



The Able Partnership Ltd is a multi faceted social enterprise that aims to provide both socially excluded children and probationing adults with an opportunity to learn practical transferable skills. Currently they are developing their own fuel supply via cultivation of a short rotation crop of willow (SRC), as well as taking residues from council arboricultural works and buying local woodchip. They are heating a series of 5 tanks, holding 225,000 litres of water which is home to a combination of Tilapia, Carp, Catfish and Sturgeon fish, using a 50Kw Talbotts boiler to heat to 18-24<sup>o</sup>c. The re-circulated water is then used as a growing medium for salads, via the process of aquaponics, a form of nutrient recycling.

## objectives

- To provide a relevant, safe and stimulating environment for learning, enabling those currently exclude from the mainstream education process development opportunities.
- To ensure that the enterprises' aims; sustainability and environmental education are core values, and are demonstrated by practical application.
- To provide an exemplar of aquaponics within the region.

## actions

- Obtaining a site, this was done with assistance from Yorkshire Water, who provided a secure site, within close proximity to an established SRC crop and opportunities to establish further crops.
- Specification of a boiler, Talbotts supplied a 50Kw system, this has a 2t chip storage bin and the ability to run on a variety of feedstocks, necessary given the variable nature of supplies.
- The development is as sustainable as possible, as this is one of the core educational aims of the Able Partnership Ltd.
- Design of a water and nutrient recycling system, taking the spent water from the wood fuel heated tanks through a series of greenhouses growing a variety of salad crops to clean water before returning to the fish.

## achievements

### For Business:

- The partnership takes 10-15,000t of sewage sludge per annum as a growing medium for 4Ha of SRC planted as fuel.
- Supply of fish and salads to Catering Plus, a sister social enterprise, which provides catering skills along a similar model to that of the Able Partnership Ltd.

### For the region:

- Creation of a sustainably based education enterprise, which has provided support and teaching of transferable skills to 3,000 children and 1,500 probationing adults.
- Creation of a 'market' for the residue from council street tree works.
- Employment of 5 staff at a former landfill site with scrap comp[ound and series of derelict buildings.

## background

- Able Partnership Ltd started in 2002, and has had 4,500 service users during this period, funded initially by a combination of grant aid and Primary Care Trust funding and is now a sustainable enterprise
- The current site covers 34Acres, of which the heated glass house unit and buildings covers 1Acre, with a 10 % given over to vegetable, honey production and other permaculture enterprises.
- Short Rotation Coppice (along with Ash & Alder) is grown on the site, utilising the Yorkshire water adjacent sewage sludge processing as a growing medium.
- The site runs a Green Mech chipper, purchased in 2005, with grant aid from the Coal Fields Regeneration Trust, this enables them to operate an ad hoc wood processing station. Council arboricultural street tree residues are delivered in, then chipped direct into the drying heap.
- Woodchip is stored outdoors, in a single mound, covered with a membrane, there is 4-5t on site at any time drying, 3-4 weeks supply.
- The site heats 225,000 litres of water to 18-24<sup>0</sup>c using a 50Kw, Talbott boiler, run using G30 chip at 20% moisture. It is feed using an auger from a 2t hopper, with the boiler housed in a converted services building, already present on site.
- The 5 tanks are home to over 9,000 fish, Sturgeon reared for future caviar production, along with Carp, Catfish of Tilapia for foodstuffs and some ornamentals used as teaching aids for the service users.

## quotes

*“Really good session at Wakefield, students loved the active learning; I think this project has a lot of potential and needs exploiting to the full. Staff very welcoming and committed to supporting our efforts. Anyone seeing the youngsters working today would have no doubt that the project should be backed financially.”*

Dave Jordan , Green Arbour School.

*“ The use of SRC on this site is an integral part of a holistic approach to a series of environmental, social and economic challenges.”*

Graham Wiles, Project Manager, Green Business Network

## partners

Yorkshire Water  
West Yorkshire Probation Service  
Wakefield District Primary Care Trust  
Wakefield District Community School  
Green Business Network

Talbots – Boiler Suppliers  
ReGro – Chip Supplier

## funding

Department of Energy  
& Climate Change  
– Clear Skies Grant £56,000  
Coalfield Regeneration Trust  
Biffaward  
Paul Hamlyn Foundation  
WRF Green Infrastructure

## lessons learnt

- Ash deflectors are essential when undertaking any wood fuelled development near poly-tunnels, Able Partnership Ltd has a single directional baffle applied the it's chimney pushing smuts back down the flue or away from the roofs.
- Tailor any boiler installation to the user, don't be tempted to over sophisticate any system, just because the options are available. Think about what the fuel is to be and ensure it accommodates subtle variations, Able Partnership Ltd can run on wood or SRC chips.