

MAKING USE OF MARKET BASED INSTRUMENTS

ICAO SYMPOSIUM

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ARE THERE ENOUGH CREDITS FOR THE AVIATION SECTOR?

Supply

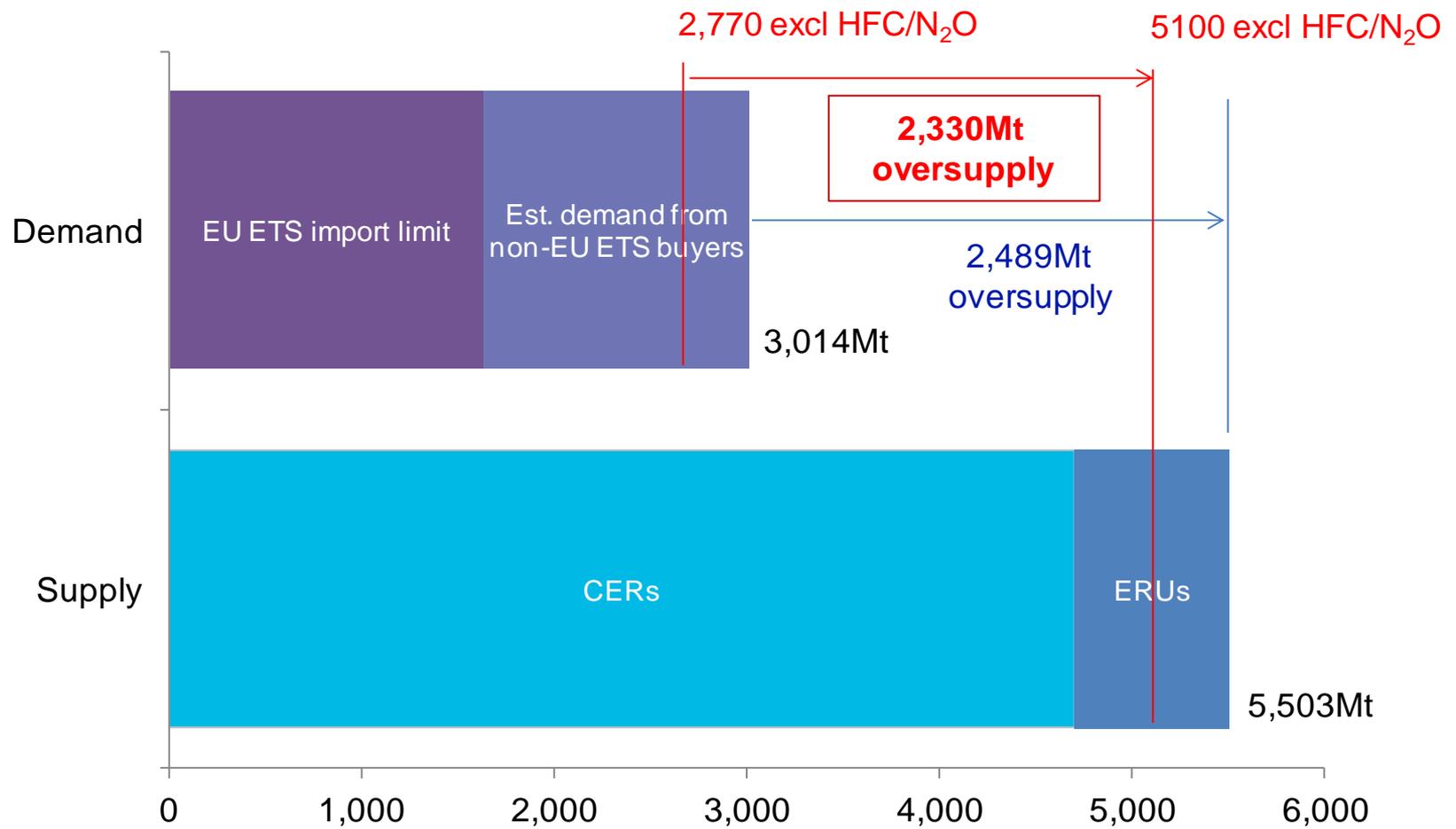
UNFCCC (CER/ERUs)
Voluntary credits
EU ETS surplus
AAUs

Demand

Aviation demand
to 2040



CREDIT SUPPLY – UNFCCC CREDITS (2008-2020)

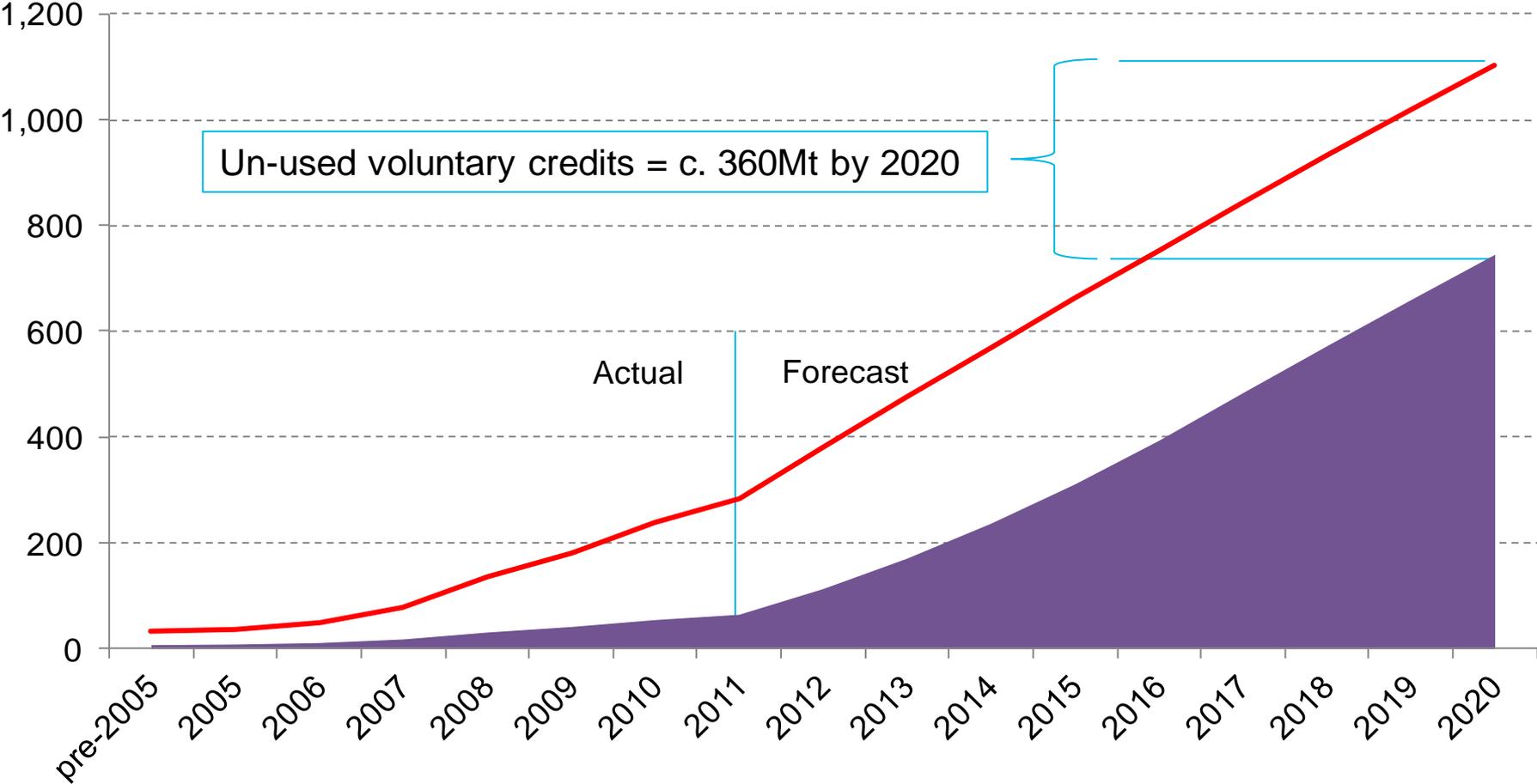


Note: includes risk adjusted pipeline projects plus a small amount of new projects likely to enter the pipeline up to 2020. Non EUETS buyers include: EU member states, Australia, Japan, New Zealand

Source: Bloomberg New Energy Finance

CREDIT SUPPLY - VOLUNTARY CREDITS

Mt CO2 (cumulative)



Un-used voluntary credits = c. 360Mt by 2020

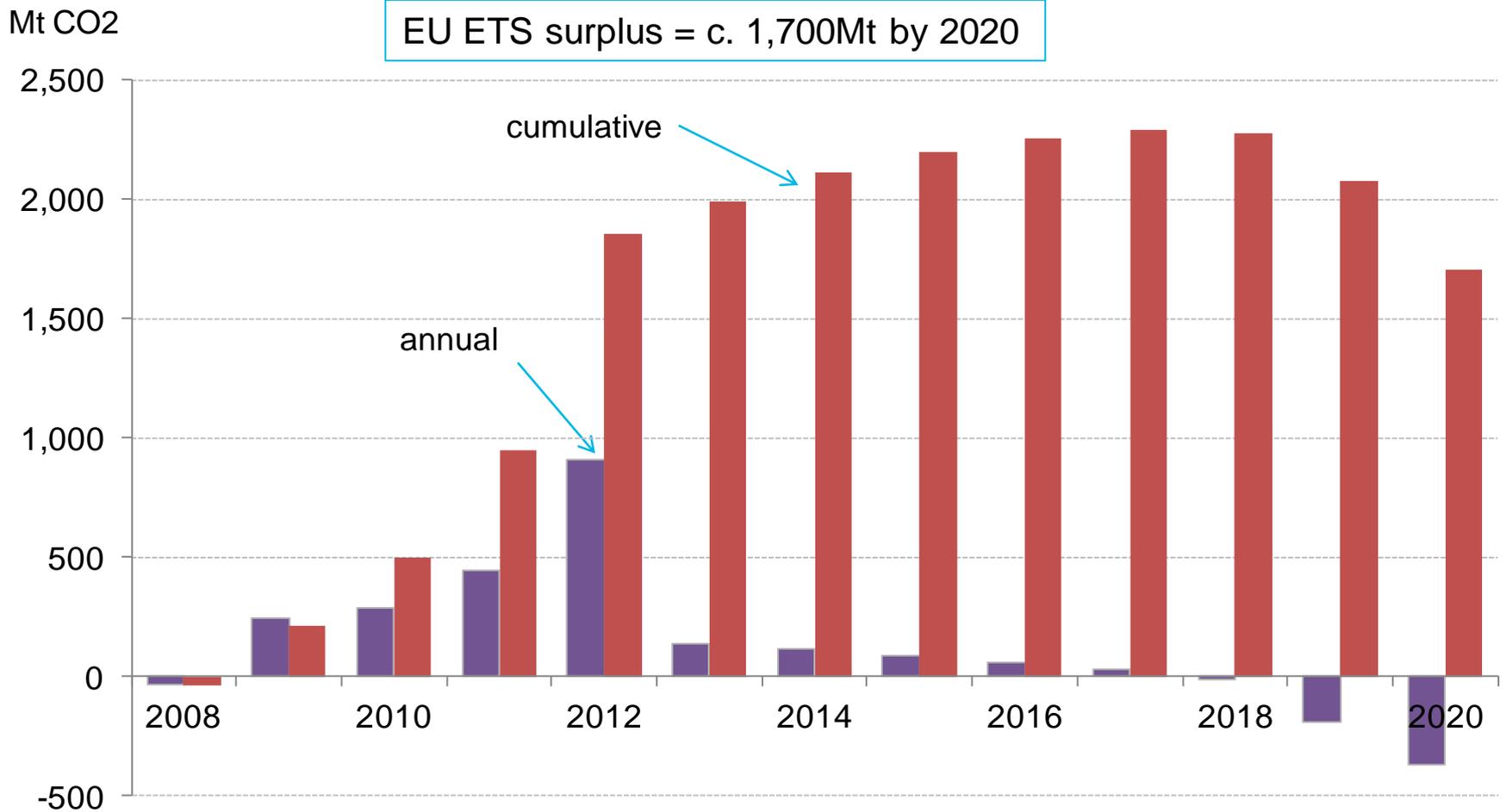
Actual

Forecast

Note: credit supply as projected in State and Trends of the Voluntary Carbon Market, 2012. Assume retirement of credits increases from 50% in 2011 to 100% in 2016 thereafter. 23% of credits produced had been retired in 2011.

Source: Bloomberg New Energy Finance, Forest Trends

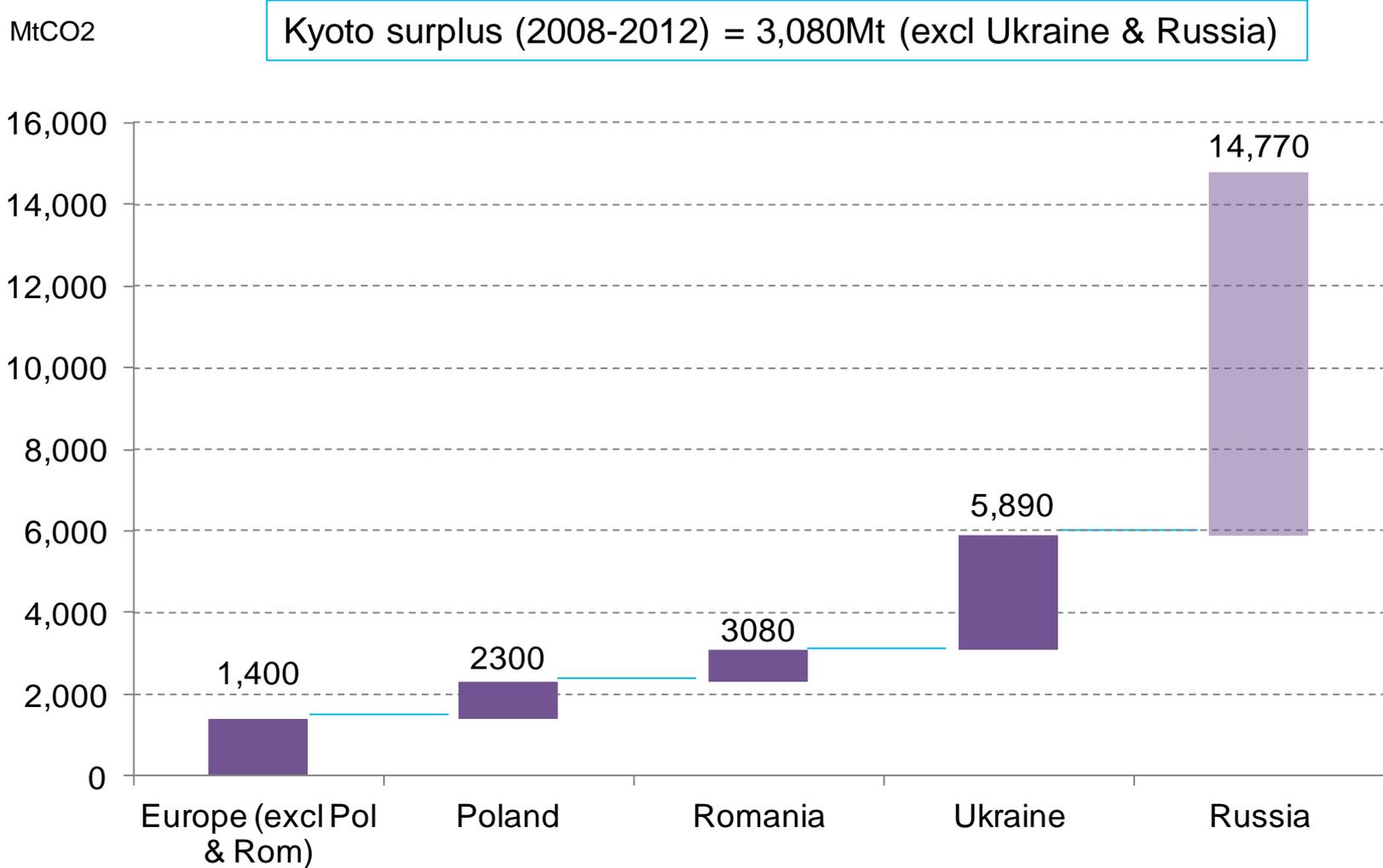
CREDIT SUPPLY – EU ETS (ALLOWANCES)



Note: Assumes 21% cap by 2020 and 450 Mt cancellation

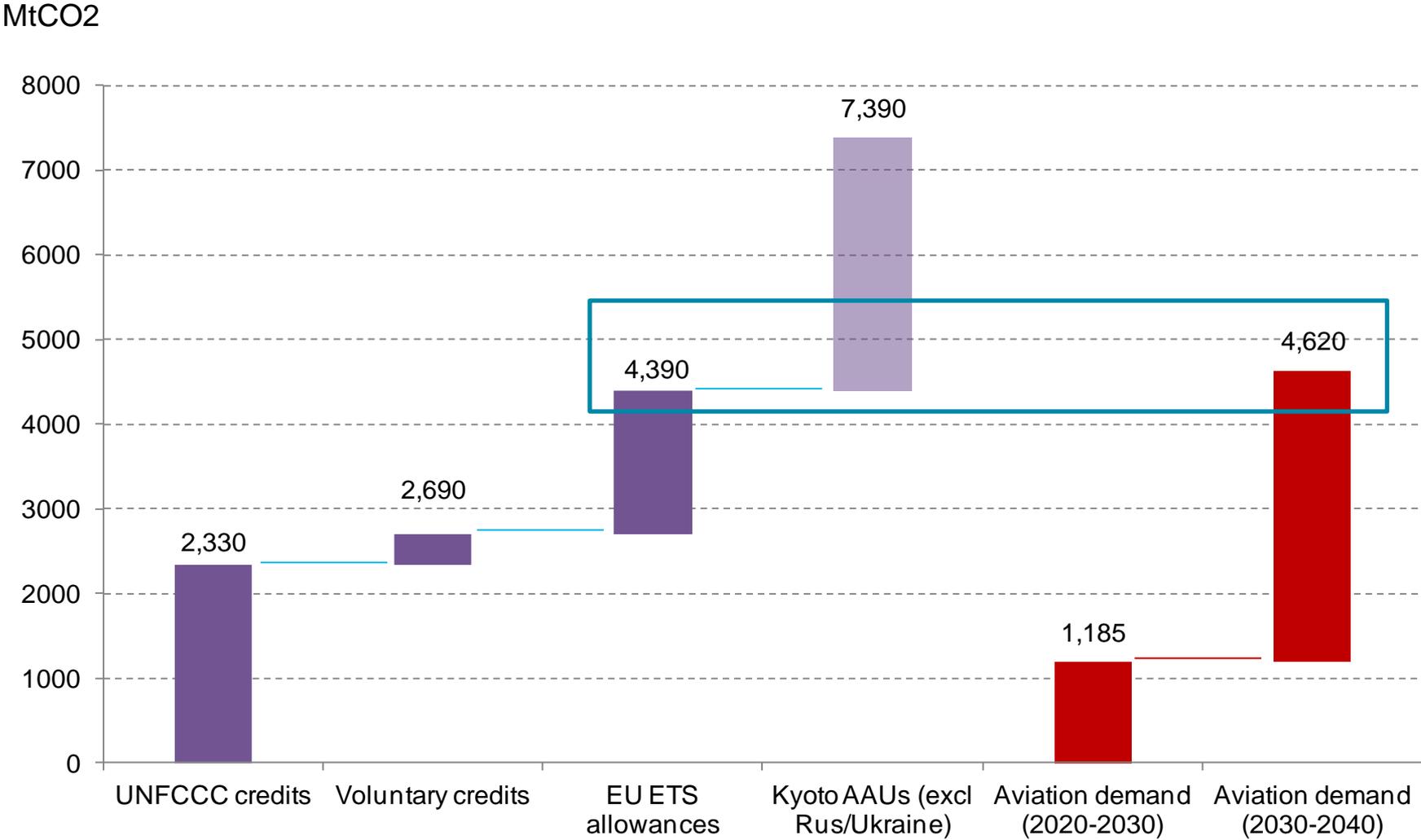
Source: Bloomberg New Energy Finance. CARX model

CREDIT SUPPLY – KYOTO AAUS



Source: Bloomberg New Energy Finance

GLOBAL SUPPLY AND DEMAND TO 2040



Note: Aviation demand calculated on basis of annual shortfalls of 100Mt in 2025, 204Mt in 2030, 450Mt in 2040

Source: Bloomberg New Energy Finance

COSTS OF DELAY TO THE AVIATION INDUSTRY

	Supply needed 2020 to 2040 (MtCO2)	Price (\$/tCO2 real)		Cost (\$m) of meeting 2020-2040 shortfall through a single purchase in	
		2013	2020	2013	2020
UNFCCC credits	2,330	2 ⁽²⁾	10	\$4,660	\$23,300
Voluntary	360	5	8	\$1,800	\$2,880
EU ETS	1,700	4 ⁽²⁾	30	\$6,800	\$51,000
Other	230	10	10	\$2,300	\$2,300
Total	4,690			\$15,560	\$79,480 ⁽¹⁾

(1). In practice aviation industry would try to find cheaper offset alternatives than EU ETS in 2020, but it would make sense to acquire EUAs in the short term while prices are low.

(2) Assuming the current price is a simplification. Purchase of all of the surplus of CERs and EUAs would increase the price of EUAs. But the key point is still valid – the price of credits will get more expensive as surpluses are used up and rules tightened that more closely reflect the marginal cost of abatement in each market.

Source: Bloomberg New Energy Finance

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