



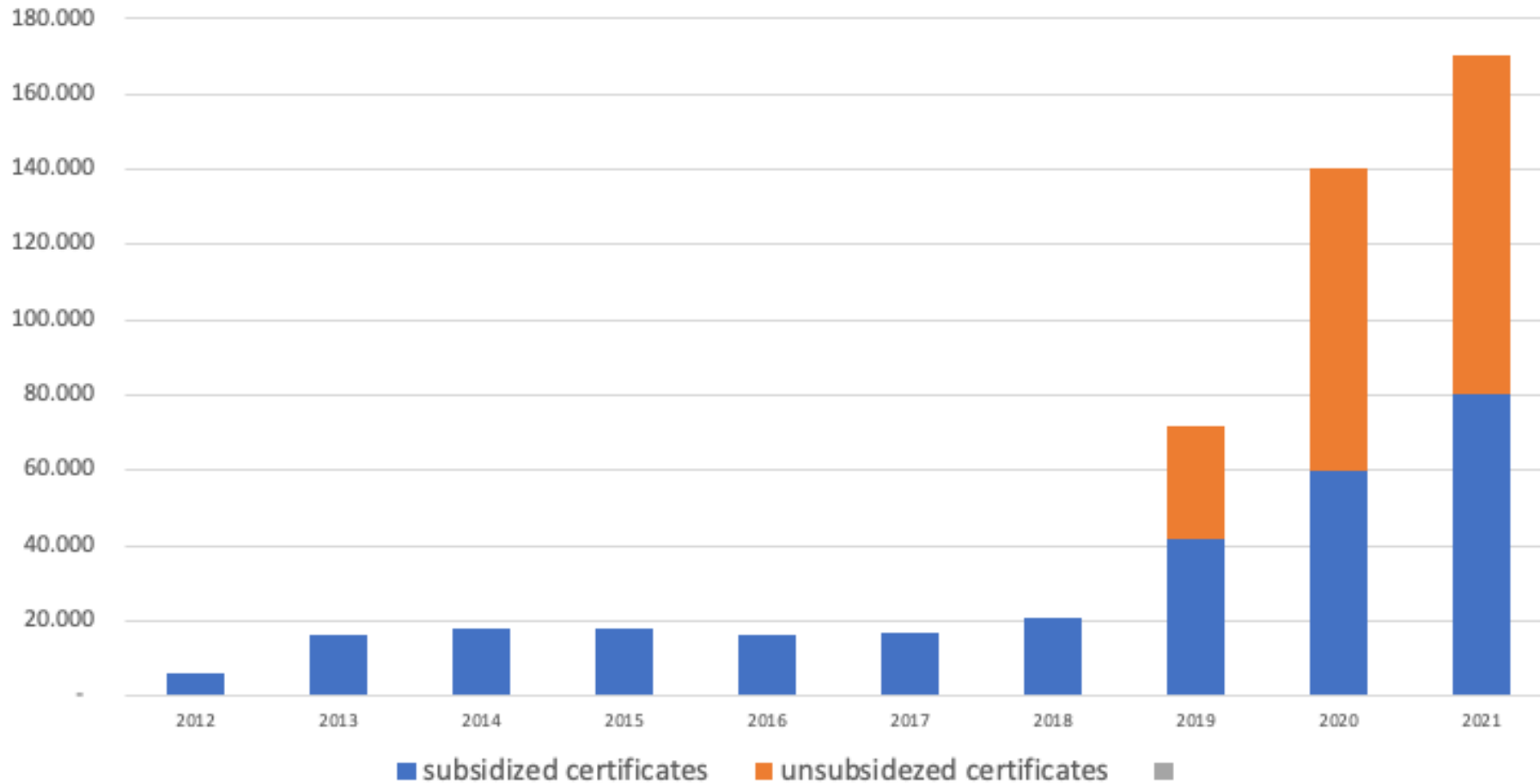
Committed to renewable gas

Projects

	capacity gas	capacity CHP
▶ Biogas plants		
▶ Tirns	2,5 MW	0,8 MW
▶ Luttelgeest	9,5 MW	1,0 MW
▶ Sint Nicolaasga	3,0 MW	
▶ Management third parties		
▶ Leeuwarden	4,0 MW	
▶ Zeewolde	2,5 MW	
▶ Holwerd		0,6 MW
Total capacity	21,5 MW	2,4 MW
Total Annual production	170.000 MW	14.400 MW

Production gas certificates

AGRADU plants - production of renewable gas certificates



subsidized or unsubsidized?

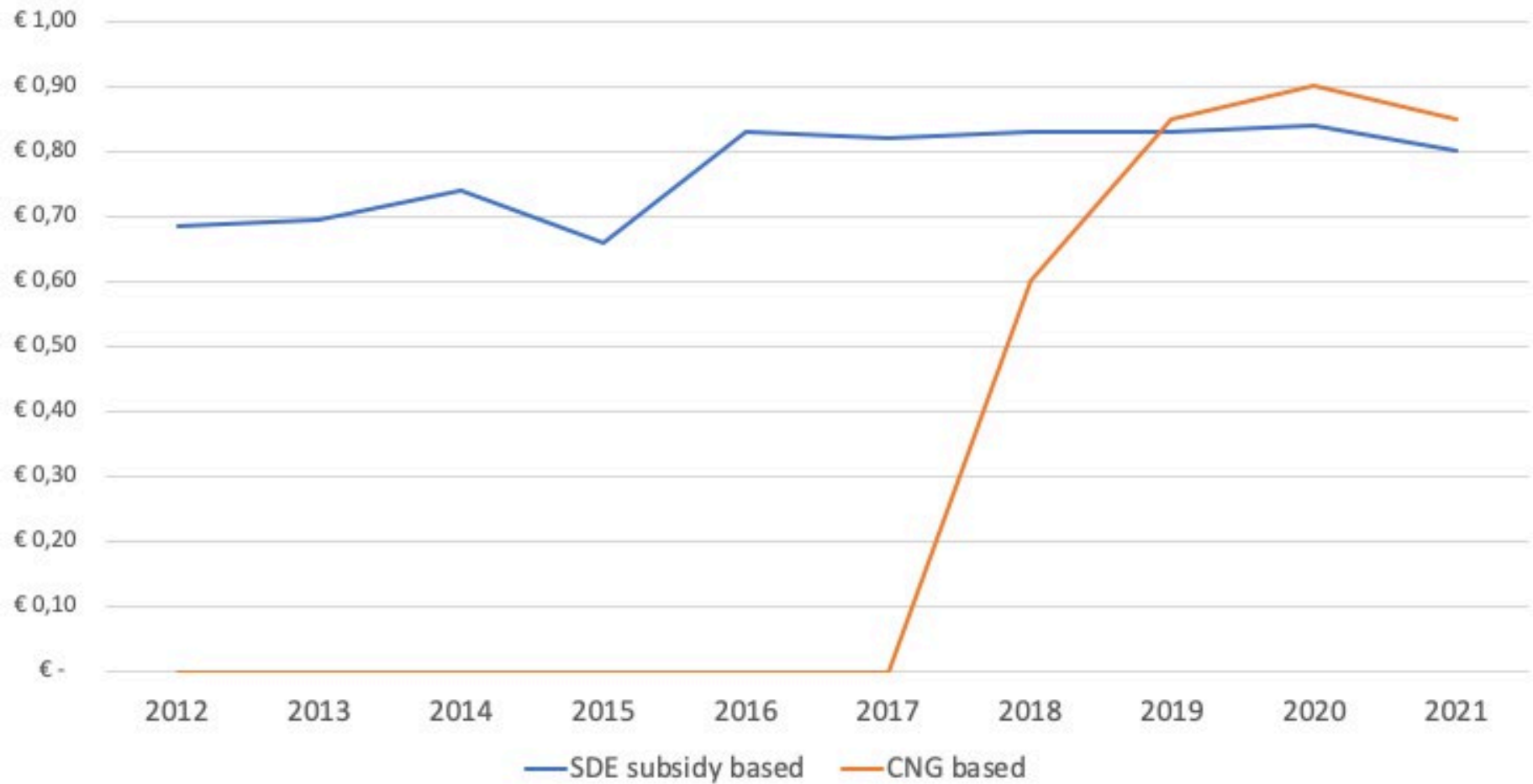
- ▶ Dutch subsidies have been good in recent years to compete

However:

- ▶ Obtaining a new subsidy involves many obligations, such as the obligation to build a complete new plant
- ▶ it is not possible to increase the size while the project is running
- ▶ Total yield is getting lower because gas grid prices fall below the subsidy base
- ▶ we also have the ambition to produce renewable gas without subsidies
- ▶ Due to the HBE system, the prices are slowly getting higher than the subsidized route

Yield per M3 biogas

Yield per M3 biogas



Points of attention

- ▶ Production must be fully certified (for example ISCC)
- ▶ Raw materials must be advanced and potentially double-counting according to the renewable energy directive
- ▶ monthly double counting audits

Biggest challenge:

There is potentially sufficient biomass available in Europe,
but does it fit within all frameworks
and we can make it available at our biogas plants?

Example: Sint Nicolaasga plant

- ▶ Old plant, stood still for 3 years
- ▶ we bought and renovated it. Not newly built.
- ▶ This installation is now fully operational without any subsidies



Example: Luttelgeest plant

- ▶ Plant has been running since 2007
- ▶ partial new construction
- ▶ SDE subsidy for 5 MW / hour
- ▶ in the end we produce double, made possible by CNG / HBE
- ▶ the co₂ goes directly to greenhouses





www.agradu.nl