Rendered Animal Fat “Tallow”
A Waste for Incineration or
A Sustainable Bio-Fuel?

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Executive Committee Workshop

Presentation Overview
Introduction to EFPRA & Rendering
Green Fuels Innovation
The “Entrapment”
The “Solutions”
Introduction to EFPRA…
European Fat Processors
& Renderers Association

IEA Workshop Dublin October 12th 2005

16 Countries in EU:
- AUSTRIA
- BELGIUM
- DENMARK
- FINLAND
- FRANCE
- GERMANY
- IRELAND
- ITALY
- NETHERLANDS
- PORTUGAL
- SPAIN
- SWEDEN
- UNITED-KINGDOM
- LITUANIA
- SLOVAKIA

20 Members representing
18 countries

2 Countries outside EU:
- NORWAY
- SWITZERLAND
Generic Animal By-Product “Rendering” Process

Animal By-Products

Size Reduction

Heat

(Solid) Separate (Liquid)

Processed Animal Protein [PAP] Rendered Fat “Tallow”

IEA Workshop Dublin October 12th 2005

EU 16: Outlets for animal fats
Evolution between 2003 & 2004 (x 1000 Metric Tonnes)

Total 2003: 2 600

Pet food 7%

Milk replacers 3%

Storage 3%

Others 1%

Energetic substitute 24%

Feed 25%

Soap & oleo 31%

Total 2004: 2 488

Pet food 7%

Milk replacers 3%

Storage 5%

Others 2%

Energetic substitute 28%

Feed 26%

Soap & oleo 28%
Tallow is a Product of the Rendering Industry

Tallow is highly Energetic:
~ 95% Calorific value of Fuel Oil
May be used with minor modifications
Tallow is a “liquid” > 50°C

Only 50% of Production is required to power a process plant with Steam

Tallow is a Product of the Rendering Industry

Tallow used a fuel directly in:
Steam Raising Boilers
Thermal oxidisers
Power Stations

Tallow used a fuel – indirectly – In….Biodiesel FAME
Use of Tallow Fuel in Steam raising Boiler

Tallow is a Product of the Rendering Industry

2004 Tallow production In EU
  = 2.6 million Metric tonnes

2004 Tallow used as a Fuel
  = ~700,000 Metric tonnes
Tallow is a Product of the Rendering Industry

Tallow used a fuel in UK since 1996
Tallow used a fuel in EU since 2000

Tallow is recognised as “Renewable”
Tallow is recognised as “Biomass”
Tallow is recognised as “C - Neutral”
Tallow is recognised as “SAFE” {EFSA}

Green Fuel Innovation

700,000 MT of Tallow Fuel
Replacement with HFO

= ~2 million MT CO₂ into Atmosphere
= 2,000 Wind Turbines to Compensate
Why is there a Problem ..with the continued use of Tallow as a fuel?

“Products” of the Rendering Process

- Processed Animal Protein
  - Pet Food
  - Animal Feed
  - PRODUCT
  - WASTE?

- Rendered Fat “Tallow”
  - Fuel
  - Oleochemical
  - Animal feed
  - Fuel
  - PRODUCT
  - WASTE?
Animal By-Products Regulation [ABPR]

ABPR Articles* say “dispose as a Waste”.

*NB; It does not say it is a Waste*

Leads to Waste Incineration Directive {WID}

* All categories & all species [inc Poultry & Fish]

Use of MBM Fuel in Fluid Bed Combustor
**Waste Incineration Directive {WID}**

Combustion in Boiler* = Co-incineration

Co-incineration must comply with **WID**

*Also applies to Thermal Oxidisers* and to Power stations

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**Waste Incineration Directive: WID**

NB: **WID is part of IPPC regime**

WID lays down conditions:

**Combustion:** Temperature & Time

**Emissions:** Dust, SoX, NoX, HCl

**Dateline:** 28th December 2005

*NB; Fossil Fuels: WID Does NOT apply*
Result:

[Unintended Consequence]

Tallow Combustion
“Trapped” between
ABPR and WID…

Result:

[Unintended Consequence]

Additional Costs

- Capital investment
- Ongoing Monitoring

Unnecessary: No Environmental Benefits
**Result:**  
*Unintended Consequence*  
Return to use of Fossil Fuels  
Increased CO$_2$, Dust & Acid Gases  
EU Climate Change Agreements………  
are in Jeopardy

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**Potential Solutions ?**

**Short Term**

- Tallow OK to use as Fuel in Steam Boilers  
  confirmed by ABPR - via EFSA opinion but  
  **MUST comply with WID ( some M S only !!)**
- Tallow use as Bio-diesel confirmed by ABPR  
  - via EFSA opinion - **NO WID Issues**
ARGENT ENERGY LIMITED
Bio-diesel from Rendered Animal Fats
Researched and developed in the EU

Potential Solutions?

Short Term
Use all Tallow in either or both…
WID Compliant Power Stations or in Bio-diesel

Problems
No WID Compliant (suitable) Power Stations
No Capacity for Tallow Bio-diesel….yet!
Potential Solutions?

Short Term

- **DG Sanco ABPR Amendment (Sanco1552)**
  - Confirms safe operating conditions
- **DG Environment has launched**
  - “Study” to investigate Tallow: WID issues
  - May lead to “Status Quo” Memorandum ???

Tallow use as fuel should be defined more adequately by the ABPR * [Article 33(2)]

EU Foods Standards Authority (EFSA)
Biohazard panel published Opinion…
All [categories] Tallow combustion is Safe

*Animal and Human Health …NOT Environment*
Potential Solutions?

Tallow as a fuel & relationship with WID
Study Launched by DG Envi

Information from EFPRA, Member states
Independent- Report mid 2006

May lead to exclusion from WID or changes*
*Not expected before mid – end 2007

Potential Solutions?

Define Tallow as a “product” NOT a Waste
Complex area...On case by case basis...
Via Waste Framework Directive (WFD)...
Some aspects under consideration
ECJ may be have to be final arbiter
Prospects for 2006?

**Guessing what might happen**

- Up to 20 member States “Business as usual”
- Up to 5 Member states will either:
  - Force WID compliance or
  - Force Operators to return to HFO

*Unless there is some sort of solution……*

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Potential Solutions?

**Summary: Long Term**

- DG Envi “study” leads to changes in WID
- Tallow use as fuel defined by the ABPR
- WFD amended to recognise “By-Products”
- Integrated Approach --- DG, s Sanco, Envi, Competition, Innovation, TREN.  **HELP !!**
Thank you!

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