



Australian Government


Department of Resources, Energy and Tourism

# ENHANCING AUSTRALIA'S ECONOMIC PROSPERITY

## Enhancing Australia's Economic Prosperity Through Bioenergy



# Overview

- Australia and New Zealand
  - Rationale for Government Involvement
    - Australian Government Initiatives
    - Alternative Fuels Strategy
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# The Real Map of the World



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# Some Differences



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# 2007 Renewable Energy Production (MW)



- Hydro: 7,814
- Wind: 1,249
- Solar: 71

# Bioenergy

- Biogas 218
- Wood waste: 73
- Other Renewables: 137
  
- Bagasse: 380





# The Everpresent grass

- Industry Structure
  - Age of assets
  - Physical distribution
  - Cost of Investment
  - Other uses
    - Co-generation less of a risk than ethanol.
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# The role of Government

- Is there a Market Failure?
  - Why assist this sector?
    - national benefit
    - strategically important
    - public perceptions
  - What is the best form of assistance?
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# Is there a market failure?

- Real market failure?
  - Structural
  - Barriers to Entry
  - Disbursement of benefits
  - Failure of capital markets
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# Government Assistance Measures

- Lower excise/implicit subsidy (excise)
  - Targets/Mandates (RET, 350 ML target, mandates?)
  - Research assistance (Gen 2 Program)
  - Commercialisation (Biofuels Capital Grants Program)
  - Venture capital (Australian Centre for Renewable Energy)
  - Facilitation (Alternative Fuels Strategy)
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# The Commercial World

- But the price must be right!

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# Excise

- Biofuels currently pay excise
  - Fully refunded for domestically produced ethanol
  - Imported biodiesel also refunded.
  - Excise phased in from 1 December 2011
  - Five year phase in for alternative fuels but 10 years for ethanol
  - Energy banded
  - 50% discount for alternative fuels
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# Targets and Mandates

- Renewable Energy Target
- 350 ML Target
- NSW Ethanol mandates



# Research Assistance

## **Second Generation Biofuels Research and Development Program (Gen 2)**

### **Six successful projects**

#### **Two Algae projects:**

- University of Melbourne (with Biofuels Pty Ltd) - \$1.2m
- Algal Fuels Consortium (SARDI, CSIRO etc) - \$2.72m

#### **Two Sugar related projects:**

- Bureau of Sugar Experiment Stations (CSIRO) - 1.33m
- Microbiogen Pty Ltd -\$2.54m

#### **One Pyrolysis project:**

- Curtin University (Spitfire Oil, CSIRO etc) - \$2.5m

#### **One lignocellulosic (biomass) to bio-oil (Bio-crude oil) Project**

- Licella Pty Ltd - \$2.29m

# Commercialisation/Subsidy?

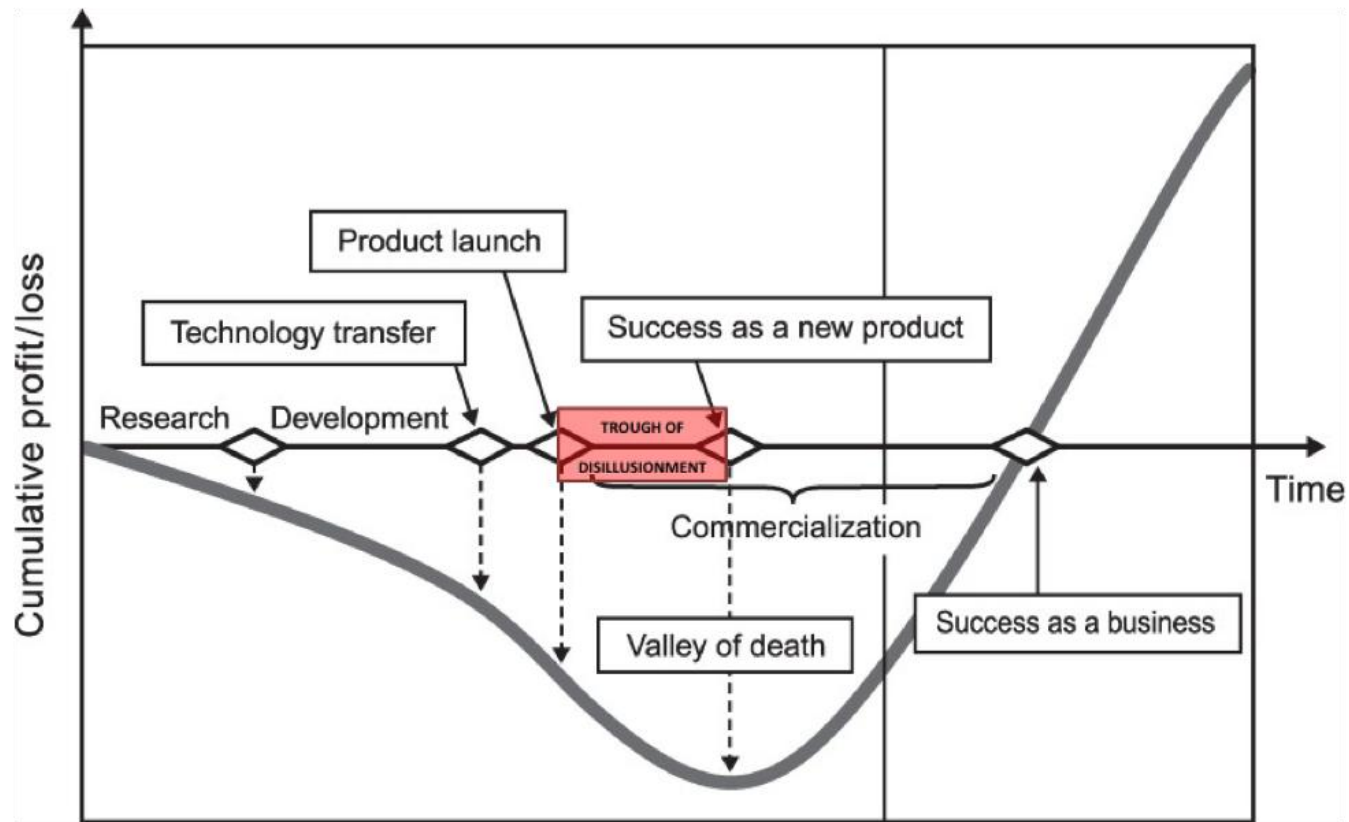
- Biofuels Capital Grants Program;  
\$24.57 Million
  - Started July 2003
  - 7 Projects:
    - 2 on time and finished – both expansions
    - 3 terminated
    - 2 finished but not fully producing
- 14.3 million Ethanol Distribution Program.



# Commercialisation and Venture Capital

- Funding a big Issue in Australia
- GFC still having an effect
- Gen 2 Program

# Crossing the Valley of Death



Source: [Osawa and Miyazaki](#) 2006

# ACRE Programs



- Renewable Energy Capital Fund (\$100m)
- Emerging Renewables Program (\$40m)
- Gen 2 Program (\$12.6 m)
- Australian Biofuels Research Institute (\$20m)

# The New Zealand Bioenergy Strategy and Australia: Some Common Issues

- Difficulties in moving a mature sector into new areas
- Lack of infrastructure for Biofuels
- Lack of capital
- Current poor economics
- Lack of local scientists
- Access to feedstock
- Regulatory compliance and cost project risk





# Market Failure Revisited

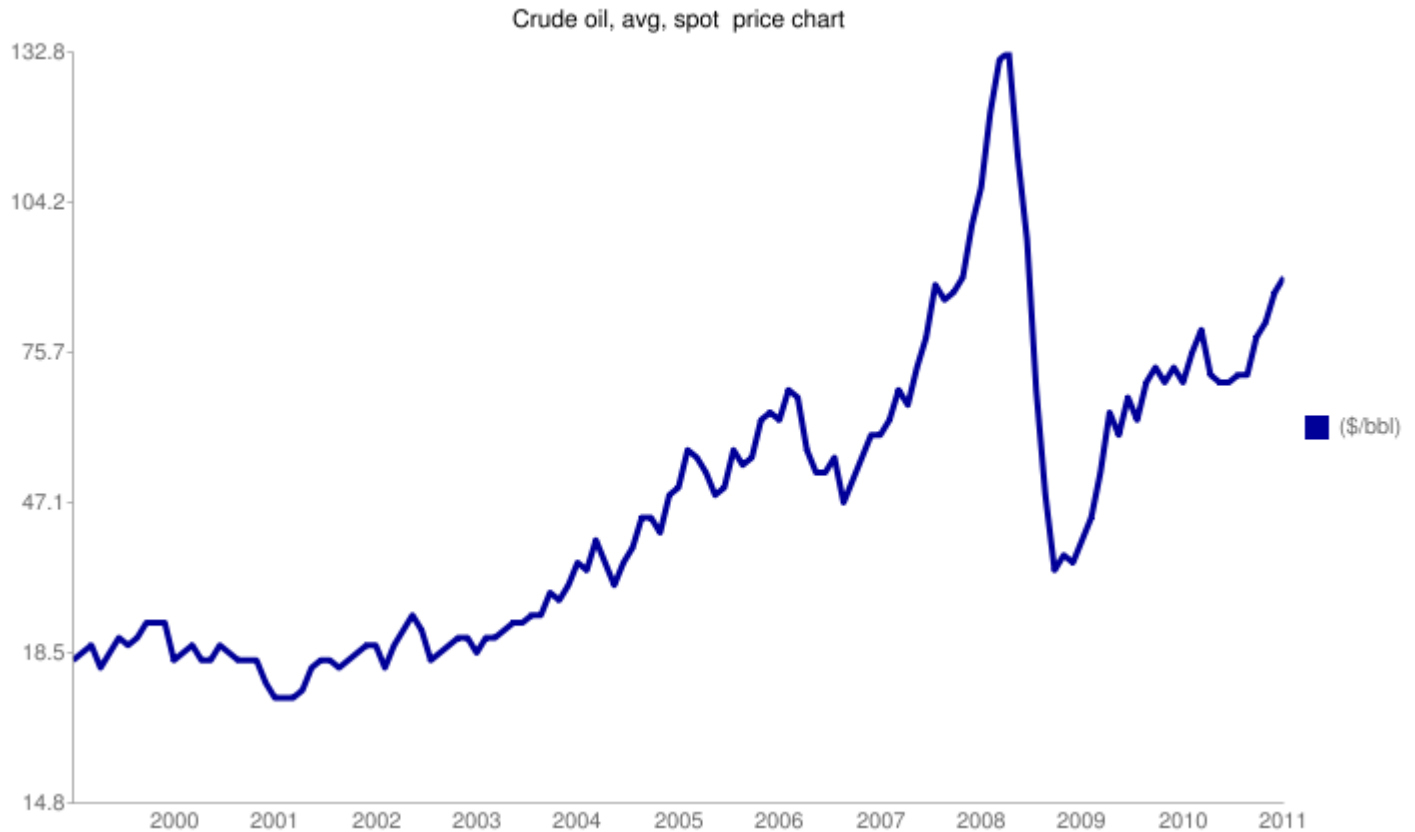
- Real market failure?
  - Structural
  - Barriers to Entry
  - Disbursement of benefits
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# Alternative Fuels Strategy



- Improving Australia's Energy Security
  - All alternative fuels (not just biofuels)  
Biofuels, LPG, CNG, LNG, CTL, GTL (even BTL and STL)
  - Limited examination of electric vehicle issues
  - Exclusions
    - excise policy
    - vehicle emissions
    - Carbon pricing
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# Oil Price Movements







# Why fuels are different

- Fuel underpins our economy
  - Change will take a long time
    - supply challenges
    - technology challenges
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# AFS – Terms of Reference (1)

- Activity One: Background work
  - cost structures
  - industry structures
  - regulatory frameworks
  - Infrastructure requirements
  - research and technology activities
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# AFS – Terms of Reference (2)

## Activity Two: Recommendations

- must address market failures
- industry led solutions
- facilitate effective operation of the fuels market
- easily understood solutions
- differentiates between different assistance

research and development  
production and investment  
distribution and consumption

# We want to be all inclusive



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# Consultation

- AFSIG
- Commonwealth IDC
- State/Territory Reference Group





# Alternative Fuels Strategic Issues Group

- Fuel Suppliers  
Includes the Biofuels Association
  - Technology Providers
  - Fuel Users
  - Researchers
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# Timetable

- First draft being developed  
Absorbing other work and studies
  - Discussion with AFSIG, Other Departments,  
States
  - Fuel Forums
  - Completion by July
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# In Summary

- Plethora
  - Diabolical
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# Beware Unwelcome Visitors

