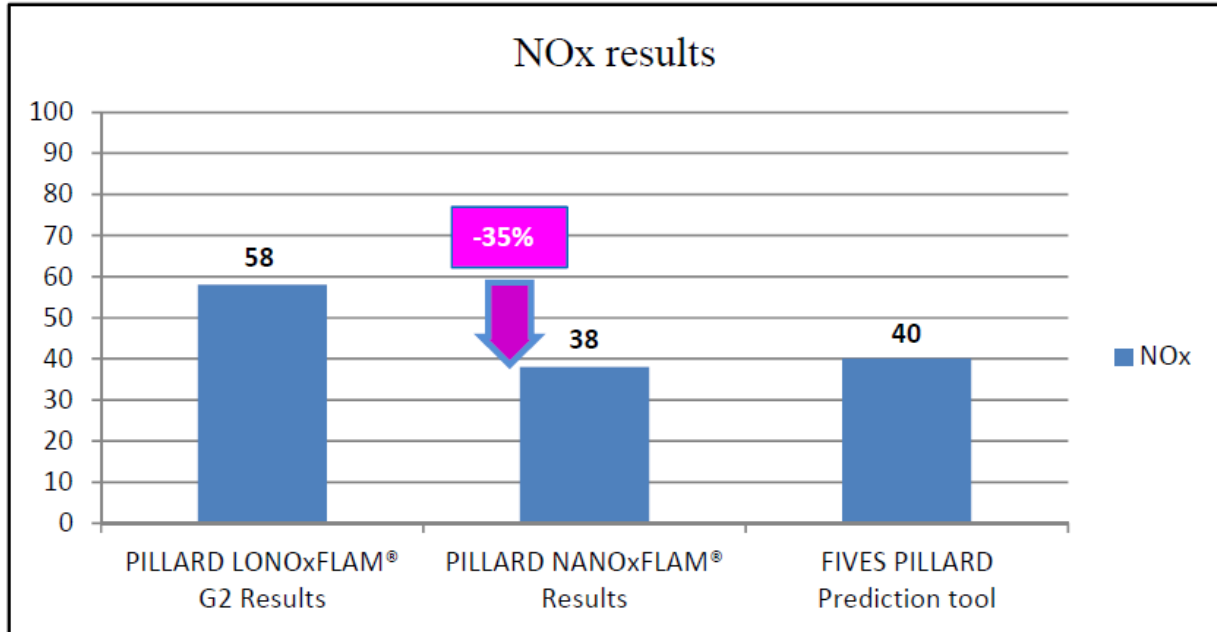


Results :



Emissions				Boiler Load
Natural gas	NOx (mg/Nm ³ @3%O ₂ dry basis)	CO	O ₂ (%)	
Guaranteed	54	159	≤ 3	100
Measured	38	13	3,0	

The PILLARD NANOxFLAM[®] burner enable to achieve 35% NOx reduction compared to the PILLARD LONOxFLAM[®] G2, measured on two similar boilers in the same plant.

Development status :

The PILLARD NANOxFLAM[®] burner is a new technology which is already applied on boilers in France, Germany and South Korea.

- 2012 : experimental development through a 5 MW prototype mounted on a water-tube boiler in our Research and Tests Center
- 2013 : experimental development through a 5 MW prototype mounted on a fire-tube boiler in our Research and Tests Center
- 2014 : 11 MW burner achievement «first industry» on a water-tube boiler through an industrial partnership in France (NOx < 50 mg/Nm³@3%O₂)
- 2015 : launch on the market
- 2015 – 2017 : last design including 5% NOx reduction and cost effectiveness

Between 2012 and 2014, the innovative PILLARD NANOxFLAM[®] development has received a funding and has been supported by the French Environment and Energy Management Agency (ADEME).

Applicability :

This technology can be used on water-tube and fire-tube boilers with natural gas.

Economics :

The use of PILLARD NANOxFLAM[®] technology has shown that the NOx value of 50 mg/Nm³@3%O₂ is achievable without external flue-gas recirculation, avoiding the expense of higher capex and opex.