WHO WE ARE
Advanced Motor Fuels (AMF) is one of the actors putting transport on track to sustainability and reducing the environmental impacts from transport. Established in 1984, AMF has a strong international network that serves to foster collaborative research, development, and deployment (RD&D) and to provide unbiased information on clean, energy-efficient, and sustainable fuels and related engine and vehicle technology.

OUR VISION
Advanced motor fuels, applicable to all modes of transport, significantly contribute to a sustainable society around the globe.

OUR MISSION
The mission of AMF is to advance the understanding and appreciation of the potential of advanced motor fuels towards transport sustainability. We provide sound scientific information and technology assessments to facilitate informed and science-based decisions regarding advanced motor fuels at all levels of decision-making.

HOW TO JOIN AMF
Participation in one of the IEA’s technology collaboration programs, such as the AMF Technology Collaboration Programme (TCP), is based on mutual benefit to the program and to the interested newcomer.

Each contracting party is represented by a delegate and an alternate delegate. The respective contact details are listed on the AMF TCP website.

The Secretary will provide details on the AMF TCP and invite newcomers to attend an Executive Committee (ExCo) meeting as observers. By attending or even hosting an ExCo meeting, interested newcomers will become familiar with AMF (www.iea-amf.org).

Please visit output products like the AMF Annual Report, Project Reports, and Fuel Information on the www.iea-amf.org website, and follow the AMF on LinkedIn and Twitter.

OVERVIEW OF ACTIVITIES
AMF looks upon transport fuel issues in a systemic way, taking into account production, distribution and end-use related aspects. AMF liaises with other IEA Technology Collaboration programmes (e.g., IEA Bioenergy and IEA Combustion) and works in close collaboration with important players within the field of AMF (e.g., ITF and Methanol Institute). Because fuels, engines and exhaust after-treatment systems have to be considered as interactive systems, the scope of AMF also covers propulsion systems that use advanced motor fuels.

MOST RECENT PROJECTS (TASKS)
Work within AMF is carried out in individual projects (Tasks). Detailed information on each of the projects can be assessed on the AMF website (www.iea-amf.org).

Task 28  Information Service and AMF Website
Task 60  The Progress of Advanced Marine Fuels
Task 61  Remote Emission Sensing
Task 62  Wear in Engines Using Alternative Fuels
Task 63  Sustainable Aviation Fuels
Task 64  E-fuels and End-Use Perspectives

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AMF Flyer – Published June 2022
PROJECT HIGHLIGHTS

Task 60 – The Progress of Advanced Marine Fuels

A study conducted in Sweden comparing technologies for short sea shipping and inland waterways covered seven fuels: HVO, biogas, ethanol, methanol, hydrogen, ammonia, and electricity (batteries). Technology readiness is highest for HVO, biogas and battery, and lowest for ammonia. All alternatives will generate higher fuel cost than conventional shipping fuels. HVO is almost three times the cost of reference fuel. Biogas and electricity were found to be the cheapest low-carbon options.

<table>
<thead>
<tr>
<th></th>
<th>Diesel</th>
<th>Metanol</th>
<th>Reduction</th>
</tr>
</thead>
<tbody>
<tr>
<td>NO ppm</td>
<td>1200</td>
<td>600</td>
<td>50%</td>
</tr>
<tr>
<td>NO2 ppm</td>
<td>50</td>
<td>20</td>
<td>60%</td>
</tr>
<tr>
<td>NOx ppm</td>
<td>1250</td>
<td>620</td>
<td>50%</td>
</tr>
<tr>
<td>THC ppm</td>
<td>50</td>
<td>40</td>
<td>20%</td>
</tr>
<tr>
<td>CO ppm</td>
<td>170</td>
<td>150</td>
<td>12%</td>
</tr>
<tr>
<td>PM mg/Nm3</td>
<td>25</td>
<td>12</td>
<td>52%</td>
</tr>
</tbody>
</table>

Test results from a MAN 2 MW marine engine with renewable methanol fuel.

Task 61 – Remote Emission Sensing

Remote Emission Sensing (RES) can be used to detect high-emitting vehicles. For instance, RES installed in chasing vehicles have proven effective both in Europe and China to identify trucks with excess emissions of NOx and particulate matter. A recent study conducted in Switzerland found that the most crucial volume of air that stationary (fixed) RES equipment must capture is the core exhaust plume within 1.5 m behind the vehicle.

The EMPA parameter study found that the most crucial volume stationary RES must capture is the core exhaust plume, within 1.5 m behind the vehicle.

STRATEGIC WORK PLAN 2020-2024

Internationally, there are several fuels-related organizations. However, these organizations are solely focused on a specific fuel or group of fuels — for example, alcohols, natural gas, liquid petroleum gas, and synthetic fuels. In addition, there are organizations promoting electro-mobility. In the field of transport fuels, AMF is the only internationally recognized, technology-neutral clearinghouse for fuels-related information. Download the Work Plan from the AMF website at www.iea-amf.org > About AMF.

Fuels
- Performance evaluation (energy efficiency, GHG, air quality) of new fuels and technology platforms
- Focus on fuels substituting diesel (including substitution of marine fuels)
- (Pre) studies on emerging fuels (electrofuels, ammonia, alternative aviation fuels)

Vehicles
- Real driving emissions, including deterioration of emission performance over distance
- Efficiency of heavy-duty vehicles (with possible spill-over towards non-road machinery)
- Range extender options for EVs

System analysis
- Comparison of different energy carriers for transport applications (timeline, impact, cost)
- Assessment of drop-in types of fuels vs. fuels requiring new vehicles and technologies and new infrastructure

Communication and dissemination
- Provide information on AMF publications on the AMF website
- Provide information on advanced motor fuels on the AMF website and through the AMF newsletter
- Organize topical workshops to exchange information and deepen understanding