

# Portfolio

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## 4 Axis CNC Hot Wire Foam Cutter



Figure: CNC Foam Cutter

- Designed and built a low cost prototype CNC foam cutter for rapid prototyping of wings and blades.
- Utilises low cost NEMA 17 stepper motors, arduino mega and 3D printing hardware and modified firmware.
- Wrote command line interface CAM application in C for wings and blades.

## Supplementary Telecommunications Power

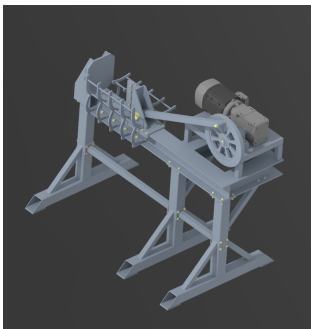


Figure: Wind Turbine

Click [here](#) to see the wind turbine being tested in the wind tunnel.

- Designed and built foam core composite wind turbine blades, utilising the CNC foam cutter.
- Optimised and validated blades using my own programs and the QBlade simulation software.
- Designed and built a data collection system using an arduino uno.

## Log Splitter Design



- Designed, modelled and produced AS1100 drawings for the log holder.
- Modelled the log splitter parts and produced AS1100 drawings.
- Created an animation utilising mechanisms within PTC Creo.

Figure: Log Splitter

Click [here](#) to see an animation of the log splitter.