

Sustainable aviation fuel

Sustainable Aviation Fuel for the Environment (SAFE)

A 10% reduction [of CO₂] from 1990 levels by the year 2010 is the EC's target for greenhouse emissions and the main reason for the search for alternative energy sources.

With transport accounting for 27% of the EU's total energy use, and with an increase in emissions of 3% p/a, there is a need for alternative energy sources for transport. One area currently not targeted is that of the aviation industry where demand for air travel is currently outpacing the rate of technological development, resulting in continuing growth of emissions from aircraft. The aviation industry is therefore, actively seeking imaginative solutions to this issue and is keen to support initiatives such as investigating the possibility of using renewable sources of fuel. Before the subject will be taken seriously by an industry, which is naturally conservative, a detailed feasibility study must be performed taking safety and reliability as a priority.

Beacon Energy and Loughborough University have established an agenda for future research, and developed a network within the relevant research, certification, industrial and commercial sectors to resolve the many issues involved. This work is based on the knowledge that a high level of interest among end-users and the air industry exists and that, for the foreseeable future, such a fuel would be justifiable on environmental rather than economic grounds. A study of the life cycle of the fuel would have to demonstrate a clear overall environmental benefit.

Objectives

To assess the potential in economic, environmental, technological and social terms of using alternative renewable fuels in aero engines, with the objective of reducing the emission of greenhouse gases.

Methodology

The project assessed the issues affecting the widespread use of alternative aviation fuels. Key focus areas are logistical issues, chemical processes, environmental benefits and potential hazards of a new fuel, and an overview of economic and social factors associated with the development of a new industry

A core of partners representing the main industrial interest groups will be involved and act as an industry focus group. These members include British Airways, Rolls Royce, QinetiQ and CSL of MAFF.

Deliverables and timescale

- A network of research, certification, industrial and commercial partners from the relevant sectors.
- Interim and final reports addressing the issues and setting the agenda for further investigation

SAFE contacts and potential partners

See overleaf.

Flow charts

See overleaf.

For further details go to our website or ring us on 01509 610 033.

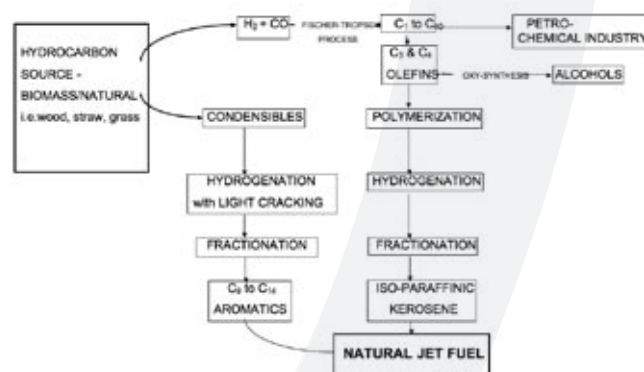


SAFE contacts and potential partners

- Dr. Ana Aranzabe
Tekniker
- Melvyn Askew, Head of Alternative Crops and Biotechnology Group
Central Science Laboratory – DEFRA
- Tanja Barth, Associate Professor
Department of Chemistry – University of Bergenta
- Colin Beesley, Environmental Strategy Manager
Rolls Royce
- Peter Billins
British Biogen
- Prof. Tony Bridgwater
Bio-Energy Research Group – Chemical Engineering & Applied Chemistry, Aston University
- Murray Carter
Ingerthorpe Hall Farm
- Paula Carberry, Scientist
Fuels and Lubricants Centre – QinetiQ
- Andreas Eklund, Project Technical Director
Oroborus AB
- Prof. Malcolm Fox, Professor of Lubricant Technology
Faculty of Applied Sciences – De Montfort University
- Arthur Gardner, Projects Co-ordinator
External Relations – Loughborough University
- Prof. Borje Gevert, Asst.
Department of Technical Chemistry – Chalmers University of Technology

- Guy Griench, European Research Coordination
Combustor Manager
Turbomeca
- Per Hedemalm, Managing Director
Oroborus AB
- Lars Hjelmberg, Executive Director
Hjelmco Oil AB
- Andy Kershaw
British Airways Environmental
- Andy Holden, Fuel Technical Manager
British Airways
- Dr. David Hookes
School of Engineering – Coventry University
- Andy Kershaw
Environment – British Airways
- Chris Lewis
Fuels and Lubricants – Rolls Royce Plc.
- Kevin Lindegaard
Long Ashton Research Station
- Prof. Tony Marmont, Director
MRETT
- John J W McClarty, Manager Technical Operations
The Society of British Aerospace Companies Ltd
- Richard Newbold, Information Officer
External Relations – Loughborough University
- Dr. Corder Peacocke, Director
CARE
- Dr. Karl Seare, Head of Innovative Technology
De Montfort University
- Hugh Somerville, Head of Environment
British Airways
- Jesus Terradillos, Tekniker

Production scheme of natural jet A1 fuel



Flow chart objectives of natural alternatives to A1 jet aviation

