

Training - Training current and future fuels



CARBU-EN-P



Face-to-face only



3 days

This training allows you to follow the evolution of fuels, which is strongly linked to the reduction of polluting emissions from transport. It will give a global vision of fuels from conventional fossil fuels to e-fuels, including biofuels

Level

Expert

Public

Executives, engineers and technicians in the automotive, refining, petroleum products or agrofuels trading industries, concerned by the evolution of fuel quality, in relation to the technologies applied to engines

Objectives

Attendees will be able to implement the following skills:

- Identify the different energies available and necessary for mobility
- List the key properties of current and future land, sea and air fuels
- Understanding the influence of fuel composition and manufacturing on emissions

Pedagogical & technical resources

An interactive pedagogy in the form of exchanges with the group, activities that allow the concepts presented to be quickly integrated

Assessment of achievements

- Trainees are assessed throughout the training through practical application phases and interactions with the trainer
- A final on-the-spot evaluation may also be carried out at the end of the course and/or at the end of each module using tests designed to verify the learners' understanding and assimilation of the knowledge linked to the training objectives

Prerequisites

No prerequisites are necessary to follow this course

Responsible

IFP Training instructors, with expertise in the field and trained in modern teaching methods adapted to the specific needs of learners from the professional world

Program

CONTEXT, ISSUES, REGULATIONS AND DEFINITIONS

0.5 day

Global warming.

Regulatory frameworks (COP-RED – International – European – French).

Environmental assessment from well to wheel.

Definitions: carbon footprint, carbon intensity, LCA, certificates, biofuels, e-fuels-RFNBO.

BIOFUELS FOR GASOLINE ENGINES

0.75 day

Properties sought for gasoline: volatility, combustion, toxicity, corrosiveness, stability.

Exhaust pollution: origin and composition of emissions.

Composition and methods of manufacture of current gasolines.

Resources and production processes of renewable fuels and use. Contribution of new biofuels to the reduction of CO2 emissions from vehicles:

- Biofuels for gasoline engines: Ethanol and ETBE.
- Hydrogen: use as such or fuel cell for electric cars.

Comparison between these different fuels.

BIOFUELS FOR DIESEL ENGINES

1 day

Properties sought for diesel: combustion, resistance to low temperatures, composition.

Pollution by diesel engine exhaust: particulates, NOx.

Composition and formulation of engine diesel.

Resources and production channels of renewable diesel fuels and use. Contribution of new biofuels to the reduction of CO2 emissions from vehicles:

- Biofuels for diesel engines: FAME fatty acid esters and HVO hydrogenated oils.
- BTL second-generation diesel biofuels.
- Hydrogen: Fisher Tropsch or e-fuel.
- Use of other dual-fuel fuels for marine fuels: Methanol, Ammonia, LNG.

Comparison between these different fuels.

BIOFUELS FOR JET

0.5 day

Properties of JET – The emissions of JET into the air.

Composition and manufacture of fossil JET in the refining scheme.

Biofuels for turbines (aeronautics):

- Main production routes certified or in the process of certification of Biojet fuels: hydrotreated vegetable oils, synthetic biojets, biological routes.

E-fuel for aviation:

- Impact of new fuels on logistics, aircraft and turbine operation.

SUMMARY OF THE DIFFERENT ALTERNATIVE FUELS

0.25 day

Summary of fuels used in:

- Petrol engines.
- Diesel engines.
- Marine engines.
- Turbines for aeronautics.

Group activity.

Conclusion and answers to questions.

To French entities : IFP Training is referenced to DataDock ; you may contact your OPCO about potential funding.

Please contact our disabled persons referent to check the accessibility of this training program : referent.handicap@ifptraining.com