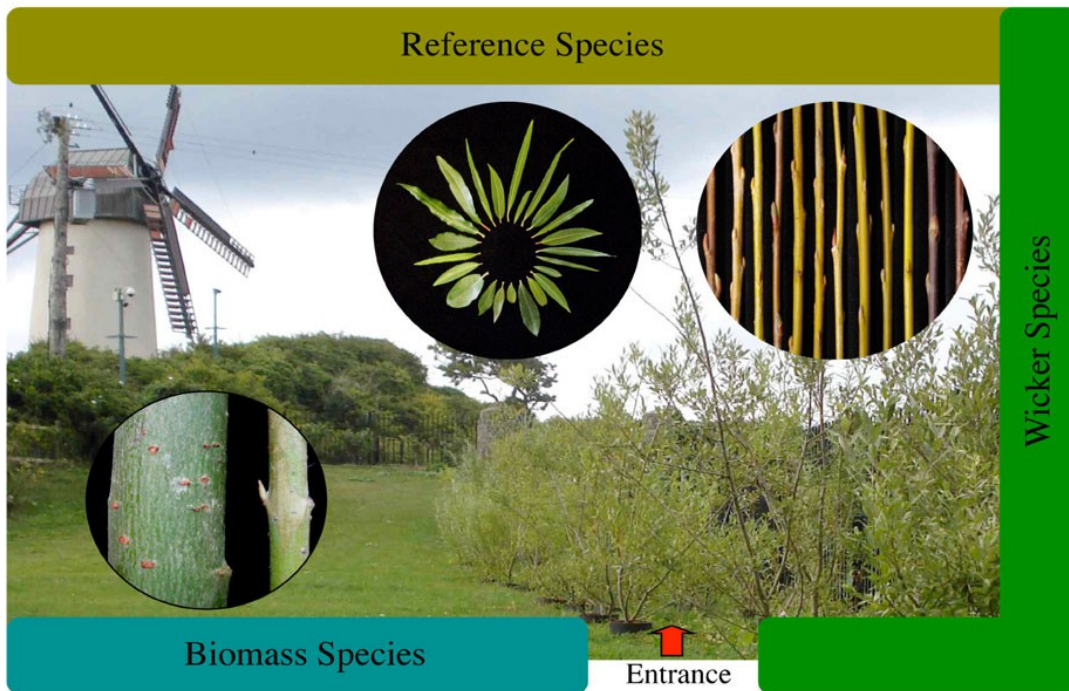





Skerries Mills Willow



A proportion of the Skerries Mills Willow collection is in the Willow garden and displayed as 'Reference', 'Wicker' and 'Biomass' species, as shown on the map. The 'wicker' varieties are notable for their slender and colourful stems in comparison to the more substantial and woody nature of the 'biomass' varieties.



<p>Female</p>			<p>Genetic Markers</p>
<p>Male</p>			<p>Stem Cross Section Structure</p>
<p>Flower Structure</p>	<p>Pollen Structure</p>	<p>Leaf Structure</p>	<p>Stem / Bud Structure</p>

Each Willow plant can be characterized by a number of features, as shown above. Willow plants are 'dioecious' meaning a plant and its flower is either Male or Female. Only male flowers produce pollen which is an important food source for Bumble bees in early Spring.



Skerries Mills Willow



In addition to the Willow garden, Skerries Mills has a Willow plantation focused on the cultivation and production of wood fuel from Biomass varieties of Willow, on low and high quality land. The plantation is designed to promote local fuel production and the concept of a County Council based 'Fuel Allotment', allowing people to rent an allotment (similar to a garden allotment) dedicated to the production of wood fuel and the enjoyment of a wood land sanctuary.

Willow Fuel Allotment - what is involved



Time In-put

- Planting:** 4 hours / 200 m² / 25 years
- Weed Control:** 2 hours / month
- Harvest:** 5 hours / tonne Willow rods
- Processing:** 3 hours / tonne (rods to pegs)
- Drying:** 6 weeks (passive air dry)



Short 25 cm length stems or 'Billets' are planted to a depth of 10 cm in Spring. These billets can form multiple shoots within a month, which grow into long slender rods to a length of two to three meters within the year. By the end of the second year the most mature rods can be cut approximately 10 cm above ground level promoting the development of new rods and so allowing a continuous harvest of 1 – 1.5 kg of wood fuel per plant per year for approximately 25 years. The pegs are air dried for approximately six weeks and ready for the wood burning stove.



Skerries Mills Willow

Willow Past and Present



Willow is used to remove a range of chemicals from water and soil in modern bio-filtration systems

The traditional use of Willow has declined and been replaced with modern applications such as bio-fuel and bio-filtration. In addition to the small, 'allotment' scale production of wood fuel, large scale plantations are used to provide the heating and hot water requirements for entire housing estates in district heating schemes. These projects enable a seamless transition from imported fossil fuel to a domestic carbon neutral fuel, at lower cost to residents, securing both energy self-sufficiency and significant employment opportunity. Willow can be grown on marginal land avoiding competition with food production. Fingal County marginal land can support the heating and hot water requirements of approximately 13,700 homes.



Skerries Mills Willow

When the glaciers retreated from Ireland after the last ice age approximately ten thousand years ago. Willow was one of the first tree species to colonise the land.

Willows, from the genus *Salix*, form around 400 species of deciduous trees and shrubs, found primarily on moist soils in cold and temperate regions of the Northern Hemisphere.

Willows are very cross-fertile, and numerous hybrids occur, both naturally and in cultivation. A well-known ornamental example is the weeping willow (*Salix × sepulcralis*), which is a hybrid of Peking willow (*Salix babylonica*) from China and white willow (*Salix alba*) from Europe. Willows bark is usually soft and pliant with sap containing salicylic acid a compound with aspirin like properties.

Agriculture: Willows produce a modest amount of nectar and are especially valued as a source of early pollen for bees. Poor people at one time often ate willow catkins that had been cooked to form a mash.

Environment: As a plant, willow can be used in a number of ecological applications such as wastewater treatment, land reclamation, landscaping, phytoremediation, and wildlife habitat.

Art: Willow stems are used in the construction of living and dried willow structures such as domes, tunnels garden features, such as decorative panel and sculptures. Willow is also used to make charcoal for drawing.

Manufacturing: Some of man's earliest manufactured items may have been made from willow. Including items such as baskets, fish traps, wattle fences and wattle and daub house walls. The relatively pliable willow is less likely to split while being woven than many other woods, and can be bent around sharp corners in basketry. In addition, fibre, paper, rope and string can be produced from the wood.

Energy: Willow is grown as a biofuel because of its fast growth rate. As a consequence of its high energy output it is used in large scale commercial projects in many countries such as Sweden.

