ÖkoFEN Pellematic

Case study and user feedback from NZ install

Netherton School, Paeroa

- ÖkoFEN Pellematic 64kW boiler
- 8.5 tonne (42.5MWh) Flexilo pellet fuel storage hopper
- Vacuum fuel supply system
- Weather compensated heating control with mixing valve
- PWM low energy circulation pumps
- 1,000L buffer for peak heat load
- HX for separation of pressurised boiler and existing low pressure radiator system
- Automatic burner plate cleaning and ash removal system
- Online monitoring & controls

Low carbon, renewable pellet fuel

- Netherton school previously emitted 9,810kg CO2e per year from burning coal to heat the school
- Equated to 73kg CO2e per pupil or an average modern car travelling over 44,590km. More than once around the world
- Coal boiler was labour intensive for caretaker, being lit every day, and created an unhealthy working environment with coal dust and high particulate emissions, plus local sulphurous emissions for children

- ✓ OkoFEN Pellematic boiler system will emit around 110kg CO2e per year to heat the school
- ✓ **99% reduction in carbon emissions**
- ✓ Equates to less than 1kg CO2e per pupil per year or a journey of 500km, for example from Netherton School to Wellington, one way
- ✓ Particulate emissions extremely low, no sulphur
- ✓ New Zealand made wood pellets are used as fuel
- ✓ Wood pellets in NZ are manufactured from wood waste – sawdust and wood shavings from the wood processing industry, diverted from landfill

Apricus® NZ eco-energy

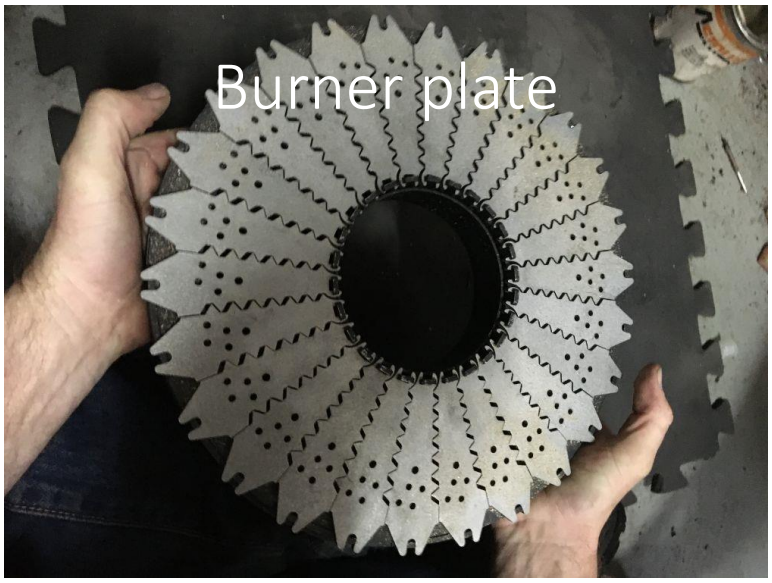
ÖkoFEN PELLET HEATING

Feedback from pellet boiler customer

- Netherton School received 100% from Ministry of Education Sustainability Contestable Fund to replace their aging coal boiler with an ÖkoFEN Pellematic boiler and bulk pellet fuel storage hopper
- The system was installed during July 2020 school holidays and has been working very well since. Feedback from the Principal:

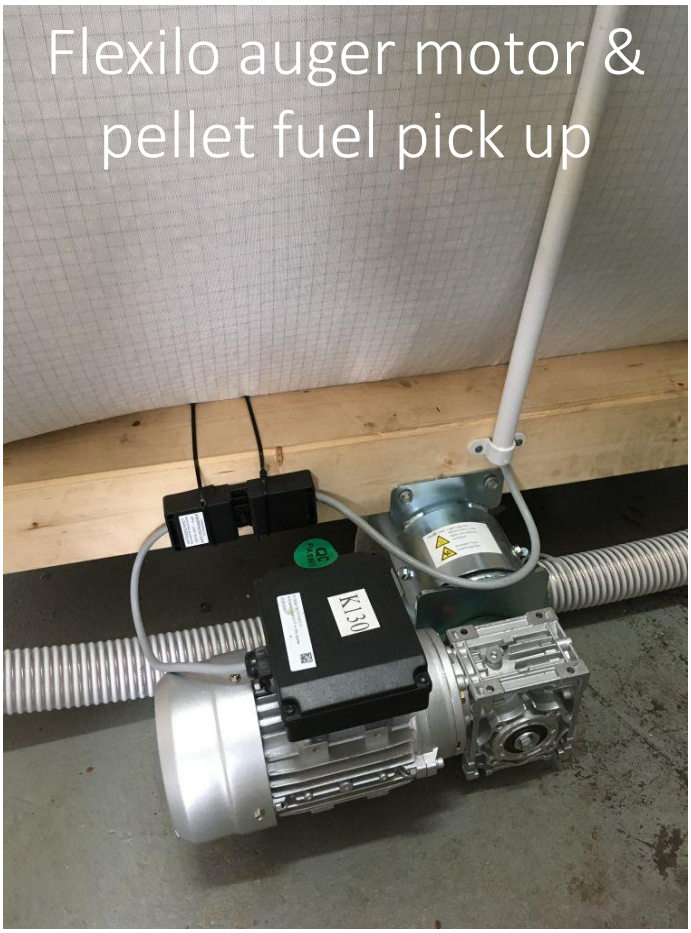
The new boiler system is great. Our classrooms are beautiful and warm every morning with a consistent heat. Previously, the old boiler did take hours to warm up and by 10.00am most mornings the heat would start to disappear.
Our caretaker has described it as "boring" (in a good way) as he was always having to shovel coal each morning. The time would be set from 6.00am-10.00am where as with the new system it is automated and has a pre-set temperature. The boiler system will keep working until the outside sensor reaches 18 degrees.
Our caretaker has learnt to empty the ash box and is learning to troubleshoot as he learns more about the system.
We have found the environment to be much cleaner and obviously economical.
I showed the whole school at assembly the journey of the wood pellets and how it works- they thought this was really interesting.
The new boiler system fits perfectly within our Enviroschools kaupapa. Sustainability is always our overarching theme and we feel very fortunate to be able to do our bit for the planet and teach the children about sustainable practices.
We have found the correspondence and support from all agencies involved with us getting the new boiler system extremely helpful.
Thanks
Brook Hill, Principal, Netherton School

Pellematic system components in detail



Pellematic system components detail


Flexilo fuel storage hopper & vacuum feed to boiler



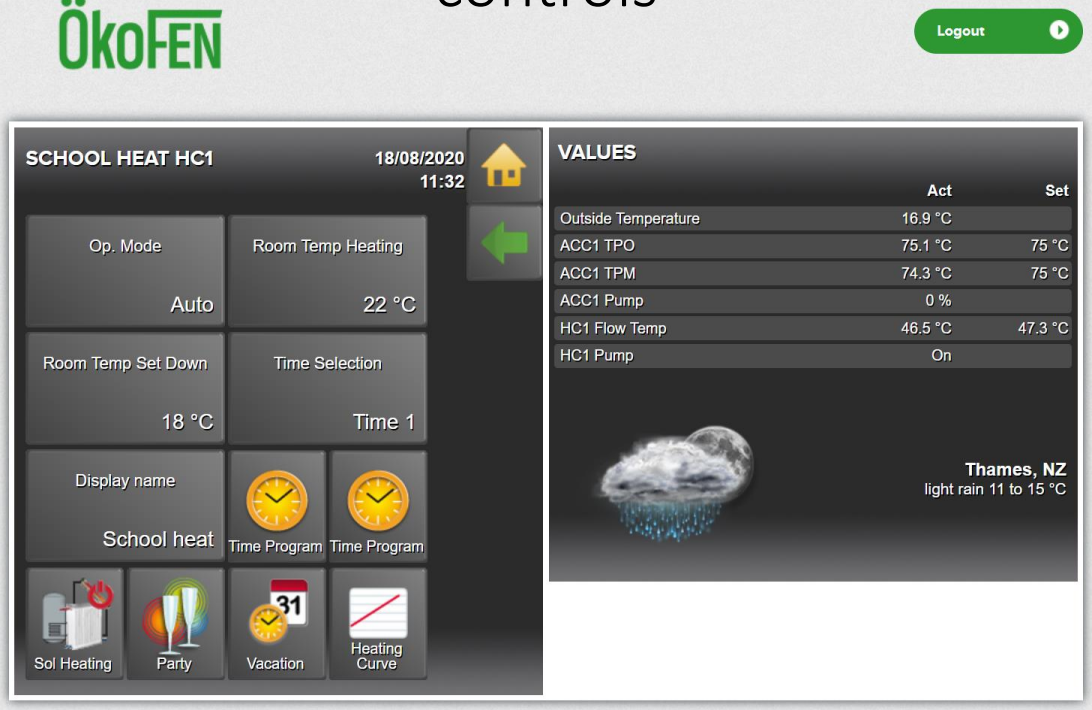
Flexilo auger motor & pellet fuel pick up


Flue attachment & access point

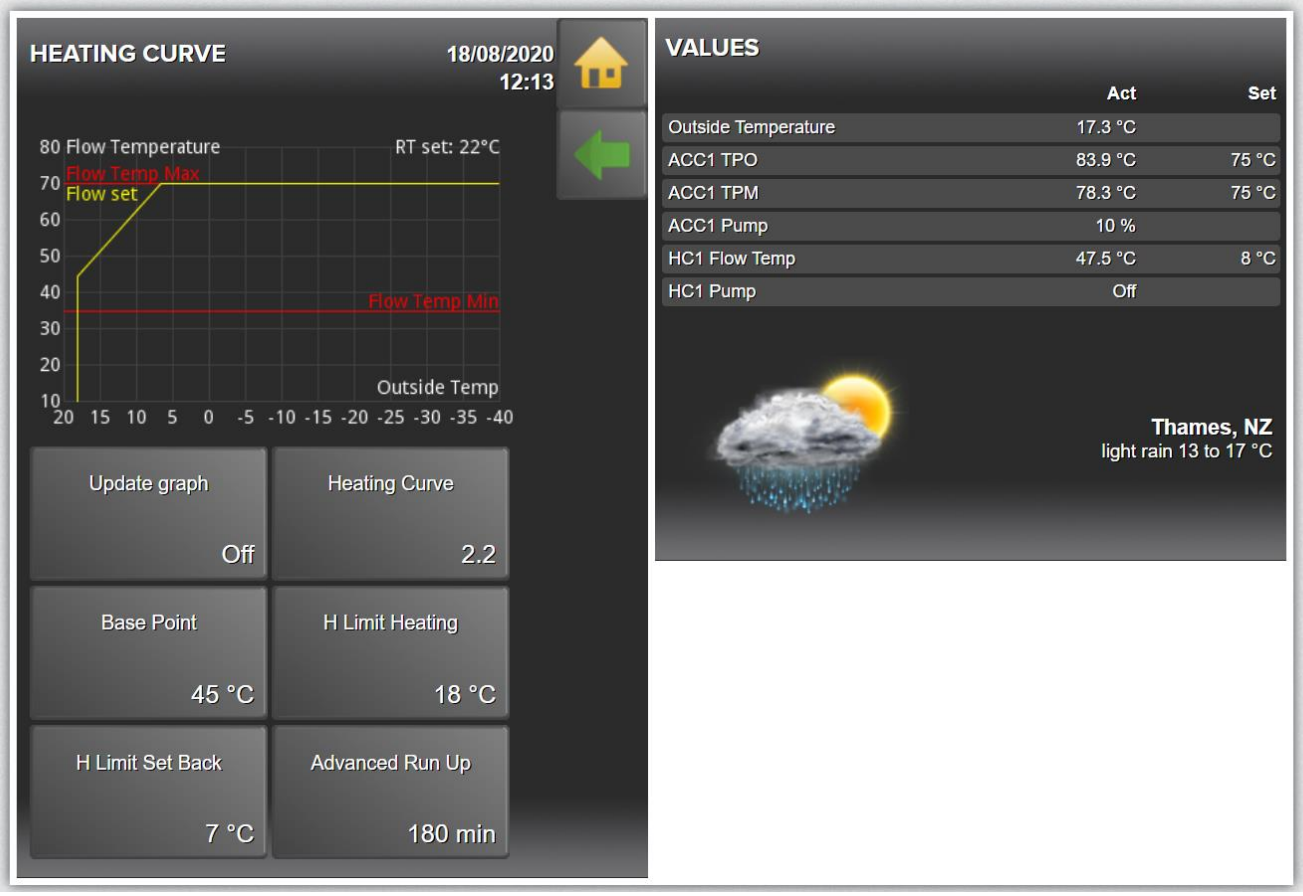

Fan forced flue

Pellematic system components detail

Online access to Pellematic system monitoring & controls



Online access to Pellematic advanced boiler and heating system controls



Online access to Pellematic advanced boiler and heating system controls

Performance graphs from 27th & 28th July online monitoring from Netherton School