



FirmGreen®

Unconventional Methane Sources... A Hidden Treasure



Who We Are:

Based in Newport Beach California,
FirmGreen identifies, develops and commercializes
new and emerging technologies that, together with
the integration of proven technologies, promise to play an
increasingly important role in supplying the world with:

Cost-effective, Environmentally Sustainable Sources of

Renewable Energy

and

Alternative Transportation Fuels



Our Mission:

We are passionately committed to improving the quality of life for people around the world with sustainable energy solutions that positively impact their environment and economic condition.

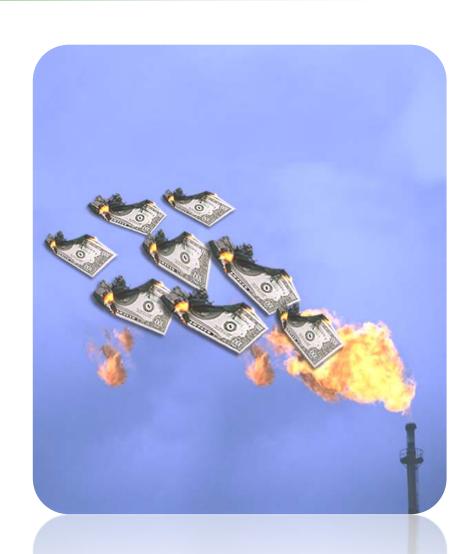
Through integration of our social and financial goals, FirmGreen is well-positioned as a global leader in the renewable energy and alternative fuels markets, generating demonstrable stakeholder value for both the short and long term.



The Problem: Wasted Biogas

Worldwide each year Landfills, Wastewater Treatment plants, and Anaerobic Digesters send **Billions of Btu's** of usable energy into the air...

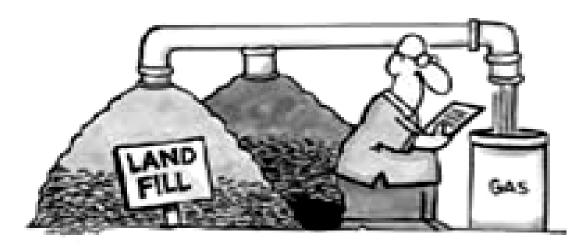
Why is all this energy being wasted?





The Solution: Utilize Biogas

FirmGreen Technology Utilizes Biogas for the production of Renewable Biomethane



"A BTU is a BTU

A Green BTU Is A Better BTU

A Cheap FirmGreen BTU Is The Best BTU"

...Steve Wilburn CEO, FirmGreen



Biogas Processing Methods

FirmGreen employs unique patented and proprietary methods to separate, digest and process biogas from Municipal Waste

Proven Anaerobic Digestion Technology



Green Fuels from Biogas



FirmGreen Biogas Cleaning Technology

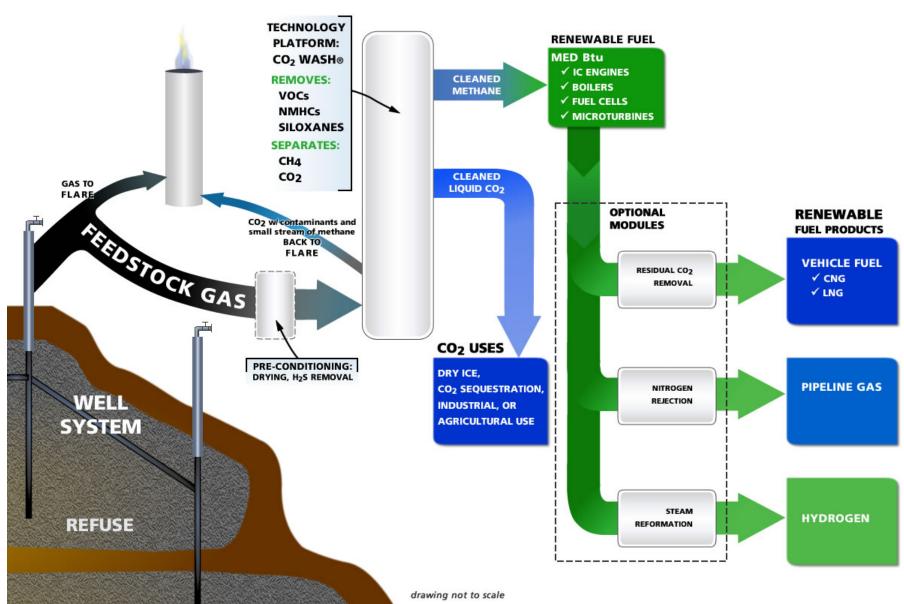
FirmGreen's proprietary biogas upgrading technology is proven:

- ✓ R&D Top 100 Award Winner
- ✓ U.S. DOE Phase II Award Recipient
- ✓ EPA 'Project of The Year' Winner 2008
- ✓ Purifies biogas into clean, cost-effective Alternative Transportation Fuels that fleets can use *TODAY*





FirmGreen Biogas Technology: Applications





gCNG[®] is FirmGreen's brand name for compressed renewable Bio-methane.

The small *g* stands for a green renewable product; letting users know the compressed methane product provided by FirmGreen is from renewable sources, such as Landfills and Anaerobic Digesters.





Novo Gramacho Project Overview





Novo Gramacho Project Overview

The Idea and the Opportunity...



For several years, the principals of Gás Verde and FirmGreen studied the best use of the biogas resource at Novo Gramacho.

Every detail was examined to ensure safety and efficiency, while developing a technically and financially sound project to produce renewable biomethane.



Novo Gramacho Participants

Making it Happen...



Technology Supplier & Exporter



Project Developer & Owner



Permanent Project Financing



Purchaser of the Upgraded Biogas



Novo Gramacho Biogas Facility

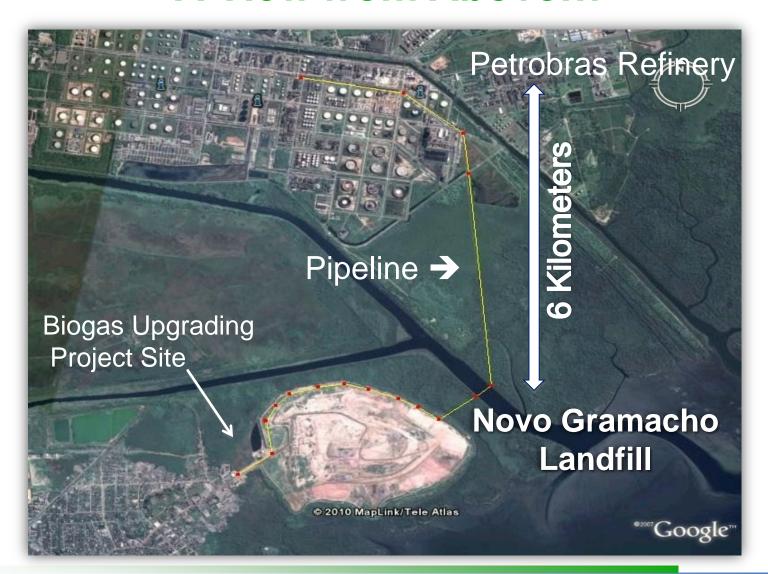
The Finished Project...





Novo Gramacho Biogas Facility

A View from Above...





- World's Largest Biogas to CNG Project
- Raw Landfill gas flows at 20,000 nm³/hr
- Product Gas 8,900 nm³/hr
- Total Biogas Project Costs \$82 Million USD
- Biogas Upgrading Plant Costs \$43 Million USD
- US ExIm Bank Financing \$48 Million USD



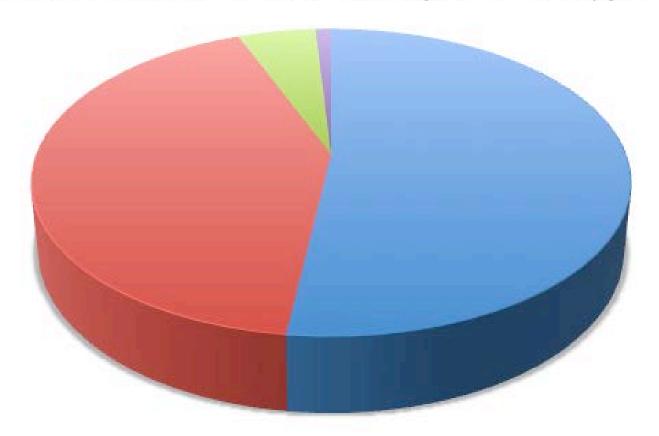
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- All Contracts to Secure Rights to Develop
 & Sell Biogas in Place
- 20 Year Contract for Raw Biogas Supply with State Owned Landfill
- 15 Year CNC Sales Agreement with Petrobras
- Technology Rights and Equipment Procurement Agreement with FirmGreen



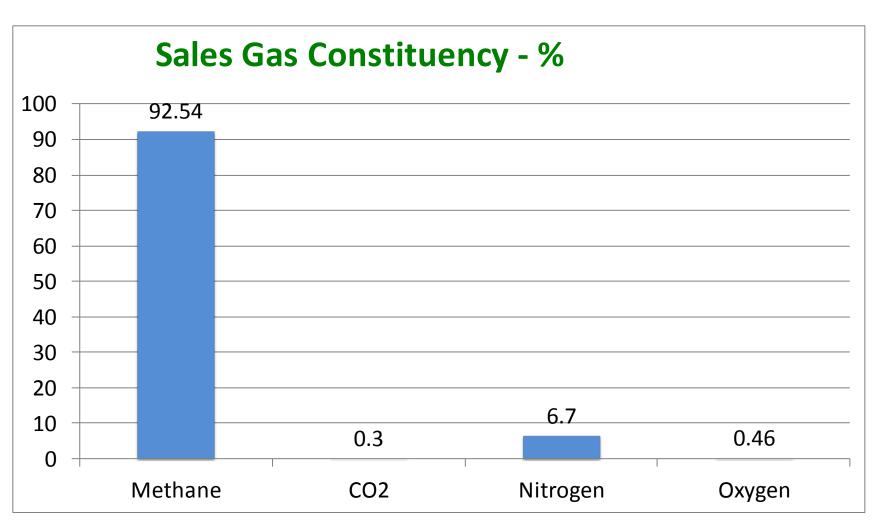
Raw Landfill Gas Composition

Methane 52 % ■ CO2 42% ■ Nitrogen 5% ■ Oxygen 1 %





gCNG Composition





Novo Gramacho Biogas Facility

Lessons learned...

- Good intentions are not enough.
- Choose the right partners.
- Developers and government have to be on the same page.
- Know the tasks ahead with their costs and be ready to afford it.
- Define a path all stakeholders understand and agree upon.
- Be mindful of the creditworthiness and reliability of revenues sources (feedstock and off take agreements).
- Be mindful of the capabilities and reliability of the technology suppliers.



Our Social Commitment:



Do projects that not only make financial sense, but provide an opportunity to improve the livelihood of the impacted community.

THERE IS A BETTER WAY TO HANDLE OUR WASTE!



FirmGreen Project Model

Bringing it All Together for a Biomethane Based Fueling Infrastructure





Contact Us



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