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EXAMINING THE POTENTIAL FOR BIO-FUELS - AN EXISTING CASE STUDY

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BioDieNet

PU-BENEFS



PRIMARY ENERGY SOURCES

- (1) OIL
- (2) GAS
- (3) NUCLEAR
- (4) RENEWABLE
- (5) BIO-FUELS



HOW IS THE POTENTIAL FOR BIO-ENERGY TO BE FULFILLED?

- Key Opportunity
- Use of Energy Services Companies
- Potential for third party finance

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ISSUES TO BE ADDRESSED

DIFFERENT FORMS OF ENERGY

- ◆ BIO-MASS
- ◆ BIO-GAS
- ◆ BIO-DIESEL
- ◆ BIO-ETHANOL



DIFFERENT USES

- HEAT
- ELECTRICITY
- TRANSPORT
- DOMESTIC



TRANSPORT DIRECTIVES

- **5.75% bio-fuels by 2010**
- **Energy taxation**
- **Fuel tax differential**
- **Fuel supplier obligations**
- **Other fiscal incentives – parking, tolls**
- **Information campaigns**



OTHER ISSUES TO CONSIDER

- **Distribution networks**
- **Capacity building (suppliers)**
- **Capacity building (users)**
- **Financing instruments**



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THAMES ENERGY LTD

An ENERGY SERVICES COMPANY

- Established by LB of Waltham Forest in 1988
- Became private in 1995
- Employs 63 staff
- 4 office locations (London, Essex, Manchester, Anglesey)

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THAMES ENERGY LTD

KEY ESCO OPERATING PARAMETERS:

- Feasibility Studies for RES Projects
- Combined Heat & Power Projects
- Project Design and Management
- Energy Monitoring and Targeting
- Contract Energy Management (CEM)
- Maintenance Management
- Insulation and Energy Efficiency Advice

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THAMES ENERGY LTD

CURRENTLY INVOLVED with Bio-fuels Projects

- **Bio-NETT**
- **BioDieNet**
- **PU-BENEFS**

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Bio-NETT

To develop a supportive framework for encouraging the growth of local markets; for bio-fuels as a low carbon fuel for Local Authorities and other transport fleets across the EU.

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Bio-DieNet is the promotion of localised bio-diesel production for transportation purposes, by means of the active involvement of Local Energy Agencies.

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This project is to develop a suitable management framework for assisting public bodies to implement and enhance the market of Energy Services by providing tools to meet the needs of and facilitate the work of ESCOs.



LINKING THE EU PROJECTS

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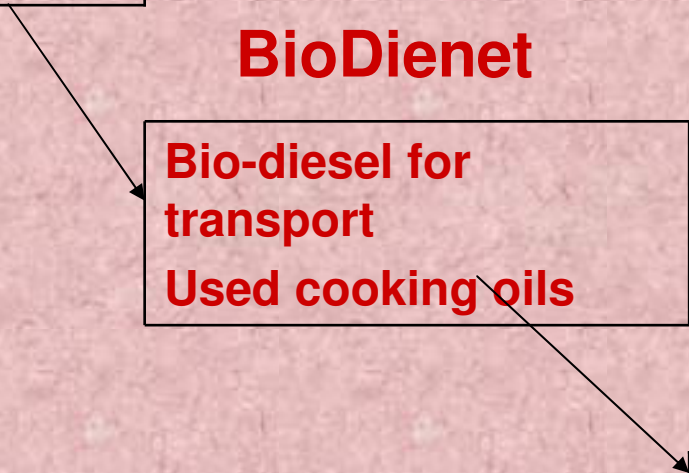
Capacity building networking

BioDienet

Bio-diesel for transport
Used cooking oils

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Overcome Technical Barriers
Realise Energy Efficiency Potential
Third Party Finance





INTENTIONS

Benefits of an ESCO:

- The ESCO undertakes
 - To lower the client's energy costs by implementing/installing/operating energy saving measures
 - AND
 - To assume the full risk for the commercial success of the cost cutting measures



PURPOSE

- Clear description of why the two parties are co-operating on this project.
- E.g. “The parties intend that the client is able to pay for the investment with savings accrued during the target period”

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PU-BENEFITS



...continued

- **It guarantees that its investments will be fully repaid by its share in the savings and therefore the client does not need to make an investment or raise funds.**
- **If the savings are not achieved the ESCO will pay the client compensation equal to the amount which would have been saved.**



FINANCING

- **Straight ESCO funding**
- **Client financing**
- **Joint financing**
- **Lease ownership**

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TYPES OF ESCO

- **ENERGY PERFORMANCE CONTRACTS**
 - TPF
 - DBFO
 - EXISTING
 - LEASING
- **CONTRACT ENERGY MANAGEMENT**
- **ENERGY SUPPLY ONLY**
- **MAINTENANCE ONLY**



FEATURES of AN EPC

- **ESCO – ENERGY EFFICIENCY STUDIES**
- **ESCO – FINANCES CONVERSION**
- **ESCO – OPERATES AND MAINTAINS**
- **ESCO – SUPPLY FUEL & DISTRIBUTION**
- **ESCO – ONSITE ENERGY MANAGEMENT**
- **ESCO – TRANSFER VEHICLE TO CLIENT**

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SAVINGS POTENTIAL AND TARGET SETTING





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BIO-NETT

Green Fuel For Tomorrows Energy

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Bio-Fuels

Climate Change



Developing Local Supply Network, Linking Bio-Fuel Producers With Users.

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