GRASSOLINE

FAST GROWING GRASS FOR CELLULOSIC BIOFUELS AND ANIMAL FEED

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VIASPACE

Stock Symbol VSPC on OTC BB

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Company Background

- VIASPACE founded 1998 as spin-off from Caltech/NASA Jet Propulsion Laboratory
- Became public company in 2005
- Traded on the U.S. OTC bulletin board with stock symbol VSPC

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An Alternative Energy Company

- Renewable Energy—Giant King Grass
  - Feedstock for cellulosic, low-carbon liquid biofuels such as ethanol
  - Replacement for coal in electricity generating power plants
- Clean Energy—Fuel Cell Cartridges
  - Disposable methanol fuel cartridges for fuel cell powered portable electronics such as notebook computers and mobile phones

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CEO Background

Kukkonen with Al Gore

Dr. Carl Kukkonen

2005 – present — **VIASPACE Inc. CEO**
-Publicly traded on the OTC BB symbol VSPC

1998-2005 — **ViaSpace Technologies (incubator)**
- Founded and led 7 startup companies

1984-1998 — **NASA/Caltech Jet Propulsion Laboratory**
Director, Center for Space Microelectronics & Manager of Supercomputing
- Led staff of 250 with annual budget of $70M
- On review boards of 14 leading universities

1977-1984 — **Ford Motor Company,**
Principal Research Scientist and Engineer
- Ford's expert on hydrogen as an alternative motor fuel
- Developed new direct injection diesel engine

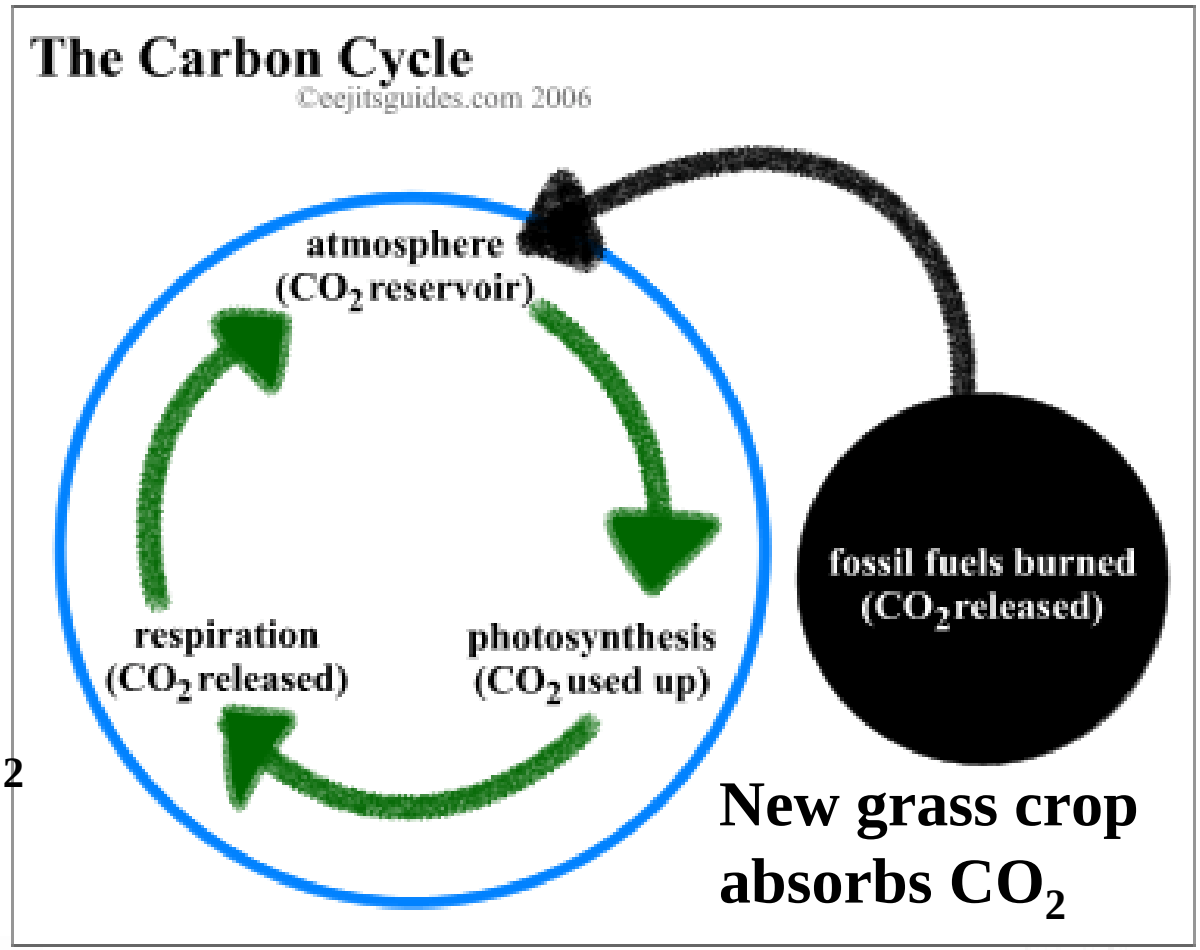
1975-1977 — **Purdue University**
Postdoctoral Research Fellow

1975 — **Cornell University**
PhD, Physics

Renewable Low-Carbon Energy: Grassoline

- Grassoline is a term for renewable, low-carbon liquid fuel made from grass
- Grassoline and other cellulosic biofuels do not use food crops such as corn for production
  - Does not cause high food prices and resulting world hunger
  - Cellulosic ethanol is a form of grassoline
- Grassoline emits carbon dioxide when it is burned, but the next grass crop 60 days later absorbs the carbon dioxide—a green alternative to oil and gas

Grassoline Can Be Carbon Neutral

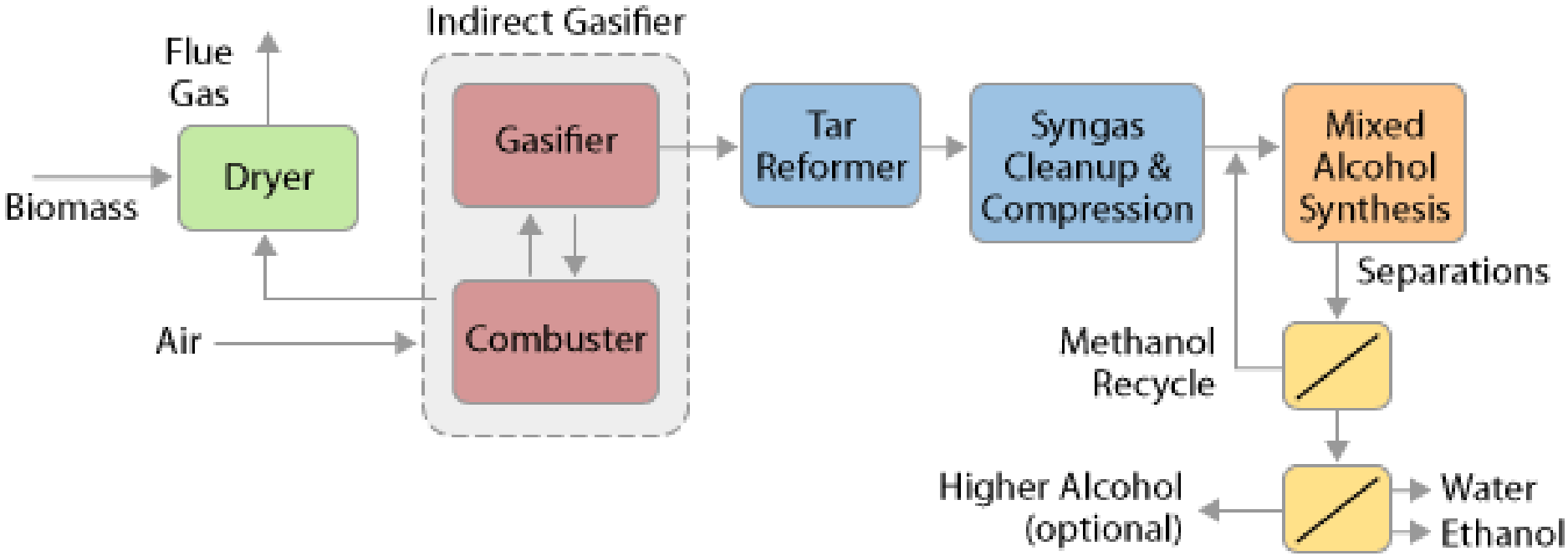


Burning grassoline releases CO_2

New grass crop absorbs CO_2

Grass to Ethanol, Methanol & Green Gasoline by Gasification

Schematic of a Thermochemical Cellulosic Ethanol Production Process



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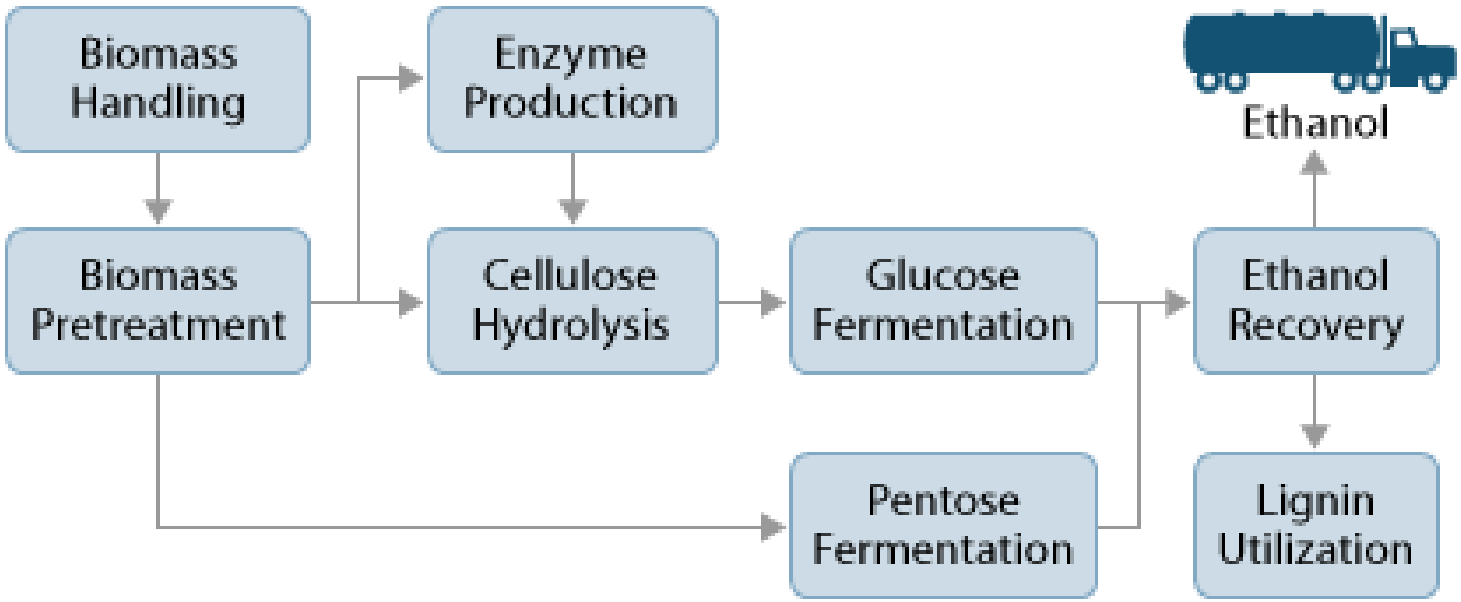
Grass to Ethanol by Enzyme Fermentation

Schematic of a Biochemical Cellulosic Ethanol Production Process



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Grass in a Coal-Fired Power Plant

- Substitute grass bricks/pellets for 10-30% of coal in existing power or heat plant (co-firing)
  - Co-firing grass with coal is cost-effective and fastest way to use bioenergy on a large scale
  - Use existing power plant with minor modifications
- FirstEnergy plans to convert a coal power plant in Ohio , USA to 100% biomass
- Dragon Power Cleantech & NBE have nineteen 100% biomass fueled power plants in China
  - Significant government incentives for biomass
  - Currently use agricultural waste as feedstock, but need dedicated energy crops such as grass
- Biomass power plants are a major opportunity in China

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Renewable Energy Feedstock: Giant King Grass

- Fast-growing natural hybrid grass suitable for cellulosic low carbon biofuels including ethanol, methanol and green gasoline
- Four harvests per year in tropical and subtropical regions
  - Grows to 4m high in 60 days
  - Up to 350 tonnes per hectare
- Developed originally as animal feed

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Advantages of Giant King Grass

- Supports national priorities in China
  - Alternative renewable energy
  - Agriculture to feed population
  - Cleaner environment with low-carbon emissions
- Fast growth produces much higher crop yields per hectare of land
  - Land can support both food and fuel
  - Higher productivity than switchgrass or miscanthus
- Can be used as feedstock for liquid grassoline for transportation, replacement for coal in electricity generation, and as animal feed

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Giant King Grass

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Giant King Grass: Update

- 1.2 million seedlings planted in China
- Land leased in Guangdong Province, China
- Additional planting underway
- Discussions to grow grass in other regions and countries
  - Tropical or subtropical with water availability

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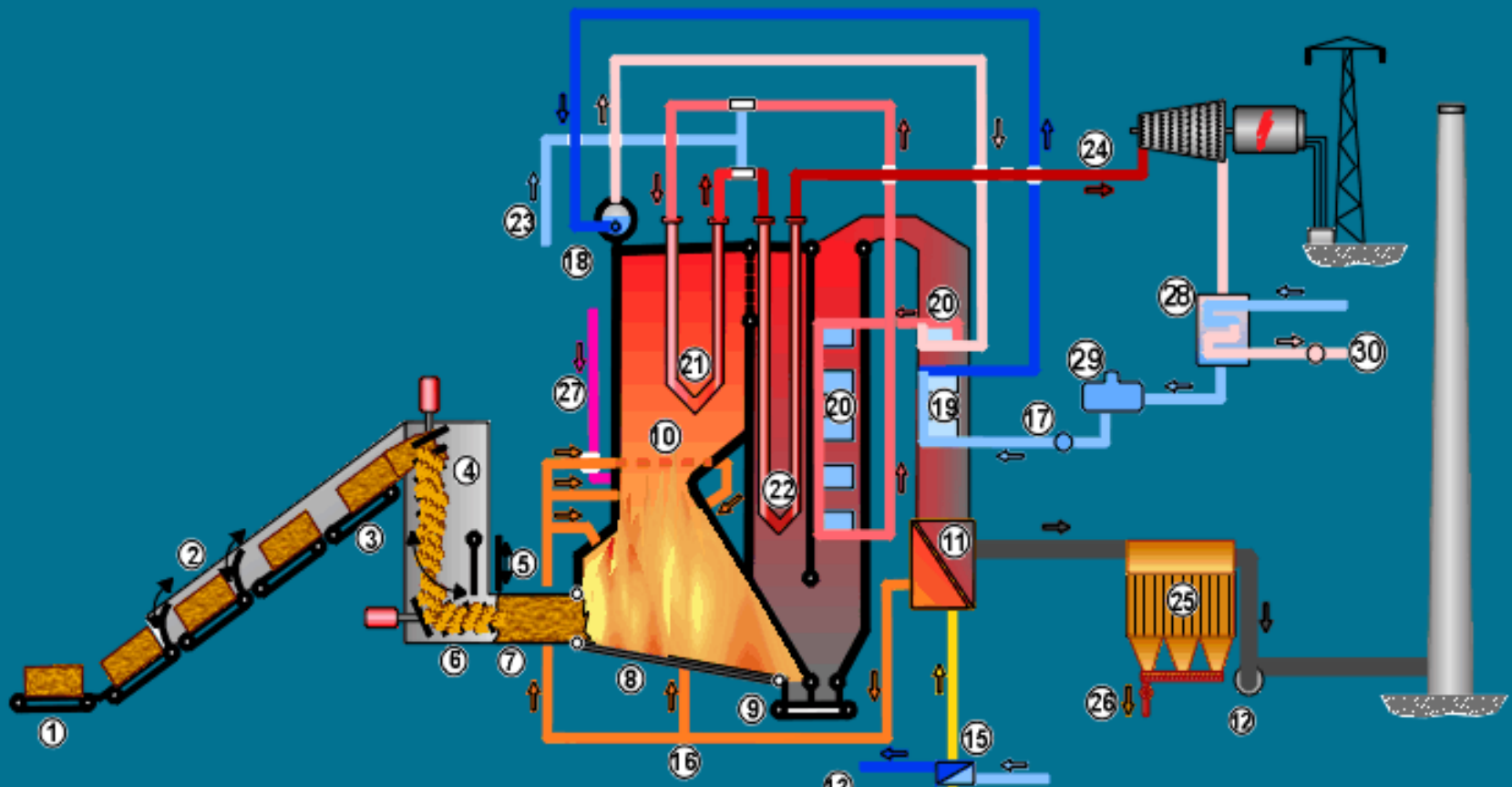
Preparing for New Planting

Worldwide Trend to Cellulosic Biofuels

- BP (formerly British Petroleum) announced plans to build a cellulosic ethanol plant in Florida using grass as feedstock
- Toyota says that its new hybrid vehicles can be even greener using cellulosic biofuels
- Obama administration calling for national low-carbon fuel standard
- State of California pursuing legislation to promote low-carbon biofuels made from switchgrass and other nonfood plants

Straw fired boiler



30 District heating
29 Feedwater tank
28 Condenser
27 Natural gas
26 Ash handling
25 Fabric filter
24 High pressure steam to turbine
23 Water for atemperators
22 Superheater 3
21 Superheater 2
20 Superheater 1
19 Economiser
18 Steam drum
17 Feedwater
16 Preheated combustion air
15 Air preheater
14 Combustion air intake
13 Forced draught fan
12 Induced draught fan
11 Air preheater
10 Combustion chamber
9 Slag conveyor
8 Vibrating grate
7 Water cooled duct
6 Stoker
5 Fire dampers
4 Scarifier
3 Dosing unit
2 Seal gates
1 Chain conveyor

Giant King Grass as Dedicated Energy Crop

- 30 MW grass-fired electricity generating plant needs 460 tonnes of biomass every day
- Requires 960 hectares of land (Giant King grass at 350 tonnes/hectare wet/175 mt/ha dry)
- Average household in Shanghai uses 1200 kWh/year or average power of 0.14 kW
  - Average household in US uses 11,200 kWh/year—1.3 kW
- 30 MW plant can supply 214,000 Chinese households
- 1 hectare (100m x 100m) of Giant King Grass can support average electricity needs of 220 households in China

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Clean Energy: Fuel Cells

- VIASPACE subsidiary Direct Methanol Fuel Cell Corporation produces disposable fuel cartridges for portable electronics powered by fuel cells.
- VIASPACE is cartridge provider to Samsung & other companies

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VIASPACE Business Strategy

- Renewable Energy: Cellulosic Low Carbon Biofuels
  - VIASPACE focused on growing and supplying the feedstock for producing biofuels
  - Expand land under cultivation
  - Initial sales as animal feed
    - Build up capacity and capability
    - Immediate opportunity for revenue
  - Target is feedstock for cellulosic biofuels
    - Set up strategic partnerships with biofuel producers
- Clean Energy: direct methanol fuel cell cartridges
  - Expand partnerships with major OEMS

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Financial Opportunities with VIASPACE

- Investment in future of alternative energy
  - Purchase stock in open-market transaction
  - Direct investment in the company to receive stock
  - 2008 VIASPACE annual report on Form 10K available at http://www.viaspace.com/sec filings.php
- Business partnerships
  - Grass cultivation in other regions or countries
  - Grass supply contract for biofuels or animal feed

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GIANT KING GRASS FOR FISH FOOD

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