Data Insight

Global SAF Outlook

Production Capacity and Potential Share in Aviation Fuel

Chetan Talwar

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About KAPSARC

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Research Approach and Scope

Global targets for sustainable aviation fuel (SAF) production vary significantly across regions. This analysis compiles data from government policies, mandates, and industry announcements to assess potential SAF production capacity and its share of total aviation fuel by 2030-2035.

The figures presented reflect reported commitments rather than model-based forecasts, underscoring both regional momentum – particularly in North America and Europe – and the ongoing gap between ambition and implementation in other areas. The low and high values indicate the minimum and maximum projections reported by government and industry sources, capturing the spectrum from pessimistic to optimistic outlooks for each region.

Figure 1. Research methodology used for data insight.

Source: Author.

SAF Outlook: Fuel Mix Shares and Production Capacity

Figure 2 presents an overview of reported SAF production capacity plans, measured in billion liters, for 2030 and, where applicable, 2035. Global SAF production capacity is expected to grow from approximately 10-23 billion liters in 2030 to 54-90 billion liters by 2035, although the strength and enforceability of commitments vary (ATAG 2020; BP 2024; Healy and Sachdeva 2020; IEEJ 2023; IATA 2021; IEA 2024; McKinsey & Company 2023).

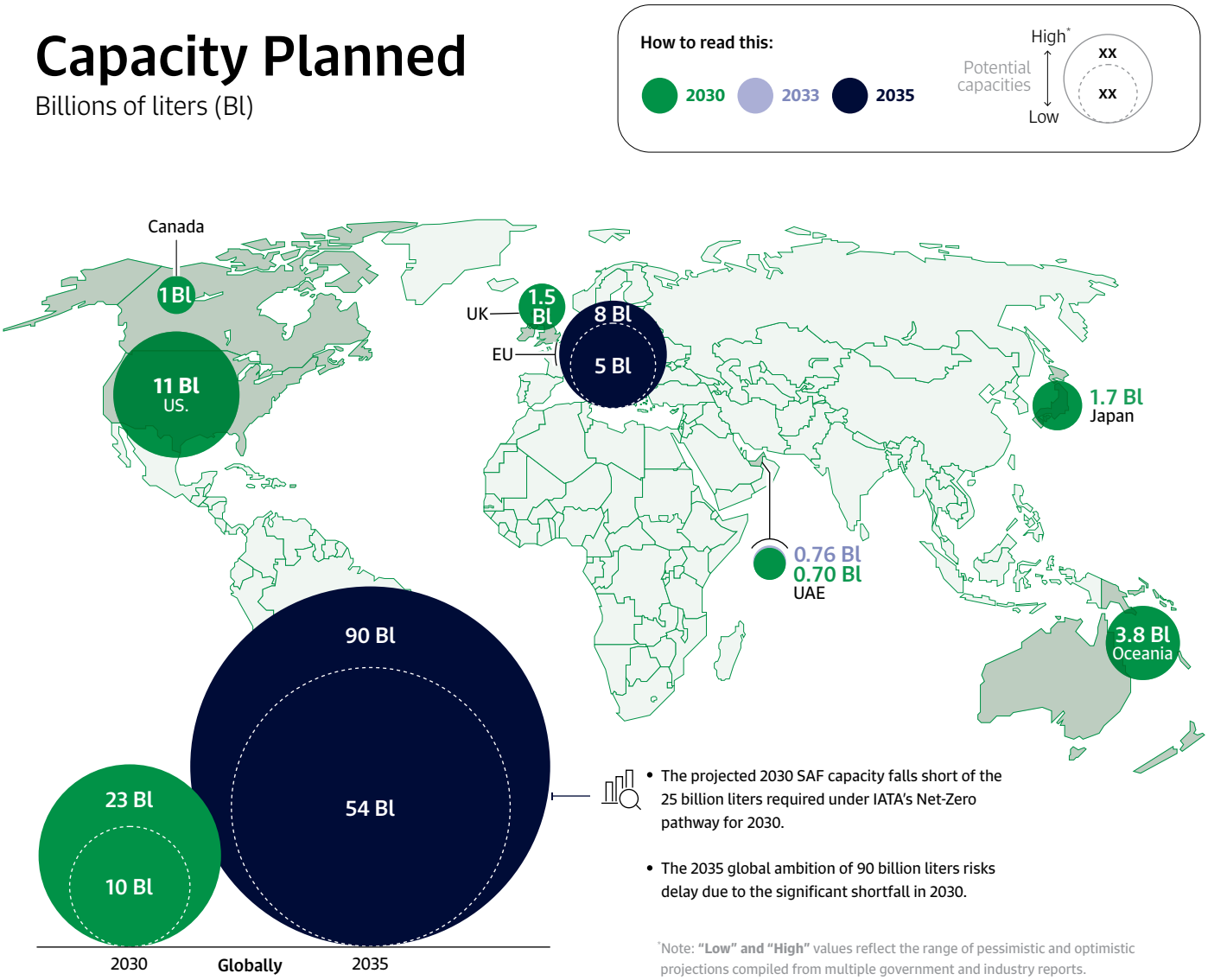
North America leads in SAF production planning, with the United States planning to produce 11 billion liters by 2030 under its SAF Grand Challenge, while Canada targets 1 billion liters by the same year (Allan, Goldman, and Tauvette 2023; Government of Canada 2022; Norazmi 2023; Rosales Calderon et al. 2024; Simpliflying 2024b; DOE 2021). In Europe, the EU aims for 5-8 billion liters by 2035 through binding mandates, and the UK targets 1.5 billion liters by 2030. Sweden and Norway have set ambitious blending goals but have not reported specific capacity figures (DfT 2023, 2024; ICCT 2021; OECD/ITF 2023; Shell 2021; Sustainable Aviation UK 2020; World Economic Forum 2021a).

In other regions, progress is more modest. Australia projects 3.8 billion liters by 2035, the UAE estimates 0.7-0.76 billion liters by 2030-33, and Japan has announced a target of 1.7 billion liters by 2030. Singapore and India have blending ambitions but have not published capacity numbers. Overall, the landscape shows strong momentum in some regions, but significant gaps between ambition and infrastructure in others (CSIRO 2023; MOEI 2023; Simpliflying 2024a; World Economic Forum 2021b).

Figure 3 illustrates the potential percentage share of SAF in the aviation fuel mix as reported across various global regions. Globally, SAF is expected to comprise 2%-10% of aviation fuel by 2030, rising to 3%-20% by 2035, although most targets remain voluntary rather than binding (ATAG 2020; BP 2024; Healy and Sachdeva 2020; IEEJ 2023; IATA 2021; IEA 2024; McKinsey & Company 2023). The EU stands out with its “Fit for 55” mandate, which sets targets of 6% by 2030 and 20% by 2035. Sweden and Norway have announced even higher goals of 30% by 2030. The UK has targets ranging from 2%-10% by 2030 and up to 15% by 2035, utilizing both mandates and policy announcements (DfT 2023, 2024; IATA 2024; ICCT 2021; OECD/ITF 2023; Shell 2021; Sustainable Aviation UK 2020; World Economic Forum 2021a). Canada is the only North American country with a defined target of 10% by 2030, while the U.S. has policies to support SAF growth but no formal blending share target (Government of Canada 2022; Rosales Calderon et al. 2024; Simpliflying 2024b).

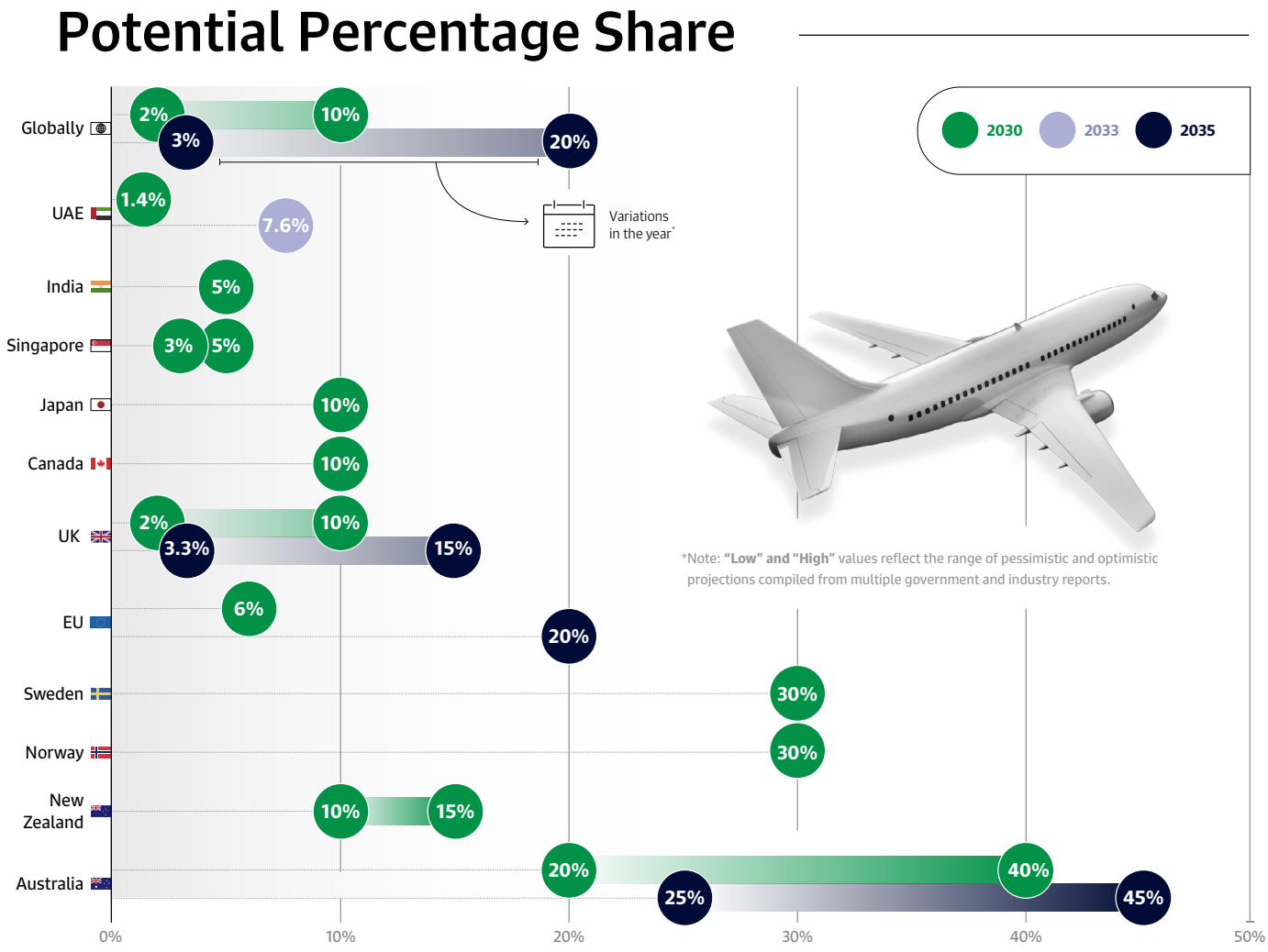
Elsewhere, ambitions vary. Australia projects a SAF share of 20%-40% by 2030 and up to 45% by 2035, while New Zealand targets 10%-15% by 2030, though neither has binding mandates. In the MENA region, the UAE has announced a potential SAF share of 1.4% to 7.6% between 2030 and 2033. In Asia, Japan has set a target of 10% by 2030, while Singapore has a more modest goal of 3%-5% by 2030, and India is expected to reach around 5% by 2030, although formalized targets have yet to be announced by both nations (CSIRO 2023; MOEI 2023; Simpliflying 2024a; World Economic Forum 2021b).

Figure 2. Potential production capacity of SAF in regions by 2030-2035.



Source: Author (data taken from cited reports).

Figure 3. Potential production capacity of SAF in regions by 2030-2035.



Source: Author (data taken from cited reports).

Key Insight

When comparing the industry targets, mandates, and announcements to IATA's net-zero strategy, a significant discrepancy emerges. According to the IATA Net-Zero 2050 strategy, SAF capacity is expected to increase to 25 billion liters by 2030 and then grow an additional 3.6 times by 2035, reaching 90 billion liters. This substantial gap raises concerns about the feasibility of achieving net-zero emissions through SAF, especially given the current state of policies.

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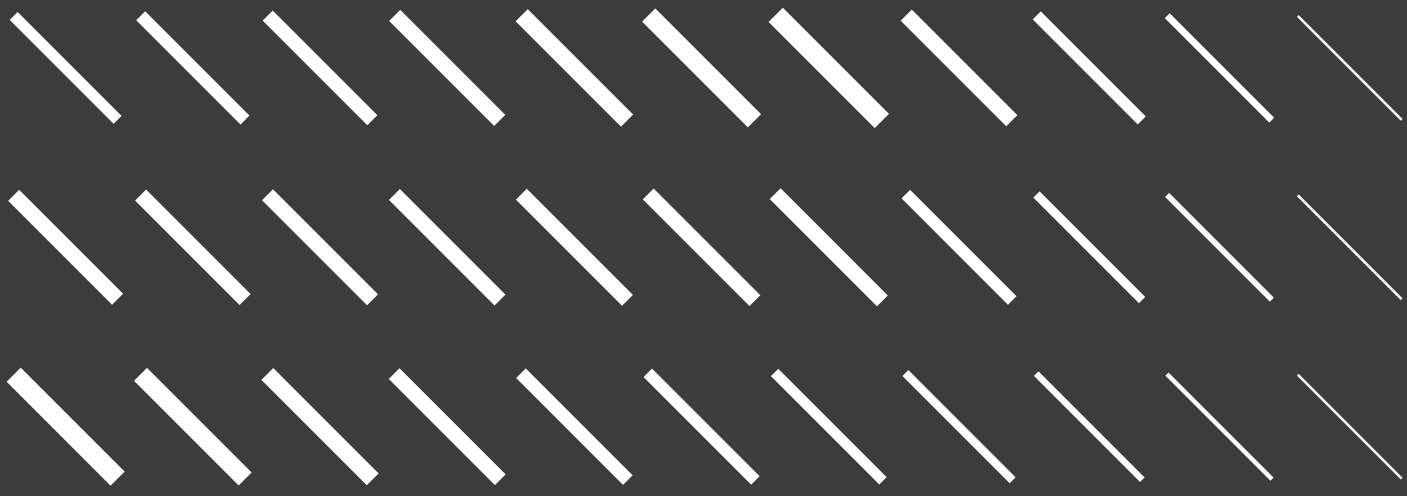

kapsarc.org info@kapsarc.org /kapsarc