

*From the Green Deal to
the Clean Industrial Deal*

Opportunities to unlock
e-SAF production in
Europe



With the contribution of
 Project
SkyPower

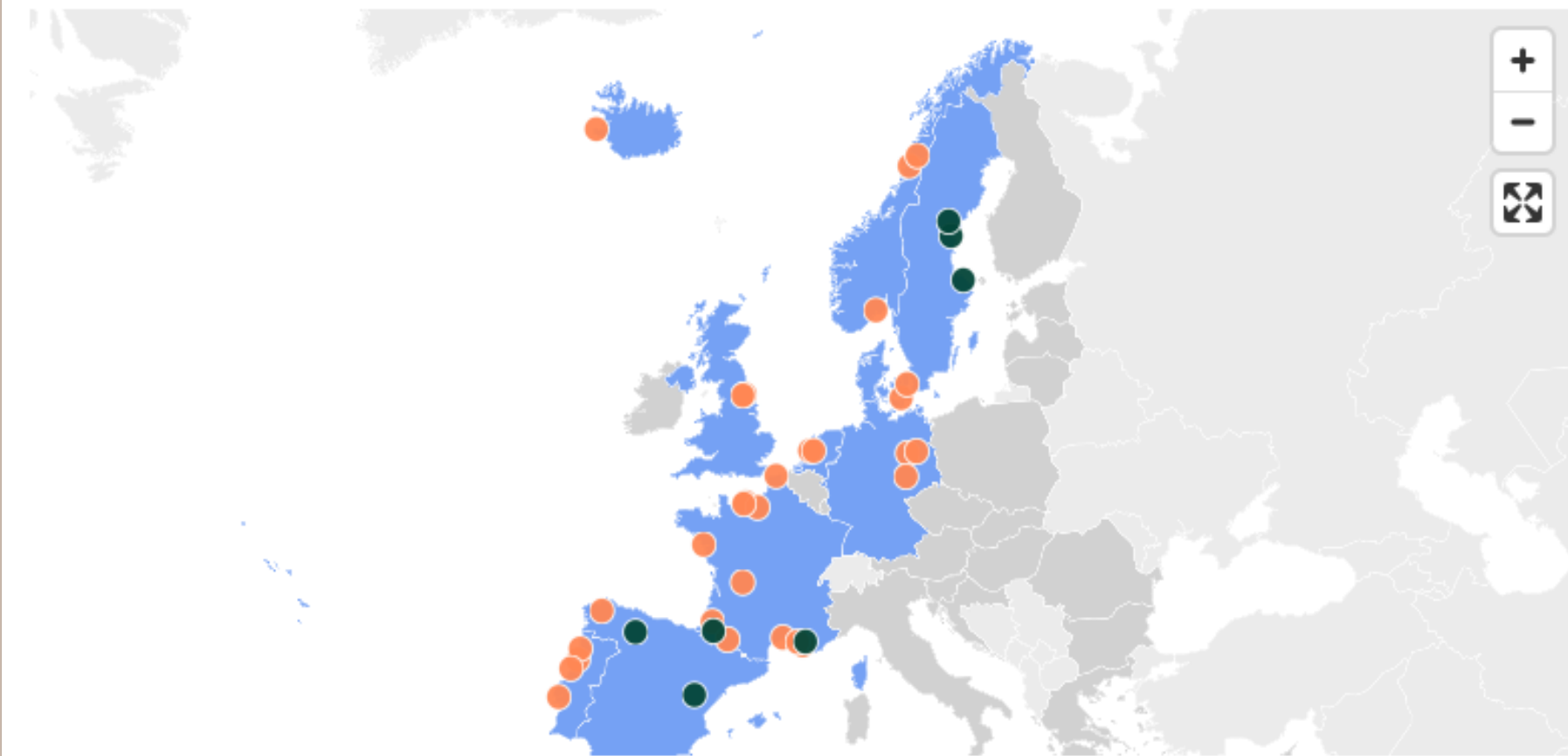
Setting the scene

- **0.6 Mt** by 2030 and **1 Mt** by 2032 mandated e-SAF through ReFuelEU
- **30+** industrial-scale e-SAF projects currently in development in the EEA
- **3 Mt** annual production capacity by 2030
- **0** Final Investment Decision (FID) !

Major e-kerosene projects announced in Europe

The EU is on track to meet ReFuelEU 2030 e-kerosene targets but no project confirmed yet

- Countries with e-kerosene projects*
- E-kerosene** ● E-biofuel



Source: Public information available online and personal communications, full methodology is detailed in this briefing (in annex) • *Some projects don't have a location yet in UK, and Germany. **Projects with an annual production capacity of at least 10 kt.



Key Barriers to Scaling e-SAF



High costs: 5-10x more expensive than fossil jet fuel

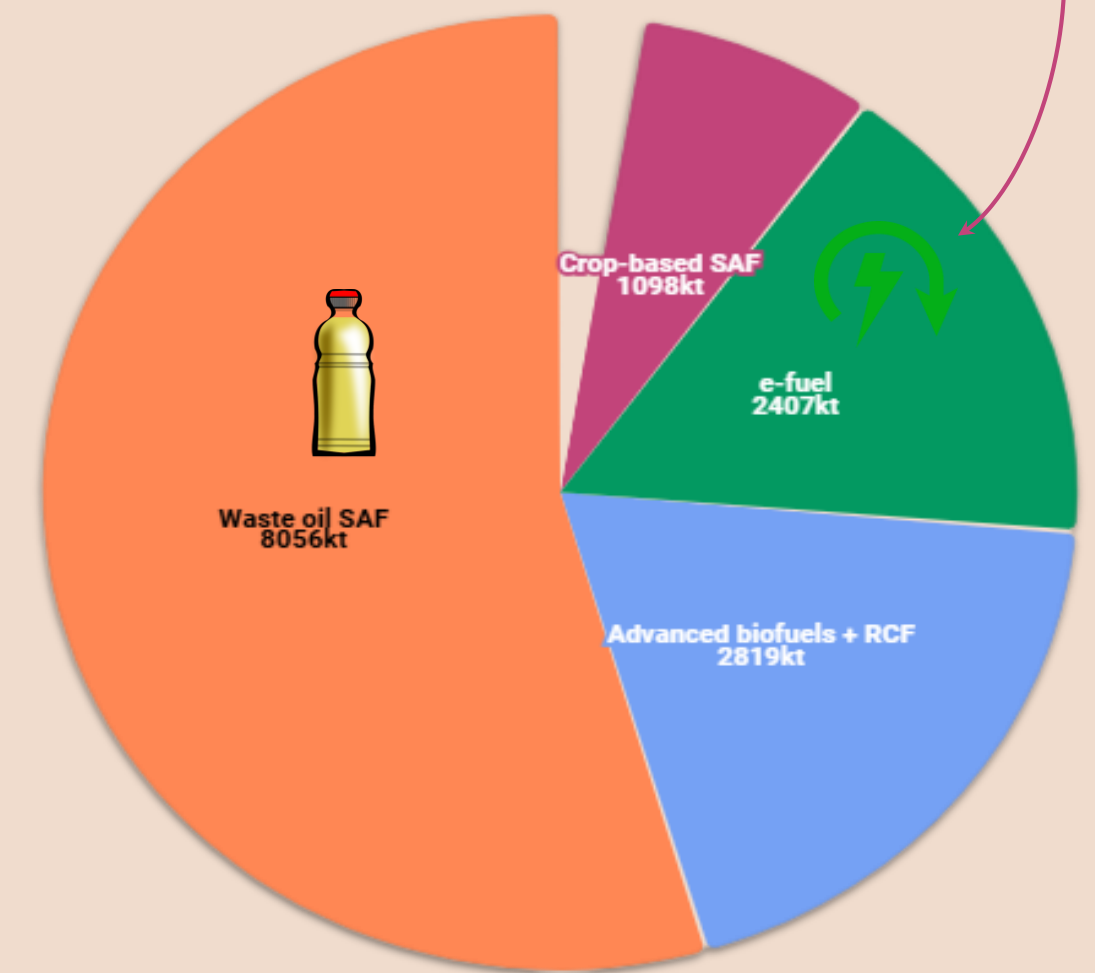


Offtake uncertainty: only 3 European airlines have signed offtakes with e-SAF companies

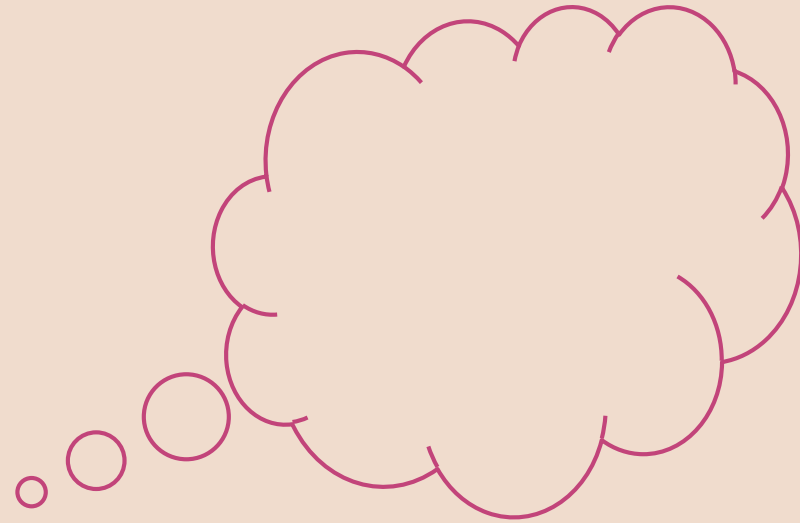


Regulatory uncertainty & funding gaps, despite various EU & national initiatives

E-kerosene represents 15% of the SAF commitments of European airlines



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**[https://app.sli.do/
event/mm43qHwk
zjScvjYPxo9EAQ](https://app.sli.do/event/mm43qHwkzjScvjYPxo9EAQ)**



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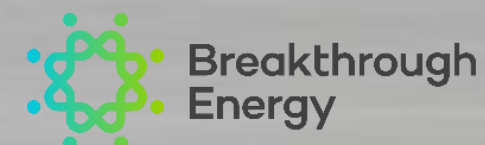
Five key policy interventions to unlock the scale up of e-SAF in the EU

February 2025

DELIVERY PARTNERS

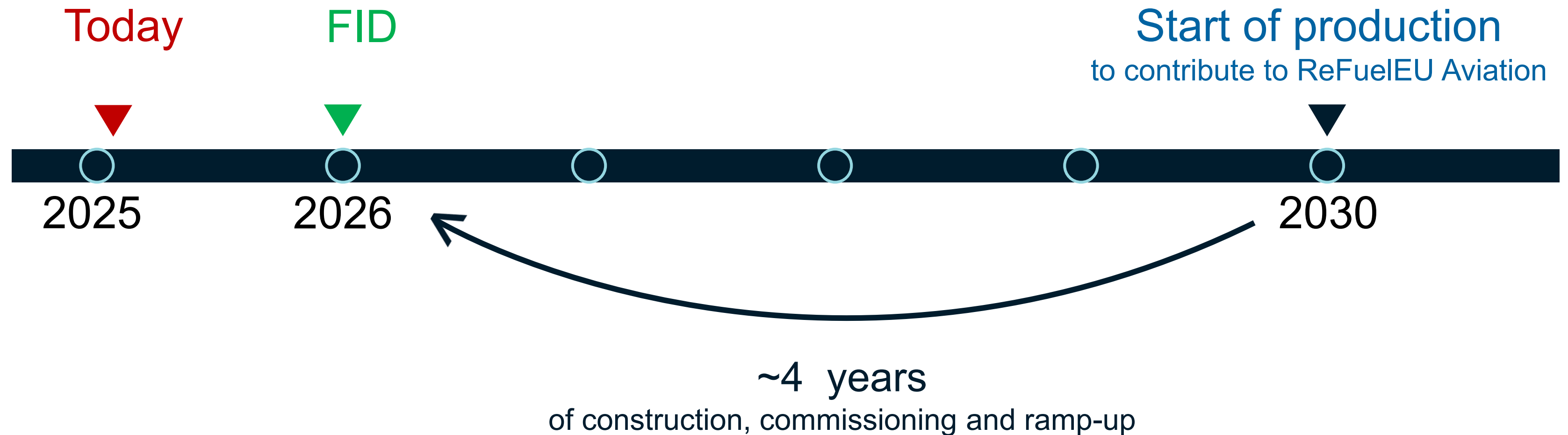


SUPPORTED BY



STATE OF E-SAF IN EUROPE

Final Investment Decision is required by the end of 2025 to realise production by 2030

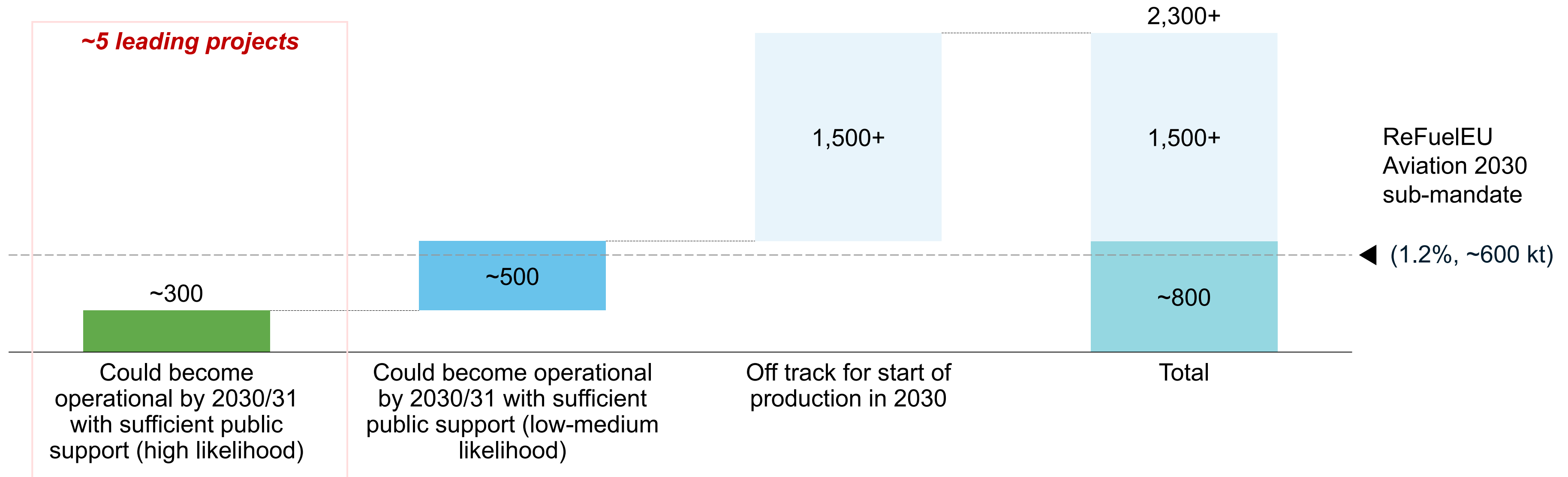


7 **Notes:** This shows a realistic scenario; a more optimistic scenario could see construction timelines of 3 years, allowing FIDs by end of 2026. However, durations for individual activities even in the realistic case could often take twice as long. In contrast, certain activities prior to FID can potentially be parallelized. Note that this is a simplified view and does not show all activities involved in project development e.g. securing a grid connection, getting permits etc. which can be done in parallel.

STATE OF E-SAF IN EUROPE

Only 300 kt of commercial-scale e-SAF capacity is on track, half of what is required by 2030

European announced e-SAF capacity, in kt of annual e-SAF output, ranked by estimated likelihood of being operational by 2030



Notes: Planned e-SAF capacity only refers to e-SAF output and does not include byproducts such as e-naphtha or e-diesel/gasoline. If announcement does not state SAF fraction of total product output, a SAF share of 70% is assumed. Some plants are hybrid power and biomass to liquid plants (PBtL), for which the e-SAF share on the total SAF fraction is assumed as 50%, the rest being classified as biofuel. The EU fuel consumption by 2030 is assumed as 50 Mt.

Source: Press search. Non-exhaustive data, upsides possible. Data status: February 2025.



Project SkyPower

Our vision

Making e-SAF a commercial reality this decade
bringing the aviation industry a vital step closer to a
lower emissions future

Our mission

Paving the way for the **first large-scale¹**
e-SAF plants in Europe to reach
Final Investment Decision by end of 2025

[1] Large-scale e-SAF plants are defined here as plants with an annual capacity of more than 25,000 tonnes e-SAF.

e-SAF leadership can unlock three key opportunities for Europe

STRENGTHEN
DOMESTIC INDUSTRY

**Energy
security**

can be increased, ~20,000
jobs created and
investment renewed in
chemical sector

UNLOCK A MARKET
OPPORTUNITY

**€350+
billion**

global market by 2050; Europe
can lead in exporting key
technologies, services and
expertise

ADVANCE CLIMATE
TARGETS

**400+
million tonnes**

of emissions abated per
year globally through the
scale up of e-SAF



Five key policy interventions to make e-SAF a commercial reality this decade

1

Make e-SAF a strategic priority in the **Clean Industrial Deal** and the **Sustainable Transport Investment Plan (STIP)**

2

Recycle ETS revenues from aviation to capitalise a **market intermediary** that enters into auctioned, 10-15-year contracts with e-SAF producers and 3-5 year contracts with offtakers

3

Establish a **bridging mechanism** until a capitalised market intermediary comes online, to **give first movers priority access** to the new funding instrument

4

Provide long-term certainty over the EU's **mandates, production criteria and penalties**

5

Mitigate project-on-project risk via **government-backed safeguards and financing structures**



70+ industry leaders from the e-SAF ecosystem have unified their voice to call for five urgent policy interventions

Steering Committee	AIRBUS	AIRFRANCE KLM GROUP	Arcadia [®] eFuels	CPH	easyJet	ING	KGAL REAL INVESTMENTS	NATIXIS CORPORATE AND INVESTMENT BANKING	ROCKTON
	SAS	SKYNRG	TEN TECHNIP ENERGIES	VELOCYS	VICTOR — A BETTER WAY TO FLY →	ZAFFRA			
Industry	360 ASSET FINANCE	ATOBA energy	BOEING	C3E	CALVER ENVIRONMENTAL SOLUTIONS	CAPHENIA Turning CO ₂ into fuel	carbon clean	CNF CARBON NEUTRAL FUELS	CARBON RECYCLING INTERNATIONAL
	CIP Copenhagen Infrastructure Partners	DEUTSCHE AIRCRAFT	Cranfield Aerospace Solutions	DHL Group	Elyse	GRIESEMANN	GRIESEMANN	GRUPE ADP	H ₂
	HIF	Hinicio	H Y 2 G E N	INERATEC	IDUNNH ₂	INTESA SANPAOLO	KÉREAUZEN ENGIE	KUEHNE+NAGEL	LANZAJET
	LYDIAN	MCG	MGH energy	MissionZero	Nordic Electrofuel	norsk e-fuel	norwegian	OXCCU	POWER 2 X LEADING IN ENERGY
	preem	pure carbon blue	SAF+ INTERNATIONAL GROUP	SEMPEN	SKIES FIFTY	SMARTENERGY	spark e-fuels	STOFF ₂	synata bio
	TOPSOE	VERSO energy	Willis Sustainable Fuels						
Industry associations	A/E AIRLINES FOR EUROPE	Cleantech for Europe	era european regions airline association	NGO's	aireg	epico KlimaInnovation	ecodes tiempo de actuar	Green Transition Denmark	
	FGA fly green alliance	Hydrogen Europe			impact ON SUSTAINABLE AVIATION	T&E	zero.		

1

Make e-SAF a strategic priority in the EU's **Clean Industrial Deal** and the **Sustainable Transport Investment Plan (STIP)**

Two short-term opportunities for strategic policymaking on the horizon to unlock the EU's potential for e-SAF leadership:

a) Clean Industrial Deal

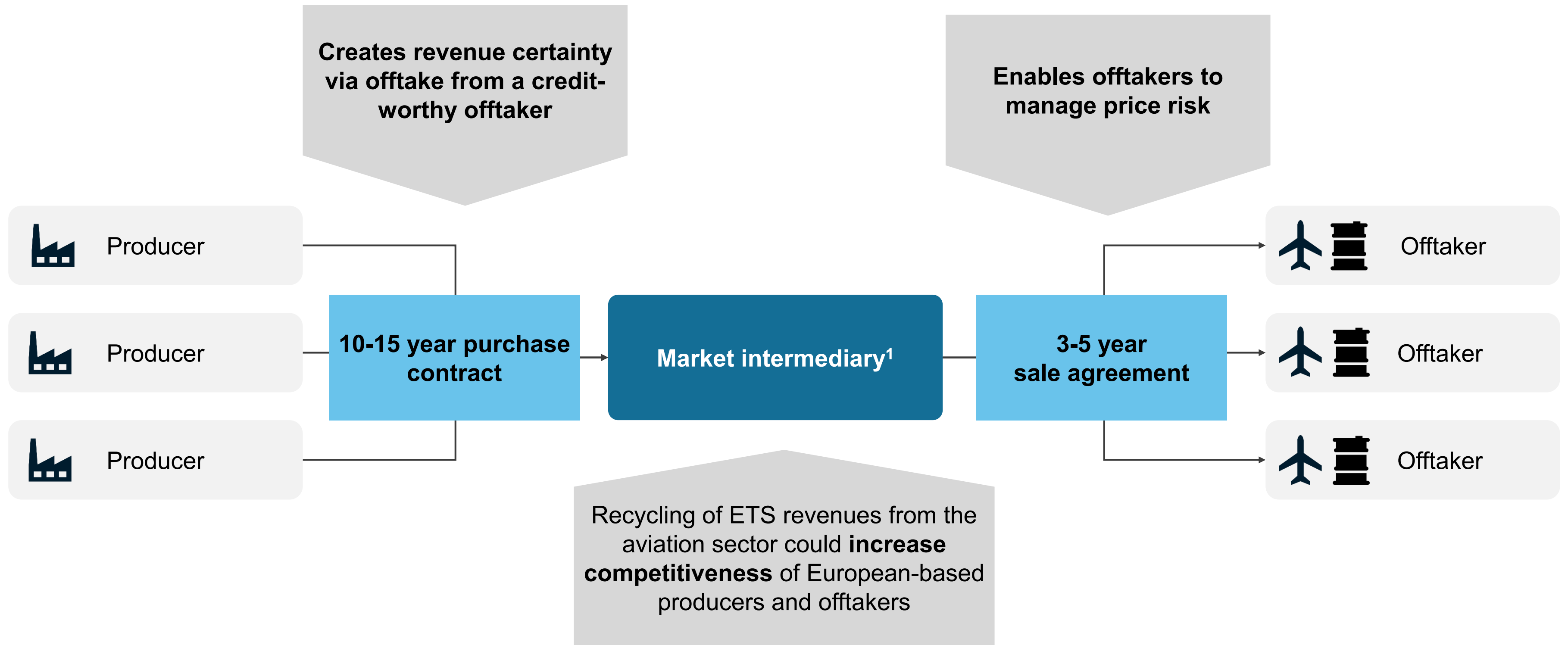
an opportunity in **early 2025** to recognise e-SAF as a strategic priority for the EU and its future industrial strategy, sending an important signal, mobilising investment and unlocking the support required to scale e-SAF from innovation to commercialisation.

b) Sustainable Transport Investment Plan

an opportunity in **mid-2025** to develop a multi-year investment plan for scaling up the EU e-SAF industry in line with increasing ReFuelEU Aviation sub-mandates. This plan should identify the most efficient instruments to get first e-SAF projects to FID and enable e-SAF offtake.

2

Recycle ETS revenues from aviation to capitalise a market intermediary¹



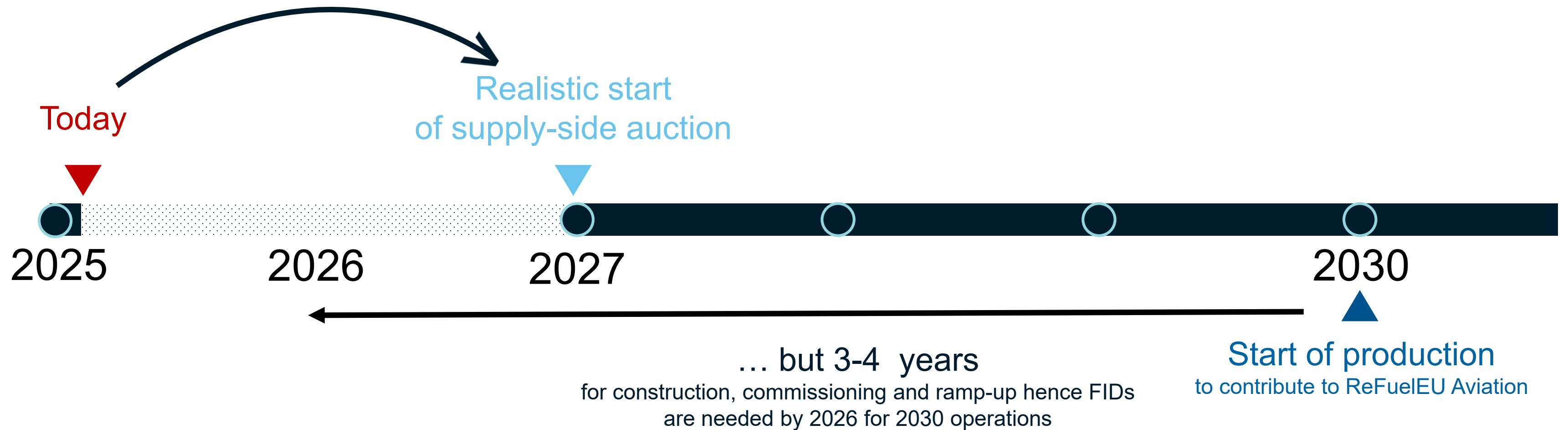
Notes: 1) The implementation of the scheme would be managed in compliance with EU competition law, including the European Commission's Revised Guidelines on Horizontal Cooperation particularly as they apply to sustainability agreements.

3

Establish a **bridging mechanism** until a capitalised market intermediary comes online, to give first movers priority access² to funding instrument

It will take ~1 - 2 years of funding allocation, design and implementation of the market intermediary

Operationalisation of market intermediary could delay FIDs as seen after the announcement of the UK's Revenue Certainty Mechanism



A bridging mechanism from 2025 is essential to prevent the market from stalling

one way of providing bridging support is by granting first movers priority access to the capitalised market intermediary.

Notes: 1) Access to the market intermediary should ensure compliance with competition regimes, with particular focus on implementing sustainability agreements under the Horizontal Guidance issued by competition authorities

Provide long-term certainty over the EU's mandates, penalties and production criteria

Investment decisions are currently hindered by perceived uncertainty around...

a) The continued enforcement of the e-SAF sub-mandates after the ReFuelEU Aviation review in 2027

the European Commission could issue communications in early 2025 on potential implications for its Climate Target Plan 2040 from an (expected) e-SAF supply shortage situation in 2030

b) Penalty systems across individual Member States for non-compliance

EU Member States should also be urged to publish transparent and harmonised penalty systems in Q1/2025 based on recent guidance by EASA

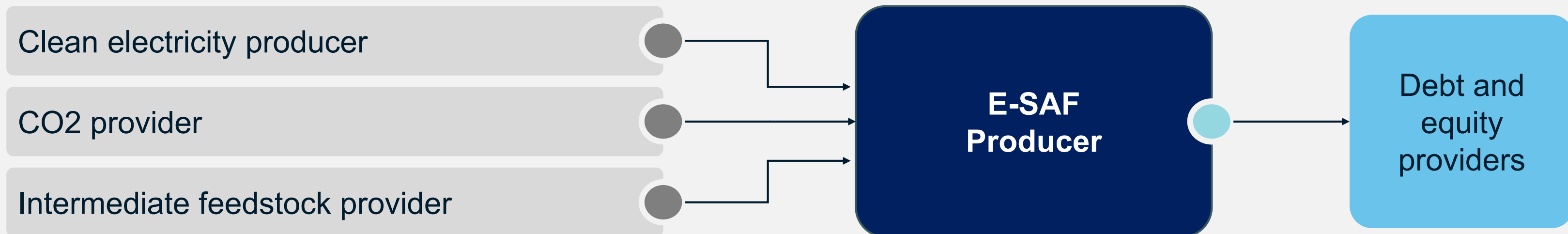
c) The continued enforcement of current e-SAF production criteria

grandfathering principles for current production criteria should be introduced to de-risk investments into first-of-a-kind projects

5

Mitigate project-on-project risk via a government backstop mechanism

High project-on-project risk: e-SAF projects often rely on new renewable electricity, CO2 or other feedstock projects coming online in time. Delays in any of these individual projects have a knock-on impact, carrying significant risk for projects and their investors



Financial backstop: To mitigate these challenges, the European Commission should establish a financial backstop ensuring that debt service payments can be made until the production facility becomes operational.

Strict eligibility criteria should be applied to all projects to minimise the triggering of this support.

In addition, **existing instruments** (e.g. the EU Innovation Fund) could be made more accessible to e-SAF projects, and more blended finance instruments (like the EU-Catalyst partnership) could help attract private capital.

Thank you.

Reach us at secretariat@project-skypower.org



For more information, visit our website: www.project-skypower.org

Panel discussion
"Clearing the Skies:
Overcoming barriers to the
e-SAF market under the
Clean Industrial Deal"

15h40 - 17h

Scan to submit
your questions!



Jo Dardenne
T&E



Eddy Liegeois
European Commission



Erwin Nederkoorn
ING



Cathryn Estes
Arcadia e-Fuels



Ourania Georgoutsakou
A4E



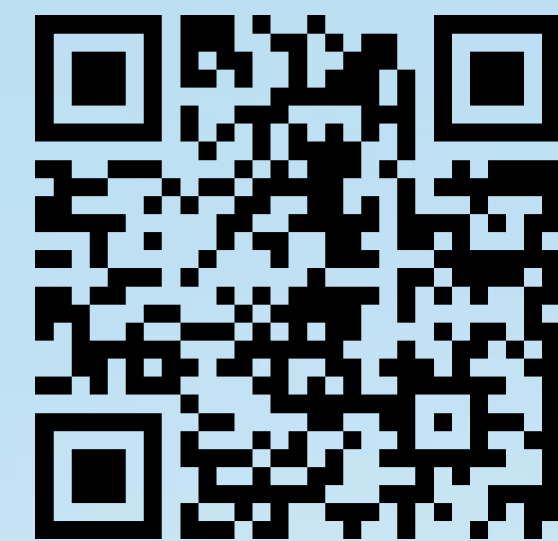
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