade the whole unit. The NSW Energy Saving Scheme and Victorian Energy
 Upgrades programs provide funding for both calculated and measured savings. For economizers up to
 50% of the full costs will be cover by the programs. Electrification: For hot water, we've reached the
 cutover point. You'll now generate hot water with lower emissions by using heat pump systems using
 grid electricity than a gas boiler. Using gas at 90% efficiency condensing boiler to put 1GJ of energy
 into hot water would produce $0.05523 / 0.9 = 0.0061 \times 1000 = 61 \text{ kg CO}_2\text{te}$ To put 1GJ of energy into
 hot water using an electric heat pump with a COP of 5 and grid source energy with an emissions factor
 of 0.8 tonnes / MWh. 1GJ of energy into hot water. $(1\text{GJ} = 1/3.6 \text{ MWh} \times 0.8 / 5 \text{ COP} \times 1000 \text{ kg} = 44 \text{ kg}$
 CO_2te . And when the grid reaches 0.5 tonnes / MWh this falls to 27 kg CO₂te and potentially better

with some heat pumps having even higher COP The NSW ESS (Energy Savings Scheme) and VIC VEU (Victorian Energy Upgrade) have recently released new methods for Commercial & Industrial heat pumps. Dairy farms and industrial processes using large volumes of hot water can substantially lower their emissions by using heat pumps and much more so if they have behind the Meter Solar PV Solar Photovoltaic . Biogas, Biomethane and Green Gas: For the process that really needs gas (e.g. steam boilers), there significant funding can be obtained from capturing or generating biogas. Biogas can come from anaerobic digestion (AD) and covered anaerobic lagoons (CALs), from abattoirs, landfills, and syngas from pyrolysis (eg burning agricultural waste in the absence of oxygen). The VIC VEU Victorian Energy Upgrades is a Victorian government energy efficiency program that gives every Victorian household and business the opportunity to receive rebates or discounts on energy saving products. program provides funding for switching from natural gas to biogas. The NSW ESS The NSW Energy Savings Scheme (ESS) provides financial incentives to install, improve or replace energy savings equipment and appliances in NSW households and businesses. The ESS was established in 2009. Financial incentives are in the form of tradeable certificates, called energy savings certificates (ESCs). Generally, householders and businesses who fund energy savings activities transfer the right to create ESCs to Accredited Certificate Providers (ACPs) in return for a discount on the cost of the energy savings activity. The MWh savings from the project determines the number of ESCs that can be created. The ESS works by allowing ACPs to create and register ESCs for energy savings that are supported with appropriate evidence. ESCs are then purchased each year by mainly electricity retailers operating in NSW to meet their share of a legislated annual energy savings target. supports heat recovery from burning biogas. By using scrubbers and other methods can be used to upgrade biogas to biomethane and the Carbon Farming Initiative (CFI The Carbon Farming Initiative (CFI) is a voluntary carbon offsets scheme. It is an integral component of the Emissions Reduction Fund and allows land managers to earn carbon credits by changing land use or management practices to store carbon or reduce greenhouse gas emissions.) recently added biomethane to many of the methods to support injection into the natural gas grid. With these advancements, we are just starting to see the development of in front of the meter PPAs to supply green gas and the energy retailers would love to be able to offer it broadly. Green Hydrogen : There is a very substantial investment going into the hydrogen economy. The expectation is that electrolysis (using electricity to generate H₂) will see the same economy of scale benefits that resulted in Solar PV dropping massively in cost. This space is a watch and see as to how the gas industry will evolve to replace natural gas (methane) with hydrogen. Northmore Gordon can support your business doing the activities above. Our consultants can help identify which of the opportunities above will have the highest PA payback and capture the greatest amount of funding under different programs. More importantly, if you are feeling gassy and bloated, we'll identify the fastest way to reduce your gas emissions. Who wouldn't want that!!! 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