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Report Highlights:

Taiwan's ethanol-blended gasoline program is limited to a small-scale E3 pilot. The government is reviewing new standards that could allow E10, but biofuels remain marginal due to limited policy support, high tariffs, and challenges such as required fueling station upgrades, vehicle compatibility, and low consumer acceptance. Most ethanol is imported and subject to a 20 percent tariff, with the United States a minor supplier. The government's focus on electrification means biofuels are only a complementary measure for decarbonizing the existing fleet. Biodiesel use is minimal after the blending mandate ended in 2014, and nearly all production is exported. Sustainable aviation fuel (SAF) is gaining attention, but progress is slow due to feedstock constraints and lack of mandates. If Taiwan aligns its standards and expands ethanol blending, new market opportunities could emerge for U.S. exporters.

Taiwan Biofuels Report 2026

Section I. Executive Summary

Taiwan's energy supply is overwhelmingly dependent on imported fossil fuels, with renewables including biofuels playing only a marginal role in the national energy mix. Despite ambitious net-zero targets and ongoing efforts to expand renewable energy, the transition away from fossil fuels is gradual, especially in the transportation sector, which continues to rely heavily on conventional vehicles. The government's decarbonization strategy prioritizes electrification, public transportation, and fuel efficiency, but recognizes that a significant share of the vehicle fleet will remain fuel-powered for decades. In this context, biofuels, especially ethanol-blended gasoline, are positioned as a necessary complementary measure to reduce greenhouse gas (GHG) emissions from the existing fleet.

Policy support for biofuels in Taiwan has been limited and fragmented. The ethanol-blended gasoline program (E3) remains a small-scale pilot, with minimal market penetration and reliance on imported ethanol, all of which is subject to a 20 percent tariff. The E3 subsidy program, originally scheduled through the end of 2025, has been extended. Recent regulatory developments, including proposed amendments to national fuel standards, could enable the adoption of E10 (10 percent ethanol blend) and align Taiwan's standards with international benchmarks. However, the expansion of ethanol use faces significant challenges, including infrastructure costs, vehicle compatibility concerns, limited automaker endorsement, and uncertain consumer acceptance. The future of ethanol in Taiwan's fuel pool will depend on clear policy direction, sustained incentives, and coordinated efforts to address technical and market barriers.

Trade policy continues to shape the biofuels market, with high tariffs on fuel ethanol imports and no domestic production. The United States remains a minor supplier compared to regional competitors, but alignment of ethanol standard and adoption of E10 could create significant new market opportunities.

Biodiesel and renewable diesel have an even more limited role. Following the termination of the B2 (2 percent biodiesel) mandate in 2014 due to technical and public trust issues, domestic biodiesel consumption has collapsed, and most production is now exported, primarily to Europe. Used cooking oil (UCO) remains the main feedstock, but its availability is constrained, and the government is hesitant to support any new biofuels initiatives.

Sustainable aviation fuel (SAF) is emerging as a strategic focus, with voluntary targets set for 2030 and initial production and blending underway. However, SAF development is constrained by limited domestic feedstock, high production costs, and the absence of binding mandates or robust incentives. The government is exploring alternative production pathways, such as alcohol-to-jet (ATJ) using imported ethanol, and considering the potential for Taiwan to become a regional SAF hub.

Section II. Policy and Programs

A. Taiwan's Energy Supply and Net-Zero Strategy

Taiwan's energy supply is overwhelmingly dependent on imported fossil fuels, which account for about 96 percent of total energy supply, while renewables make up less than 4 percent. The industrial sector is the largest energy consumer, followed by transportation. Despite ongoing efforts to expand renewable energy, Taiwan's energy structure remains heavily fossil fuel based. Most renewable energy policy initiatives are focused on power generation including wind and solar. The development and application of biomass energy, particularly for transportation, continues to lag behind international averages. As a result, bioenergy's contribution to decarbonizing the transport sector remains limited. According to the National Development Council (NDC), Taiwan's energy policy emphasizes a multi-pronged approach to ensure stable supply and risk diversification. Over 99 percent of Taiwan's oil and gas is imported, and the government has adopted a strategy of diversifying import sources and maintaining long-term contracts, especially for crude oil and liquefied natural gas (LNG). The NDC also highlights the use of flexible pricing mechanisms and tax adjustments to buffer international price shocks. In the context of energy transition, natural gas is considered a key bridge fuel, and the government is actively investing in LNG infrastructure and international partnerships to secure supply. Taiwan's dependence on imported fossil fuels underscores the importance of energy diversification and the challenges ahead for achieving long-term energy security and sustainability.

As part of its broader net-zero strategy, the NDC and the Ministry of Economic Affairs (MOEA) prioritize electrification, public transportation, and fuel efficiency as the main pillars of transport decarbonization. The government's core strategy includes increasing electric vehicle (EV) adoption through subsidies and regulatory changes, deploying charging facilities and incentives for EV use, and promoting industrial technology upgrades and local component manufacturing. However, the transition will be gradual.

B. Renewable Energy and Greenhouse Gas (GHG) Emissions

Biofuels can play a supporting role in Taiwan's renewable energy and GHG reduction efforts, particularly within the transportation sector. In 2021, Taiwan's transportation sector emitted 35.464 million metric tons of carbon dioxide (CO₂) equivalent, accounting for 13 percent of total emissions. According to a 2024 study by the Chung-Hua Institution for Economic Research (CIER), if Taiwan's 23 million cars and motorcycles all used E10 gasoline, annual carbon reductions would reach 2.02 million metric tons, enough to close the 1.984 million metric ton gap under the Ministry of Transportation and Communications (MOTC) Phase II (2021-2025) GHG reduction target.

Taiwan's [Comprehensive Carbon Reduction Action Plan](#) to Net-Zero Emissions in 2050 in the transport sector is centered on the "[Electrification and Decarbonization of Vehicles](#)" flagship action plan, which prioritizes the electrification of passenger cars, trucks, and motorcycles, as well as the demonstration of hydrogen fuel cell buses. While electrification is the main focus, the NDC recognizes that a significant

share of the vehicle fleet will remain conventional for decades. Therefore, the government is also evaluating expanding the current limited ethanol gasoline pilot program as a complementary decarbonization measure to achieve near-term GHG reductions from the existing fleet.

In parallel, Taiwan has also launched a [Sustainable Aviation Fuel \(SAF\)](#) flagship action plan, coordinated by a SAF working platform jointly led by MOTC and the MOEA. This action plan aims to accelerate SAF adoption and supply through coordinated efforts on both the use and supply sides of the aviation sector.

C. Policy & Programs Aimed Specifically at Biofuels or Fuel Pool Size

1) Ethanol and the Gasoline Market

Policy/Programs Specifically Targeting Biofuel Demand

Taiwan's regulatory foundation for ethanol-blended gasoline was first established with the [Regulations for the Management of Ethanol Gasoline, Biodiesel, and Recycled Oil Production, Import, Blending, and Sales](#) promulgated on December 12, 2001. This regulation provided the legal basis for the production, import, blending, and sale of ethanol gasoline and related biofuels, enabling pilot and demonstration projects for ethanol blending.

Building on this foundation, the [Subsidy Guidelines for Ethanol Gasoline Promotion in Taipei and Kaohsiung Metropolitan Areas](#) were promulgated on July 2, 2009. Through this policy, a pilot program was launched in which 14 gas stations, 8 in Taipei and 6 in Kaohsiung, offered E3 gasoline (3 percent ethanol blend) for all vehicles. To encourage consumer uptake, the program provided a direct discount of NT\$2 per liter (about a 7% discount off the 5-year average gasoline price) at the pump for E3 gasoline. Since there were no ethanol plants operating domestically, all ethanol used in E3 gasoline was imported. The guideline also provided subsidies to CPC Corporation, Taiwan (CPC) to support blending, storage, and marketing costs for E3 gasoline.

The guidelines for the E3 subsidy program have been extended several times, and under the latest revision in 2025, the program was scheduled to expire on December 31, 2025, but has been extended further.

Status of E3 Pilot Program

The E3 program remains limited in scale, with sales in 2024 totaling only 3,212 kiloliters, representing less than 0.04 percent of total gasoline sales. According to CPC statistics, the main customers for E3 gasoline are government fleet vehicles and taxis, with taxi drivers especially attracted by the NT\$2 per liter discount. Private vehicle owners account for a much smaller share of E3 sales. The limited number of retail sites, the need for further public education and outreach, and the importance of clear and sustained incentives are key lessons from the E3 experience that must be addressed for further expansion of ethanol program.

MTBE Question

Both major refiners, CPC and Formosa, either procure both imports and domestic production or produce methyl tert-butyl ether (MTBE) itself, which is currently used as a gasoline oxygenate instead of ethanol. If ethanol blending is expanded, the volume of MTBE used domestically will be reduced, and surplus MTBE would likely have to be diverted to export markets. This shift would require adjustments in refinery operations and export logistics, and may have implications for the domestic petrochemical industry.

Import Dependence

Taiwan does not produce significant crops for ethanol, and there is currently no economically viable feedstock available for domestic ethanol production. As a result, imports would be required to fulfill any future expansion.

Key Issues for Current and Future Ethanol Program

NDC has identified several critical issues that must be addressed for the successful expansion of ethanol use in Taiwan. These include improvements in supply infrastructure, updates to national standards, and enhanced regulatory support. The NDC also emphasizes the need for ongoing assessment of vehicle compatibility and market readiness to ensure a smooth transition to higher ethanol blends.

Recent Policy Developments and Standard Changes for E10

In response to support from stakeholders, Taiwan's government has proposed updates to CNS 15109 and CNS 12614 to enable E10 adoption. On November 6, 2025, the Bureau of Standards, Metrology and Inspection (BSMI) announced draft amendments to these standards and sent a request-for-comments (RFC) letter to stakeholders to comment before January 20, 2026. The proposed amendments aim to align Taiwan's CNS standards with ASTM D4806, ASTM D4814, or EN specifications, introducing key changes to reduce ethanol costs and facilitate E10 adoption. Specifically:

- **Fuel Ethanol for Blending:** The ethanol content used for blending will be considered to reduce to 92.1 percent, compared to the current CNS 15109 requirement of >99.3 percent by volume. This adjustment accounts for the inclusion of denaturants, aligning Taiwan's standards with ASTM benchmarks, reducing ethanol procurement costs, and allowing for the addition of corrosion inhibitors.
- **Ethanol Blended in Unleaded Gasoline:** The allowable ethanol content in gasoline will be considered to increase from 3 percent to 10 percent, enabling the future rollout of E10 nationwide.

A realistic timeline for BSMI's regulatory schedule anticipates technical review and committee approval by May 2026, followed by formal publication in June 2026.

The future of the E3 program, including whether it will be maintained, extended, or transitioned to E10, and whether a new subsidy program for E10 will be introduced, as well as the conversion of the existing 14 E3 stations to E10 and any broader rollout, all remain uncertain and are contingent on clear policy direction and supportive regulations from MOEA following the finalization of these amendments.

Constraints on E10 Expansion

Reflecting these issues, substantial challenges remain before widespread adoption of ethanol-blended gasoline can be achieved. Overcoming barriers related to infrastructure costs, vehicle compatibility, consumer acceptance, and the need for coordinated government and industry support will be essential for any future expansion of ethanol use in Taiwan's gasoline market:

- **Gas Station Infrastructure:** Unless stations are willing to phase out or swap an existing grade (such as Research Octane Number (RON) 92, 95, or 98), accommodating E10 presents logistical and financial challenges. Some stations may also have concerns about the compatibility of their existing infrastructure with E10, particularly regarding storage tanks and fuel lines, which could require upgrades or replacements. CPC controls about 80 percent of the gasoline retail market, with Formosa handling the remaining 20 percent. Their willingness, and that of their affiliated stations, will be critical for any broader rollout.
- **Vehicle Compatibility:** Because Taiwan has no experience with blends higher than E3, current assessments of passenger car compatibility with E10 have been conservative. However, further motor vehicle compatibility studies are underway and may yield more positive results. The Phase 6 environmental regulations, which include E10 as test fuel for domestic gasoline vehicles, took effect in September 2019. As a result, vehicles produced since then are expected to be E10-compatible. In contrast, approximately 92% of gasoline-powered motorcycles in Taiwan are already E10-compatible. Major brands such as SYM, Yamaha, and Kymco are mass-producing E10-ready models.
- **Automaker Endorsement:** Domestic automakers have not yet provided strong public assurances regarding E10 compatibility. Their clear endorsement, including statements in owner's manuals, will be critical to building consumer confidence and supporting market adoption.
- **Consumer Acceptance and Market Buy-In:** Consumer acceptance of E10 is not assured, and successful implementation will require broad support from the public and key stakeholders. Addressing consumer misconceptions about ethanol and its impact on vehicles will be important for a successful transition to higher ethanol blends. Economic cost savings may also encourage adoption if clearly communicated.

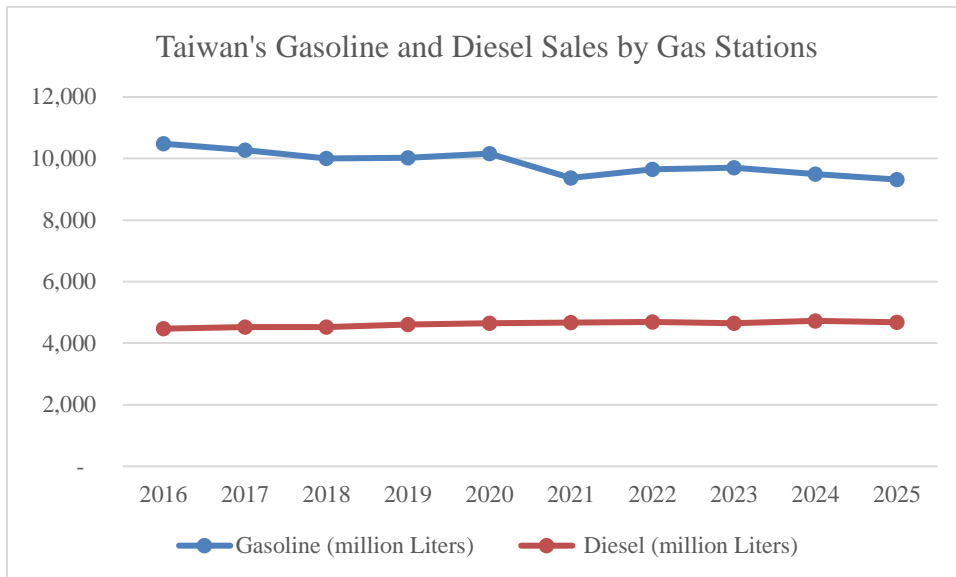
Policy/Programs Impacting Rate of Growth/Decline in the Fuel Pool

Taiwan's current policy framework strongly favors the adoption of electric vehicles (EVs), particularly electric motorcycles, through substantial subsidies and tax relief. Consumers purchasing a new EV motorcycle are eligible for a subsidy of NT\$7,000 from MOEA, which increases to NT\$8,000 if replacing an old motorcycle, plus an additional NT\$3,300 from the Ministry of Environment (MOENV) for scrapping the old vehicle. (A new electric bike costs somewhere between NT\$50,000 - NT\$110,000). Local governments may also provide further subsidies, and all-electric vehicles are exempt from the annual fuel tax.

Despite these incentives, the transition to electrification will be gradual. According to industry sources, by 2030, electric passenger-car penetration is projected to remain below 10 percent, and electric motorcycles below 20 percent. Even by 2040, when EVs are expected to account for all new car sales, nearly 60 percent of passenger cars and 40 percent of motorcycles on the road will still be fuel powered. This slow turnover of the vehicle fleet means that ethanol-blended fuels will remain essential for decarbonizing the large share of conventional vehicles that will persist on Taiwan's roads for decades, even as government support for ethanol gasoline remains limited.

Taiwan's gasoline pool has been in long-term decline for about a decade, and is forecast to continue gradually declining on electrification, improved fuel efficiency, and changing consumer preferences reduce demand. Government policy is currently centered on promoting electric vehicles (EVs) and enhancing fuel efficiency, with substantial incentives for EV adoption but no comparable tax credits, direct subsidies, or fuel tax exemptions for ethanol-blended gasoline vehicles. As a result, while ethanol-blended fuels remain an important complementary measure for decarbonizing the large share of conventional vehicles that will persist on Taiwan's roads for decades, their future growth will depend on several factors: the pace of EV adoption, the establishment of clear and supportive policy direction, the continuation or expansion of ethanol-specific incentives, and the government's willingness to address technical and market barriers identified through the E3 pilot program.

Chart: Taiwan's Gasoline and Diesel Sales by Gas Stations



Source: MOEA (EA)

2) Biodiesel/Renewable Diesel and Diesel Markets

No significant biodiesel or renewable diesel programs are currently in place in Taiwan. Used cooking oil (UCO) has been used as the main feedstock for biodiesel production in Taiwan since 2006, with the initial shift to UCO-based biodiesel promoted for its benefits in solving waste disposal problems, reducing greenhouse gas emissions, and lowering air pollutant emissions.

In 2008, Taiwan launched its B1 (1 percent biodiesel blending) mandate in commercial diesel. This was followed by the B2 mandate in 2010. Biodiesel production grew rapidly during this period, rising from 1.0 million liters in 2006 to 96.4 million liters in 2013.

However, as the B2 mandate was implemented, users began to report issues such as fuel tank and filter clogging, as well as ignition delays. These problems were widely attributed to Taiwan's humid climate, which was believed to promote microbial growth in fuel tanks when using 2 percent biodiesel blends. Separately, in 2013 and 2014, several high-profile vegetable oil scandals, including the illegal repurposing of gutter oil and non-food grade oil for human consumption, prompted the Environmental Protection Administration (EPA, now MOENV) to tighten controls on the collection and distribution of UCO.

Due to mounting technical concerns with biodiesel use in engines and growing public distrust, the government decided to phase out the B2 mandate in 2014. Since then, most UCO collected in Taiwan has been either exported directly or used as an ingredient for soap and biodiesel destined for other countries. About 30 percent of recovered UCO is exported directly, about 25,000 MT per year. Because of the failure of the B2 biodiesel program, the MOEA has been hesitant to support new biofuel policies such as E10, preferring to proceed with careful evaluation and limited trials before broader adoption.

3) Sustainable Aviation Fuel (SAF) and the Jet Fuel Market

The Ministry of Transportation and Communications (MOTC) and Civil Aeronautics Administration (CAA) have set a voluntary target for sustainable aviation fuel (SAF) to comprise at least 5 percent of total aviation fuel use by 2030. There is currently no binding mandate; instead, the government encourages airlines to adopt SAF as part of broader decarbonization efforts and in alignment with International Civil Aviation Organization (ICAO) Carbon Offsetting and Reduction Scheme for International Aviation (CORSIA) framework.

A key policy challenge for SAF production in Taiwan is the limited supply of domestic UCO, the primary feedstock, as UCO imports have been banned since 2014 due to food safety scandals. Despite industry calls to reopen imports, the government remains cautious. The high cost of SAF, currently about 3 to 5 times that of conventional jet fuel, further underscores the need for government support if broader adoption and market development are to be achieved. While both CPC and Formosa Petrochemical have achieved CORSIA certification for their SAF products, the government has not introduced mandates, subsidies, or centralized procurement programs for SAF, unlike the approaches seen in the EU, South Korea, and Singapore. As a result, the pace of SAF market development is closely tied to government policy. Without a binding mandate or clearer direction, airlines and producers have limited incentives to expand blending or invest in new capacity. The government is also considering alternative production technologies such as alcohol-to-jet (ATJ), which would likely utilize imported ethanol as feedstock, and is studying the potential for Taiwan to become a regional SAF production hub.

Under the SAF Carbon Reduction Flagship Action Plan, MOTC and MOEA will coordinate a SAF working platform and create two working groups: the SAF Use Working Group (led by CAA) and the SAF Supply Working Group (led by the Energy Administration (EA) under MOEA).

Key elements of the plan include:

- Continued encouragement of Taiwan's airlines to use SAF, with a pilot program in 2025 to prepare airport infrastructure and enable initial SAF fueling at Taoyuan, Songshan, and Kaohsiung airports.
- Setting phased annual SAF usage targets for Taiwan's airlines by mid-2026, and by the end of 2026, proposing a transition from voluntary to mandatory SAF use, including supporting measures and announcing mandatory blending targets.
- Ensuring that by 2030, Taiwan's airlines' international routes achieve at least 5 percent SAF usage (including SAF added abroad), and by 2032, reviewing and planning for the implementation of mandatory SAF use regulations based on production progress.
- On the supply side, the National Science and Technology Council (NSTC) is leading research and development of next-generation SAF production technologies, with the Nuclear Safety Commission and Academia Sinica evaluating feasibility and conducting integrated technology demonstrations from 2026 to 2029.

- BSMI along with EA are developing national standards, certification protocols, and quality testing capacity for SAF.
- By the end of 2025, presenting a feedstock supply plan for SAF, and by the end of 2026, inventorying SAF production capacity and setting phased supply targets, with the goal of achieving stable domestic SAF production by 2032.

D. Environmental Sustainability and Certification

Taiwan does not currently have mandatory biofuel sustainability requirements or a national certification system for GHG emissions or land use change. Most biofuel use is limited to pilot or demonstration programs, and there is no established framework for environmental sustainability or traceability for biofuels in the domestic market. Any voluntary certification is not widespread.

It should be noted that Taiwan’s requirements for carbon reduction and sustainability reporting are primarily focused on companies listed on the Taiwan Stock Exchange. Under the Financial Supervisory Commission’s (FSC) “Sustainable Development Roadmap for Listed Companies,” all listed companies are required to complete GHG inventories by 2027 and obtain third-party assurance by 2029. These requirements are part of a broader push for environmental, social, and governance (ESG) practices, including the disclosure of carbon reduction targets, strategies, and action plans, as well as the preparation and assurance of sustainability reports.

E. Trade Policy Covering Import Duties/Licenses & Export Taxes/Levies

Ethanol used as fuel is currently classified under Harmonized System (HS) code 2207.10 and 2207.20 and is subject to a 20 percent import tariff, which is significantly higher than the 3 percent tariff imposed on industrial ethanol used for chemical synthesis. There is no nationwide ethanol mandate, and all ethanol for fuel use is imported, as there is no domestic production. The tariff on MTBE is 5 percent.

Biodiesel imports are subject to a 5 percent tariff for pure biodiesel and blends above 30 percent. Petroleum oils containing biodiesel in blends up to 30 percent are subject to a 3.5 percent tariff for light oils and preparations. However, there is currently no significant demand for biodiesel imports in Taiwan due to the absence of a domestic blending mandate and minimal domestic consumption.

SAF imports do not have a unique code, but instead are classified under HS code 2710.19.11 (kerosene-type jet fuel) and are therefore tariff-free.

Section III. Ethanol

A. Production

There is currently no fuel ethanol production capacity in Taiwan, and minimal industrial ethanol production. At the outset of the E3 program, state-owned enterprises, particularly Taiwan Sugar

Corporation (Tai-sugar) and CPC, considered investing in domestic fuel ethanol production facilities. However, as the E3 pilot program remained limited in scale and there was no policy drive to expand ethanol blending beyond the initial demonstration sites, these investment plans were ultimately abandoned. Taiwan does not produce significant crops for ethanol, and proposals to grow biofuel crops on fallowed land have not yet proven economically viable without major subsidies.

B. Consumption

Ethanol use in Taiwan is currently limited to a pilot E3 program at 14 gas stations in Taipei and Kaohsiung, accounting for less than 0.1 percent of total gasoline sales. According to government data, domestic demand for fuel ethanol remains very low, with usage in 2024 at about 0.1 million liters, representing just 0.001 percent of total gasoline sales (9.5 billion liters). In 2024, E3 gasoline sales totaled only 3.2 million liters. The main customers for E3 gasoline are government fleet vehicles and taxis, with taxi drivers especially attracted by the NT\$2 per liter discount, while private vehicle owners account for a much smaller share of E3 sales.

If an E10 mandate were implemented, potential ethanol demand is estimated around 950 million liters per year, requiring a major scale-up in both imports and blending infrastructure. Imports would likely be required to fulfill any future mandate. There is also potential for ethanol use in aviation through alcohol-to-jet (ATJ) pathways.

C. Trade

According to Taiwan Customs data, Taiwan imported a total of 2.13 million liters of denatured ethyl alcohol (HS code 2207.20) in 2024, valued at approximately \$1.67 million. The main suppliers were Pakistan (1.33 million liters, \$1.01 million), Australia (0.68 million liters, \$552,000), and Vietnam (0.10 million liters, \$79,000). The United States ranked sixth, supplying only 7,602 liters valued at \$9,272 in 2024.

For undenatured ethyl alcohol (HS code 2207.10), Taiwan imported 47.79 million liters in 2024, valued at \$37.6 million. The leading sources were Pakistan (38 million liters, \$26.7 million), Australia (5.3 million liters, \$5.6 million), and China (2.3 million liters, \$3.2 million). The United States ranked fourth, exporting 1.23 million liters to Taiwan in 2024, valued at \$885,000.

Pakistan is a major supplier of ethanol to Taiwan, though most imports are for industrial and other uses. Currently, due to Taiwan's strict purity requirements, all fuel ethanol imports for blending are sourced from Pakistan, but this represents only a small portion of total ethanol imports. Overall, U.S. ethanol exports to Taiwan remain modest compared to regional competitors, with the U.S. ranking fourth or lower among suppliers for both denatured and undenatured ethanol. Current import volumes for fuel use remain small, but full adoption of E10 could create a \$400–500 million market for ethanol.

| Table 1. Ethanol Used as Fuel and Other Industrial Chemicals (Million Liters) | | | | | | | | | | |
|--|--------|--------|--------|--------|--------|-------|-------|-------|-------|-------|
| Calendar Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Imports | 13 | 10 | 12 | 10 | 11 | 10 | 6 | 3 | 4 | 4 |
| Consumption | 13 | 10 | 12 | 10 | 11 | 10 | 6 | 3 | 4 | 4 |
| Market Penetration (Million Liters) | | | | | | | | | | |
| Fuel Ethanol Use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Gasoline Pool 1/ | 10,481 | 10,275 | 10,000 | 10,020 | 10,160 | 9,369 | 9,647 | 9,702 | 9,491 | 9,317 |
| Blend Rate (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Note: 1/ Covers gasoline and all additives including any biocomponents (biofuels) when used like ethanol. Source: Gasoline Pool from Gasoline Sales by Gas Stations from MOEA (EA)

Section IV. Biodiesel/Renewable Diesel

A. Consumption

Biodiesel consumption in Taiwan is minimal. After the termination of the B2 mandate in 2014, use in transportation dropped sharply, and there is currently no significant domestic market for biodiesel as a transport fuel. Most biodiesel produced in Taiwan is exported, with only limited use in industrial applications such as boiler fuel or by a small number of private vehicles and company fleets.

B. Production

Biodiesel production in Taiwan is primarily based on the recycling of used cooking oil (UCO) from food service and manufacturing. The effective domestic recovery of UCO is about 85,000 MT per year, with approximately 60,000 MT used for biodiesel production (mainly for export) and about 25,000 MT exported directly as UCO. Taiwan's biodiesel production was originally built to supply the domestic blending program; after the program ended, producers shifted to export markets to utilize their capacity. CPC previously conducted trials using biofuel oil blends, specifically low-sulfur fuel oil mixed with up to 10 percent biodiesel (B10), for industrial boiler applications; however, demand for such blends has remained low in the absence of policy support.

C. Trade

Taiwan's biodiesel exports to the European Union are subject to a 6.5% tariff, whereas exports from countries like South Korea enter tariff-free due to their free trade agreement (FTA) with the EU. Since 2019, Taiwan's biodiesel exports (HS code 3826) have fluctuated between 70 to 90 million liters, with the Netherlands and Spain as the top markets. With limited domestic demand, exports remain the primary outlet for Taiwan's biodiesel production. Most of the biodiesel produced is shipped to Europe, where regulatory requirements and blending mandates create steady demand. If domestic SAF production increases, more UCO may be redirected from export or biodiesel production to meet SAF demand within Taiwan, potentially reducing the volume of UCO and biodiesel available for

international markets.

| Table 2. Biodiesel (Million Liters) | | | | | | | | | | |
|---|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|-------------|
| Calendar Year | 2016 | 2017 | 2018 | 2019 | 2020 | 2021 | 2022 | 2023 | 2024 | 2025 |
| Production | 46 | 43 | 54 | 72 | 67 | 67 | 71 | 68 | 87 | 64 |
| Imports | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Exports | 46 | 43 | 54 | 72 | 67 | 67 | 71 | 68 | 87 | 64 |
| Consumption | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Production Capacity (Million Liters) | | | | | | | | | | |
| Number of Biorefineries | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 | 1 |
| Nameplate Capacity | 68 | 68 | 68 | 68 | 91 | 91 | 91 | 91 | 91 | 91 |
| Capacity Use (%) | 67% | 64% | 79% | 106% | 74% | 73% | 78% | 75% | 96% | 70% |
| Feedstock Use (1,000 MT) | | | | | | | | | | |
| UCO | 44 | 41 | 52 | 69 | 64 | 64 | 68 | 65 | 83 | 61 |
| Market Penetration (Million Liters) | | | | | | | | | | |
| Biodiesel, On-road use | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| Diesel Pool, On-road use 1/ | 4,473 | 4,520 | 4,524 | 4,608 | 4,648 | 4,671 | 4,693 | 4,650 | 4,726 | 4,678 |
| Blend Rate (%) | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% | 0% |

Note: 1/ Covers diesel and all biocomponents (biodiesel) and renewable diesel when used.

Source: Diesel Pool from Diesel Sales by Gas Stations from MOEA (EA)

Section V. Advanced Biofuels

Sustainable Aviation Fuel (SAF)

A. Consumption

In 2025, approximately 7.5 million liters of SAF were made available at Taiwan’s airports. Of this total, about 500,000 liters were imported by CPC, while 6.9 million liters were produced domestically by Formosa Petrochemical using UCO as feedstock. SAF was blended with conventional jet fuel and supplied to aircraft at Kaohsiung, Songshan, and Taoyuan airports. China Airlines, EVA Air, and Starlux Airlines have begun incorporating SAF into their operations as part of broader decarbonization and net-zero commitments, but total volumes remain small relative to overall jet fuel demand.

B. Production

SAF production in Taiwan remains limited. In 2025, Formosa Petrochemical produced approximately 6.9 million liters (5,500 MT) of SAF domestically using co-processing technology based on hydroprocessed esters and fatty acids (HEFA) methods, which are fully compatible with existing refinery operations and can achieve lifecycle carbon emission reductions of over 80 percent compared to conventional jet fuel. Formosa projects that its SAF production capacity could increase to 18.8 million liters (15,000 MT) by 2027, if sufficient UCO feedstock is available. CPC is expected to adopt similar technology, with its HEFA project anticipated to come online in 2026 with capacity around 6.3 million liters (5,000 MT).

Taiwan recovers about 85,000 MT of UCO annually, but only a fraction is available for SAF, as most UCO is currently used for biodiesel production or exported. With every 10,000 MT of UCO yielding 7,000–7,500 MT of SAF, feedstock availability is a significant constraint. CAA estimates that domestic SAF demand could reach 152.5 million liters (122,000 MT) by 2030, far exceeding current UCO supply. To address this gap, the government is studying the potential for Taiwan to become a regional SAF production hub and is considering alternative production technologies such as alcohol-to-jet (ATJ), which would likely utilize imported ethanol as feedstock, and Fischer-Tropsch (FT) methods utilizing biomass or municipal solid waste. Notably, ATJ using U.S. ethanol is CORSIA-eligible and remains the most viable option to fill SAF demand that cannot be met by HEFA processing with limited UCO feedstock. However, without additional incentives, HEFA and co-processing using UCO remain the most economically viable options for SAF production in Taiwan at this time. The future scale of SAF production will depend on how these policy and feedstock issues are addressed.

C. Trade

SAF imports are currently limited, with CPC expected to provide 500,000 liters of imported SAF in 2025. Taiwan does not have a separate customs code for SAF. Market sources indicate that SAF imports would be classified under HS code 2710.19.11 (kerosene-type jet fuel) and are therefore tariff-free. The outlook for both imports and potential exports will be determined by future policy decisions, feedstock sourcing strategies, and industry investment.

Section VI. Notes on Statistical Data

Conversion Factors

1MT of gasoline = 1,256 Liters

1MT of ethanol = 1,267 Liters

1MT of diesel = 930 to 1,195 Liters

1MT of biodiesel = 1,136 Liters

1MT of HEFA SAF = 1,250 Liters

Feedstock-to-Biofuel Yield

UCO: 1 MT = 1,043 liters

Trade Codes:

Total ethanol trade: HS codes 2207.10 and 2207.20

Industrial ethanol trade: HS codes 2207.10.10, 2207.20.10

Biodiesel trade: 3826.00

SAF trade: 2710.19.11 (includes all Kerosene type jet fuel)

Attachments:

No Attachments.