Creating drop-in fuel value chains

February 2013
Safe Harbor Summary

This presentation includes forward-looking statements that are subject to many risks and uncertainties. These forward-looking statements, such as statements about Amyris’s anticipated products, production roadmap and construction of production facilities, short-term and long-term growth strategies, commercialization expectations, production volumes and costs and associated product launch expectations, and expectations for R&D and commercial relationships, can sometimes be identified by use of terms such as “intend,” “expect,” “plan,” “estimate,” “future,” “strive,” and similar words. These statements are based on management’s current expectations and actual results and future events may differ materially due to risks and uncertainties, including those detailed in the company’s recent SEC filings, available on the SEC’s website at www.sec.gov and the “Risk Factors” section of Amyris’s quarterly report on Form 10-Q filed with the SEC on November 9, 2012. Amyris disclaims any obligation to update information contained in these forward-looking statements whether as a result of new information, future events, or otherwise. Please refer to the Amyris SEC filings for detailed discussion of the relevant risks and uncertainties.
Agenda

Amyris Overview

From Sugars to Fuels

Feedstock and Scale-up

Value Proposition and Market Focus
Amyris: Sustainable Fuels and Chemicals

Emeryville-Ca

• Founded in 2003 by post-doctoral fellows from the University of California, Berkeley
• Headquartered in San Francisco Bay area
• Over 400 full-time employees, of which one-third are PhDs
• Amyris trades on the NASDAQ exchange under the symbol AMRS

Campinas-SP

• Founded in 2008
• Scale up and process development
• Manage Construction and Operations, Brazil Chemical Finishing, Integrated Logistics
• Access Customers in Brazil and Globally
• Amyris is Brazilian! (Impact, Credibility, Relationships)
Artemisinin Project – Our First Success

• Malaria is a preventable disease that claims the lives of nearly 1 million people every year, mostly children under the age of five in Africa.

• Amyris developed technology to convert plant-sugars into a semi-synthetic version of artemisinin, a highly-effective anti-malarial therapeutic, thanks to a grant from the Bill & Melinda Gates Foundation.

• In 2008, Amyris licensed its artemisinic acid-producing yeast strains to Sanofi-Aventis on a royalty free basis. Currently, Sanofi is producing 70 million doses of artemisinin using Amyris’s technology.

• Amyris technology will alleviate drug manufacturers’ dependency on erratic supply of plant-derived artemisinin and reduce costs to malaria patients.

• This non-profit project is at the core of Amyris’s values and culture, born from a passion to make a positive impact in the world through science.
High-Value Products via Fermentation

FARNESENE (C15)

Various (C10)
Isoprene (C5)
Muconic Acid (C6)

Fuels
Lubricants
Home & Personal Care
Polymers & Plastic Additives
Flavors & Fragrances
Cosmetics
## Value Creation with Diversified Product Slate

<table>
<thead>
<tr>
<th>Products</th>
<th>Customers &amp; Partners</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Fuels</strong></td>
<td>Diesel Jet</td>
</tr>
<tr>
<td>![Fuels Image]</td>
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<td>![Azul]</td>
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<tr>
<td><strong>Lubricants</strong></td>
<td>Base Oils</td>
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<td>![Lubricants Image]</td>
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<tr>
<td><strong>Home &amp; Personal Care</strong></td>
<td>Surfactants</td>
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<td>![Home &amp; Personal Care Image]</td>
<td>![P&amp;G]</td>
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<td>![amtrao7c]</td>
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<tr>
<td><strong>Polymers &amp; Plastic Additives</strong></td>
<td>Oxygen Scavengers</td>
</tr>
<tr>
<td>![Polymers &amp; Plastic Additives Image]</td>
<td>![MG]</td>
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<td>![amtrao7c]</td>
</tr>
<tr>
<td><strong>Flavors &amp; Fragrances</strong></td>
<td>Ingredient #1</td>
</tr>
<tr>
<td>![Flavors &amp; Fragrances Image]</td>
<td>![Firmenich]</td>
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<td>![Givaudan]</td>
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<td>![amtrao7c]</td>
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<tr>
<td><strong>Cosmetics</strong></td>
<td>Squalane</td>
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<td>![Cosmetics Image]</td>
<td>![Soliance]</td>
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<td></td>
<td>![Nikkol]</td>
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<td></td>
<td>![Centerchem, Inc.]</td>
</tr>
</tbody>
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Strategy Aligned with Product Value & Volume

High Value

- Home & Personal Care
- Polymers & Plastic Additives
- Flavors & Fragrances
- Cosmetics

High Volume

- Fuels & Other Products
- Base Oils for Lubricants
Amyris-Total: Leveraging Expertise to develop, produce and commercialize renewable fuels

- Leading global oil & gas company
- Technical knowledge of the target drop-in molecules
- Proven expertise in industrialization:
  - Synergies with existing plants and optimized
  - Refining technologies for the Downstream Processing steps
- Industry-leading renewable fuel development expertise and capabilities
- Technology for converting plant sugars into hydrocarbon fuels and chemicals
- Access to low cost, sustainable feedstock (e.g. Brazilian sugarcane)
FARNESENE ($C_{15}$)  

YEAST CELL  

SUGARS  

MUCONIC ACID ($C_6$)  

ISOPRENE ($C_5$)  

VARIous ($C_{10}$)  

ANTI-MALARIAL DRUG
Diesel de Cana from cellulosic feedstock

1. Raw Biomass
2. Wash Water
3. Solids removal
4. Juice Concentration
5. STEAM DUTY
6. Lignin Solids
7. Juice or Syrup
8. Fermentation
9. Purification L/S & L/L Centrifuge
10. Bio-Fene Product
11. WWT

Source: National Advanced Biofuels Consortium
Biofene® separates from yeast cells naturally

1. Juice Evaporation
2. Fermentation
3. Separations
4. Purification

Sugar Cane Juice

Aqueous

Hydrocarbon

Vinasse Disposal

Amyris Farnesene
Plant Sugar Sources

- Any fermentable sugar can be converted into renewable hydrocarbons
- Feedstock agnostic, and utilized already sugarcane, molasses, sugar beet, sweet sorghum, and corn dextrose.
- Initially focused on sugarcane as non-GMO, sustainable and lowest carbon footprint feedstock, and has established certification under Bonsucro®
- Amyris is leading the fermentation of cellulosic sugars process strategy for a program with the Department of Energy’s NABC
Sugarcane Yields

1 hectare yields
85 tons cane
  ⅓ juice
  ⅓ bagasse
  ⅓ straw

1 ton yields
85 liters of ethanol or
45 liters of Biofene®

Source: UNICA; Bagasse is 50% humidity 276 kg/t; Straw is 15% humidity 165 kg/t;
NOTE: Amyris Biofene at target yield production
Data on Sugarcane in Brazil

Sugarcane occupies 2.5% of Brazil’s arable land to produce over 600 million tons per crop year

<table>
<thead>
<tr>
<th>Millions of Hectares (2012)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brazil Land</td>
</tr>
<tr>
<td>Arable Land</td>
</tr>
<tr>
<td>Crop Land</td>
</tr>
<tr>
<td>Soybean</td>
</tr>
<tr>
<td>Corn</td>
</tr>
<tr>
<td><strong>Sugarcane</strong></td>
</tr>
<tr>
<td>Cattle Pasture</td>
</tr>
</tbody>
</table>

1 Hectare = 2.5 acres

Source: UNICA, CONAB, IBGE
Amyris Plant in Brotas-SP Operating to Plan
Agenda

- Amyris Overview
- From Sugars to Fuels
- Feedstock and Scale-up
- Value Proposition and Market Focus
Amyris Fuels Value Proposition

**Lowest cost of ownership** in the medium term
- Zero impact in infrastructure (fuel distribution and engines)
- Same fuel efficiency as fossil Diesel
- Lowest renewable fuel cost once at target scale and industrial efficiency
- Potential to become competitive with fossil fuel once cellulosic feedstock technology is implemented

**Most sustainable Diesel and Jet fuel alternative**
- One of the lowest GHG emission among all renewable diesel options
- Meaningful reduction in local emissions (PM & NOx)
- Best land use efficiency among current biofuel options
- Drop-in up to 100%
Vegetable oil fluctuations have high correlation with crude oil given the dependence of biodiesel producers on these feedstock (20% world’s veg oil production goes for bioenergy!)

Sugar based feedstock on the other hand follow different market trends … 

… hence sugar-derived biofuels are an option for avoiding increasing crude oil prices!

Source: James Fry, LMC Retreat, Aug 12
Future potential based on main cost drivers

<table>
<thead>
<tr>
<th>Feedstock</th>
<th>Scale</th>
<th>Technology</th>
</tr>
</thead>
<tbody>
<tr>
<td>Vegetable-derived</td>
<td>following crude oil price trend</td>
<td>technology already reached mature stage</td>
</tr>
<tr>
<td>Renewable Diesel</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Amyris Sugarcane Diesel</td>
<td>cellulosic technology expected to disrupt sugar offer</td>
<td>first commercial plant launched in 2012, scale</td>
</tr>
<tr>
<td></td>
<td></td>
<td>increasing in the following years</td>
</tr>
<tr>
<td></td>
<td></td>
<td>productivity gains expected on synthetic</td>
</tr>
<tr>
<td></td>
<td></td>
<td>biology and process</td>
</tr>
</tbody>
</table>
Focus in Metropolitan Busses

Evolution of Diesel demand on transportation sector

Source: MMA – 1º Inventario Nacional de Emissões Atmosféricas por Veículos Rodoviários - 2011

Main drivers
* reduction on pollutant emissions
* GHG emissions reduction
* sustainability
* reduction of import dependence

niche markets focusing on replacement of fossil diesel
( > 5 million m3 / year)

Gráfico 21: Evolução do consumo nacional de diesel no transporte rodoviário por categoria de veículos

Trucks > 15 t

Metropolitan Buses
Brazilian Regulatory Overview

biofuels in major metropolitan areas

Federal climate change policy

Lei Federal 12.187/2009
“compromisso voluntário de redução das emissões dos gases de efeito estufa projetadas para 2020 em 36,1 a 38,9%”

State level policies for climate change

Existing city legislation with targets to reduce the use of fossil fuels in public transportation

Approved Law
Law in discussion
Law in discussion - Ongoing projects
Monetizing Beneficial Performance Characteristics of Renewable Diesel

- Regulatory approval for fuels is required in each geography
- OEM approval is required to drive demand for the product
- Policy forces help aid demand through incentives and/or mandates

*today*

Sao Paulo mandates 100% renewable fuel use in city buses by 2018

- Up to 80% of the demand available for Diesel de Cana and other advanced renewable diesel
- Biodiesel approved for use only up to 30%, by bus manufacturers
Production centers and consumers are close together!

Legend
- Amazon and Pantanal
- Existing cane harvesting
- Potential expansion
- Installed refineries
- Diesel consumption (million liters / year)

<table>
<thead>
<tr>
<th>Location</th>
<th>Diesel Consumption (million liters / year)</th>
</tr>
</thead>
<tbody>
<tr>
<td>São Paulo</td>
<td>400</td>
</tr>
<tr>
<td>Rio de Janeiro</td>
<td>300</td>
</tr>
<tr>
<td>Belo Horizonte</td>
<td>100</td>
</tr>
<tr>
<td>Recife</td>
<td>100</td>
</tr>
<tr>
<td>Salvador</td>
<td>100</td>
</tr>
<tr>
<td>Brasilia</td>
<td>100</td>
</tr>
<tr>
<td>Curitiba</td>
<td>100</td>
</tr>
<tr>
<td>Campinas</td>
<td>50</td>
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<tr>
<td>Guarulhos</td>
<td>50</td>
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<tr>
<td>Porto Alegre</td>
<td>50</td>
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<td>Cuiaba</td>
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<td>Goiania</td>
<td>50</td>
</tr>
<tr>
<td>Manaus</td>
<td>50</td>
</tr>
<tr>
<td>Belem</td>
<td>50</td>
</tr>
<tr>
<td>São Luís</td>
<td>50</td>
</tr>
<tr>
<td>Fortaleza</td>
<td>50</td>
</tr>
<tr>
<td>Natal</td>
<td>50</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>1700</strong></td>
</tr>
</tbody>
</table>

Source: IBGE, Embrapa, Unicamp, e ANP.
**Sugar Cane demand expansion in Brazil**

<table>
<thead>
<tr>
<th>Year</th>
<th>Sugarcane for Diesel de Can</th>
<th>Sugarcane for Sugar</th>
<th>Sugarcane for Ethanol</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>2011</td>
<td>343</td>
<td>283</td>
<td>626</td>
<td>1252</td>
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<tr>
<td>2012</td>
<td>386</td>
<td>273</td>
<td>659</td>
<td>1318</td>
</tr>
<tr>
<td>2013</td>
<td>433</td>
<td>278</td>
<td>711</td>
<td>1422</td>
</tr>
<tr>
<td>2014</td>
<td>493</td>
<td>282</td>
<td>775</td>
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</tr>
<tr>
<td>2015</td>
<td>549</td>
<td>287</td>
<td>836</td>
<td>1622</td>
</tr>
<tr>
<td>2016</td>
<td>601</td>
<td>291</td>
<td>892</td>
<td>1684</td>
</tr>
<tr>
<td>2017</td>
<td>655</td>
<td>296</td>
<td>951</td>
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<td>2018</td>
<td>706</td>
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<td>1007</td>
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<td>2019</td>
<td>762</td>
<td>306</td>
<td>1068</td>
<td>2136</td>
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<tr>
<td>2020</td>
<td>815</td>
<td>311</td>
<td>1126</td>
<td>2242</td>
</tr>
</tbody>
</table>

Equivalent to 1.7 Billion liters to fuel major metropolitan fleets demand.

Source: EPE, MAPA and Amyris.
Sugarcane: Land Use Efficiency

Soybean Biodiesel
468 Liters/year
900 ➔ 1,000 km

Ethanol + Additive
6,460 Liters/year
6,936 ➔ 9,250 km

Amyris Diesel
4.180 liters/year
7,600 ➔ 9,500 km

WITH CELLULOSIC TECHNOLOGY FOR SUGARCANE BIOMASS...

Source: UNICAMP, Embrapa, SPTRANS, Mercedes-Benz
NOTE: Amyris Biofene at target yield production
GHG emissions performance

Amyris Fuels reduce GHG emissions in up to 82%
Mercedes-Benz

- Significant Reduction on Opacity and local emissions.

**Particulate Matter emission**

**Opacity**

**NOx emission**
Reliability proven through field experience

over

17 million

kilometers covered

with blends of

Diesel de Cana
Warranty Statements from Engine OEMs
## Roadmap: Rumo a 2016

|------|------|------|------|---------------------|

- **“Rumo a 2016” Fleet Test 2011/12**
- **Copa do Mundo com Diesel de Cana**
- **Olympic Games Diesel de Cana**
- **“BRT + Verde”**

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Aspectos macroeconômicos:

- Crescimento PIB (Brasil) (2011): ~3,7%
- Crescimento vendas QAV (2011): ~11,02%
- Importações representam ~33% da demanda total de QAV

Fonte: elaborado a partir de dados da ANP, SINDCOM

Mercado Brasileiro de Querosene de Aviação
Main Jet Fuel Producers and Consumers

- Producers are localized near the sugarcane plantations and sugarcane potential areas
- Airports proximity to the main QAV producers centers
- 6 of 7 main airports are in the Brazilian southeast region

### Major Airports and Aircraft Movements

<table>
<thead>
<tr>
<th>Major Airports</th>
<th>Aircraft Movements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Aeroporto Internacional de Garulhos</td>
<td>250.493</td>
</tr>
<tr>
<td>Aeroporto de Congonhas</td>
<td>204.943</td>
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<tr>
<td>Aeroporto Internacional de Brasilia</td>
<td>176.326</td>
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<tr>
<td>Aeroporto Santos Dumont</td>
<td>126.515</td>
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<tr>
<td>Aeroporto Campo de Marte</td>
<td>123.009</td>
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<tr>
<td>Aeroporto Internacional de Rio de Janeiro</td>
<td>122.945</td>
</tr>
<tr>
<td>Aeroporto Internacional de Salvador</td>
<td>114.496</td>
</tr>
</tbody>
</table>

Source: elaborated based on data from INFRAERO, Embrapa, Unicamp, ANP, ANAC
Eficiência no Uso da Terra comparada a outras Matérias-primas

SOJA
- 420 liters/year
- 134 km

CAMELINA
- 2.839 liters/year
- 927 km

JATROPHA
- Pinhão Manso
- 3.246 liters/year
- 1060 km

AMYRIS
- 4.180 liters/year
- 1365 km

Fonte: Embrapa, UNICA, Jatropha Alliance, Wiley Online Library
AMYRIS BIOJET FUEL SUCCESSFULLY POWERED AN EMBRAER JET OPERATED BY AZUL AIRLINES

- Partnership program with Azul Airlines, Embraer, GE and Amyris
- Fuel testing by AFRL/SwRI (FFP), GE (ground engine), Parker Seals (seals) and Embraer (fuel components and instrumented flight)
- Demoflight from VCP to SDU during Rio+20 (June 2012)
## Amyris-Total Jet Fuel Program

### How do we get there?

<table>
<thead>
<tr>
<th>Pathway to Market</th>
<th>How do we get there?</th>
<th>Vision for the future</th>
</tr>
</thead>
<tbody>
<tr>
<td>Certificate</td>
<td></td>
<td>Pilot scale</td>
</tr>
<tr>
<td>Commercial</td>
<td>QAV+Verde development</td>
<td>DSHC- QAV+Verde (low % blend )</td>
</tr>
<tr>
<td></td>
<td>Demo flight 50% blend</td>
<td>intro of Higher blends to the market</td>
</tr>
</tbody>
</table>

- **Pathway to Market**:
  - Technology
  - Certification
  - Commercial

- **How do we get there?**
  - Pilot scale
  - Commercial scale
  - Dedicated production plant
  - QAV+Verde development
  - DSHC- QAV+Verde (low % blend )
  - Demo flight 50% blend
  - Niche commercial project with QAV+Verde (low % Blend)

- **Vision for the future**:
  - Amyris-Total Jet Fuel marketed in blends up to 50% with fossil Jet Fuel
Summary

✓ Drop-in Fuels with OEMs and Customer acceptance
✓ Environmental benefits, local and global
✓ Land use efficiency
✓ Can be sustainably produced at large scale
✓ Proven potential for scale up
✓ Partners committed to scale volume products for long term