

Southland Schools' Wood Energy Heating Plant

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Southland Schools' Aging Heating Plant



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2. Options Available
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The Problem



Issues affecting school boilers now and in the future

- Local coal supply quality
- Poor fuel supply cost decision making by school boards'
- Inadequate boiler operational training
- Unhealthy operator environment in boiler houses
- Minimum boiler temperatures not being maintained
- Possible carbon taxes in the future

Options Available

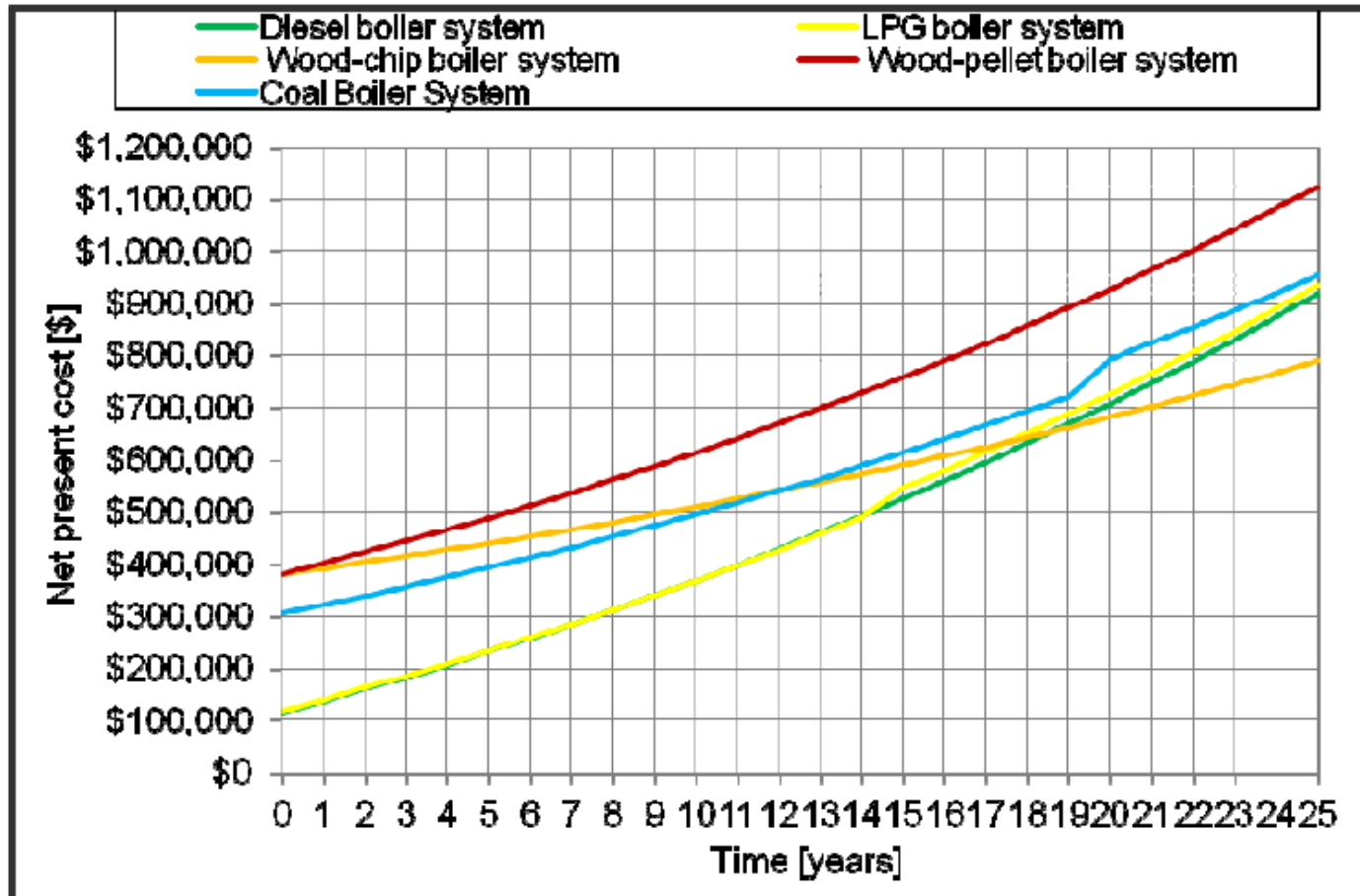
When school boilers are at, or near the end of their economic life a professional heat energy options assessment is undertaken based on whole of life costs for each option identified.

Typically the fuel options include:

- Coal
- Diesel
- LPG
- Wood pellet
- Wood Chip



Heat Energy Options Whole of Life Cost Example



The Solution



We have found the 8 medium sized schools that have between 5 to 30 classrooms, (who have completed heat energy option assessments), all produced a result of wood chip being the lowest whole of life cost option.

- Temporary containerised diesel boilers have been used where the existing coal boiler is non operational
- Most wood chip installations have required a small addition to the boiler house to accommodate the buffer tanks, or fuel store
- The size of the fuel store being installed has varied depending on the travelling distance from the fuel supplier

The Benefits



There are multiple benefits flowing from the replacement of aging coal fired boilers with new hi-tech wood chip boilers in our Southland schools. They are:

- Use of a renewable and energy efficient fuel
- Clean, tidy and healthy boiler houses with minimal operator involvement
- Minimal ash for disposal. Ash can be spread on school gardens
- Increased life of surrounding roofing materials with non corrosive boiler emissions

The Benefits continued...



- Enhancing and supporting “Enviro Schools” in their quest to teach and support sustainable practices
- Avoidance of dangerous goods licences and complex fuel storage regulations
- Minimal risk of an explosion occurring
- Clean air emissions
- No likelihood of future carbon tax charges

The Future

The Ministry of Education has many more aging coal fired boilers in Southland. Given the results of the whole of life cost assessments and the positive feedback from the schools who now have wood chip boilers, I see a regular programme of wood chip boiler installations over the next ten years.

Warm and reliable school heating systems = happy and healthy kids





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