Spain

Drivers and Policies

Biofuel consumption in Spain is primarily supported by the mandatory targets for sale or consumption established in Royal Decree 1085/2015, on the promotion of biofuels. These targets (in energy content) are 6% (2018), 7% (2019), and 8.5% (2020).

The Spanish Alternative Energy Vehicle Incentive Strategy 2014–2020 is the framework for specific programs and plans intended to promote the purchase of electric, liquefied petroleum gas (LPG), natural gas, and bio-fuel vehicles.

Advanced Motor Fuels Statistics

Figure 1 shows data on fuel consumption in Spain in 2018. Biofuels represent the largest share of alternative transportation fuel.

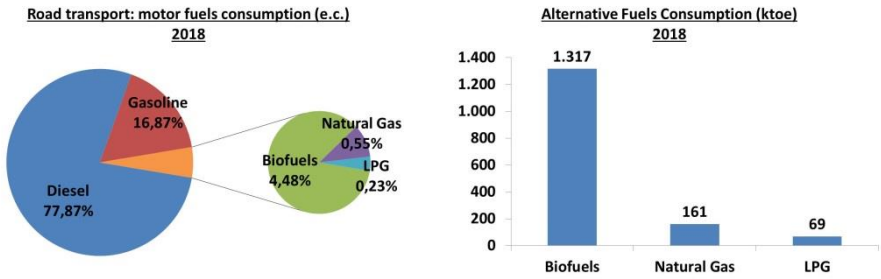

Fig. 1 Fuel Consumption (share in energy content) and Alternative Fuel Consumption (ktoe) in Spain in 2018
Sources: CNMC, CORES, GASNAM

Regarding the vehicle fleet, of a total of 35.6 million vehicles, around 75,000 are fuelled by LPG and 14,216 use natural gas (compressed or liquefied), while only a few hydrogen vehicles have been developed in pilot projects.

Table 1 includes the number of public filling stations with alternative fuels in Spain.

Table 1 Filling Stations for Alternative Fuels in Spain

Alternative Fuel		Number of Filling Stations
Biodiesel blends	B20 or lower	47
	B30 or higher	8
Bioethanol blends	E15 or lower	2
	E85	6
LPG		607
Natural gas		71
Hydrogen		6

Sources: MITECO (Geoportal), Gas Licuado, GASNAM, AEH2

Biofuels are the major alternative transportation fuels in Spain. Figures 2, 3, and 4 provide information on the feedstock, feedstock origin country, and production country of biofuels consumed in Spain in 2018.

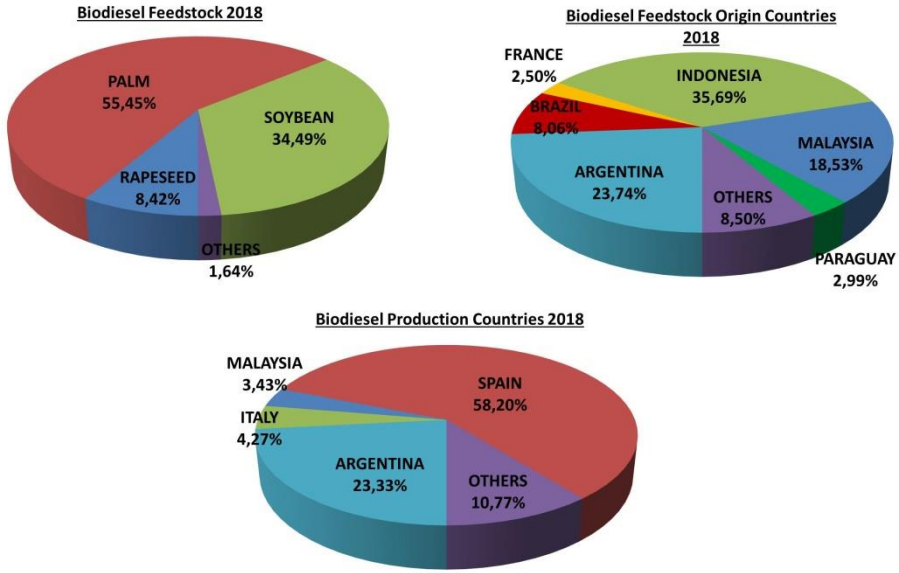

Fig. 2 Feedstock, Feedstock Origin Country, and Production Country of Biodiesel Consumed in Spain in 2018
Source: CNMC

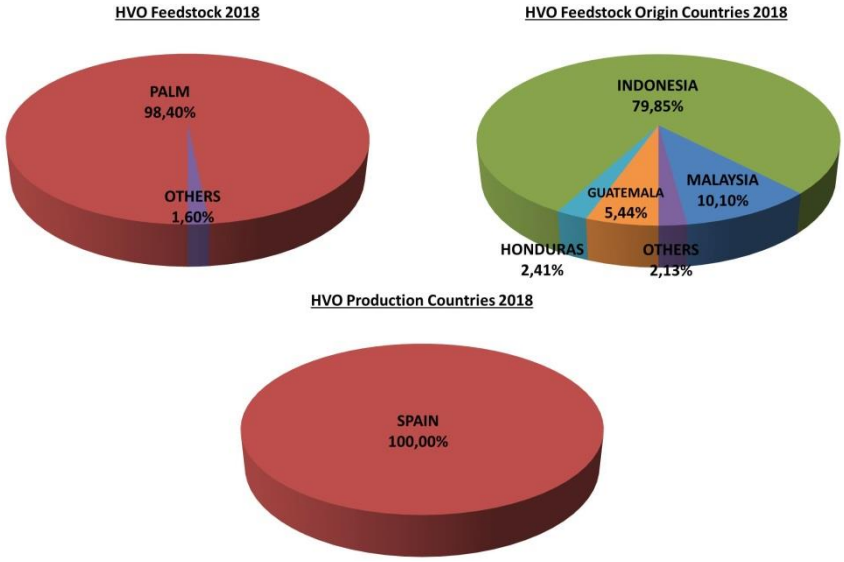

Fig. 3 Feedstock, Feedstock Origin Country, and Production Country of Hydrotreated Vegetable Oil (HVO) Consumed in Spain in 2018
Source: CNMC

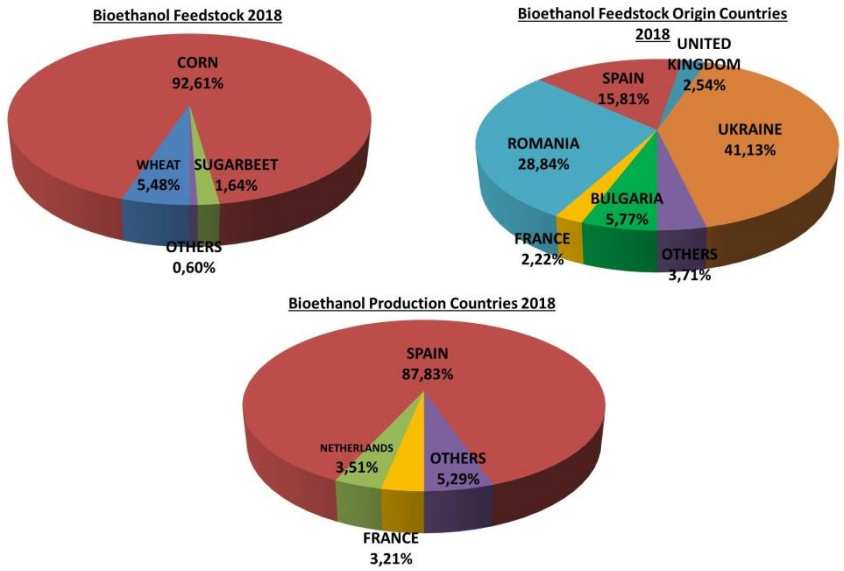

Fig. 4 Feedstock, Feedstock Origin Country, and Production Country of Bioethanol Consumed in Spain in 2018
Source: CNMC

Research and Demonstration Focus

As regards biofuels, in January 2018, the Spanish State Scientific and Technical Research and Innovation Plan 2017–2020 was published. The State Plan is the main instrument for developing and achieving the objectives set in the Spanish Strategy for Science and Technology and Innovation 2013–2020, as well as those set in the Europe 2020 Strategy. It includes actions and funding mechanisms aimed at promoting research, development, and innovation activities. Such activities are in turn aligned with the European agenda on this issue, in particular with the Strategic Energy Technology Plan (SET Plan). In this sense, research and innovation projects receiving funding from this State Plan shall address, *inter alia*, the priority activities included in the SET Plan Action 8 for Bioenergy and Renewable Fuels for Sustainable Transport.

The National Action Framework for Alternative Energies in Transport includes several programs intended to support research, development, and innovation: creation of clusters for innovation, incentives, cooperation through technology platforms, and support to research centers.

Research activity in relation to hydrogen technologies continues to be carried out in Spain within the frameworks of national and European initiatives.

Outlook

According to the National Renewable Energy Action Plan, to fulfill the committed targets included in the current Renewable Energy Directive, consumption of biofuels is expected to reach 2,713 kilotonnes of oil equivalent in 2020.

The revised Renewable Energy Directive was adopted and published in December 2018. This new regulatory framework for the period 2021–2030 sets a specific target for the transport sector. Member States must require fuel suppliers to supply a minimum of 14% of the energy consumed in road and rail transport by 2030 as renewable energy. Each Member State will define the detailed trajectory to reach this target in an Integrated National Energy and Climate Plan. Within that 14%, there is a dedicated subtarget for advanced biofuels (which are produced from feedstocks listed in Part A of Annex IX of the directive). These fuels must be supplied at a minimum of 0.2% of transport energy in 2022, 1% in 2025, and increasing to at least 3.5% by 2030.

The National Action Framework for Alternative Energies in Transport states that, by 2020, the natural gas fleet will reach 18,000 vehicles, the LPG fleet will consist of 200,000 to 250,000 vehicles, and it seems feasible that more than 500 hydrogen vehicles will be commercialized.

Additional Information Sources

- AEH2: Spanish Hydrogen Association, www.aeh2.org (in Spanish)
- Gas Licuado: Spanish Association of Liquefied Gas, www.gaslicuado.org (in Spanish)
- Bioplat: Spanish Biomass Technology Platform, www.bioplat.org
- CNMC: National Markets and Competition Commission, www.cnmc.es (in Spanish)
- CORES: Corporación de Reservas Estratégicas (Oil Stockholding Agency), www.cores.es (in Spanish)
- GASNAM: Spanish Association of Natural Gas for Mobility, www.gasnam.es (in Spanish)
- Geoportal (MITECO): Filling Stations, www.geoportalgasolineras.es (in Spanish)
- IDAE: Instituto para la Diversificación y Ahorro de la Energía (Institute for Energy Diversification and Saving), www.idae.es (in Spanish).
- MITECO: Ministry for the Ecological Transition www.miteco.gob.es (in Spanish)

Major Changes
A new framework for renewable energy in the transport sector, including biofuels, was established by means of the revised Renewable Energy Directive for the period 2021–2030.

Benefits of Participation in the AMF TCP
Membership in the AMF TCP provides wider and easier access to information on advanced motor fuels, as well as helpful analyses that can be used to guide national policies and programs.