

Forestry & Energy

REVIEW

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THE VOICE OF FORESTRY & RENEWABLE ENERGY



HEATING THE NATION

IS WOOD FUEL A KEY COMPONENT?

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OUTDOOR LEARNING FOR FOREST OWNERS

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FORESTRY ON DAIRY & DRY-STOCK FARMS

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Foreword

Welcome to the Spring/Summer Edition of Forestry & Energy Review Magazine.

Perhaps it is time to revisit renewable heat policy particularly in the light of current developments in Europe and worldwide.

At present the greenhouse gas savings on fossil fuel displacement are considerably better for wood fuel systems than heat pumps and they are a lot cheaper to install. For an average Irish home an air source heat pump can cost from €12,000-€18,000, depending on installation cost. Plus, there is the need for it to operate in houses and buildings with a high level of insulation, otherwise the heat pump will struggle to provide water at 40 degrees centigrade, the COP will fail, and costs and

greenhouse gases will rise accordingly. A good quality, Ecodesign compliant wood fuel pellet stove costs between €5,000 -€6,000 to install. Also, the planned 600,000 heat pumps and 900,000 electric vehicles are going to require a lot of electricity to run even when the wind doesn't blow.

Time to plan for APF Ragley Estate Alcester, Warwickshire 22/23/24 September.

Hoping you all Keep safe during these challenging times.

We trust you enjoy reading this publication which will continue to provide a voice for the Forestry and Energy sectors.

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Features

20 All Ireland Roundwood Production Forecast 2021-2040

Ireland's forest estate is set to become an increasing source of wood over the next 20 years. The National Forest Inventory indicates that the area of privately owned forest is nearly on a par with the public estate, following the afforestation of over 300,000 hectares of private lands since 1980. In 2017, the total growing stock was estimated as 117 million cubic metres of roundwood. Most of the private forest estate has been established over the past three decades, with many areas being thinned, and some clear-felled at the end of rotation. Ireland has a strong and well-developed wood processing sector and is a net exporter of timber and timber related products. This arises from a combination of relatively high forest growth rates and investment in processing technology.

28 Heating the Nation: Why Wood fuel matters

The fundamental tenets of renewables policy are to reduce greenhouse gas emissions, increase security of energy supply and favour the emergence of least cost solutions. It is arguable that present policies being pursued are out of kilter with best practice particularly in the light of recent geopolitical realities.

42 Forestry Licensing Dashboard

We have published the forestry dashboard for week April 1, which provides details on all licenses issued for various elements of forestry on a cumulative basis for the calendar year to the end of March.

44 Equipping Forest Owners to Manage Diverse Forests

With the trend in species diversification envisaged to continue, there is now a growing need for owners to better understand their forest management options as part of a sustainable and integrated approach. A critical element of this is to control the thinning process and for owners to realise the full potential value of their forests.

50 Increasing Tree Cover on Irish Dairy and Drystock Farms

To better understand the factors that influence farmer decision making with respect to tree planting on farms, the main attitudes, influencers, barriers and intentions of the farmers must be identified. To facilitate this, a research project with Teagasc and University College Dublin as partners, has been set up to analyse farmers perceptions of, attitudes towards, and willingness to plant trees on farms.

Increasing Tree Cover on Irish Dairy and Drystock Farms

“What are the main barriers and perceptions that impede agroforestry uptake?”

By Rachel Irwin (Teagasc), Ian Short (Teagasc), Áine Ní Dhubháin (UCD)

CURRENT FORESTRY COVER IN IRELAND

In pre-civilisation times, Ireland had an estimated forest cover of 80%. During the industrial revolution, the demand for agricultural and forestry products intensified. This resulted in wide-scale deforestation of native woodlands to make way for more specialised farming systems and commercial forestry. A steady decline in the abundance of trees within agricultural systems ensued with livestock gradually became excluded from forest systems and native tree species replaced with high-yielding commercial species. During this period, traditional

agroforestry practices declined rapidly in favour of high yield producing intensive agriculture. By 1928, 99% of the forest cover had been lost, leaving only 1% of Ireland’s land surfaced in trees. In an attempt to compensate for this, the Forestry Act was introduced in 1928. In conjunction with government incentives, this led to a near doubling of the forest cover from 5.9% to 10.5% between 1985 and 2012. Total forest cover currently stands at approximately 11%. However, this is still 7% lower than the government target of 18% by 2046 and with the current afforestation growth, it remains unlikely that this target will be



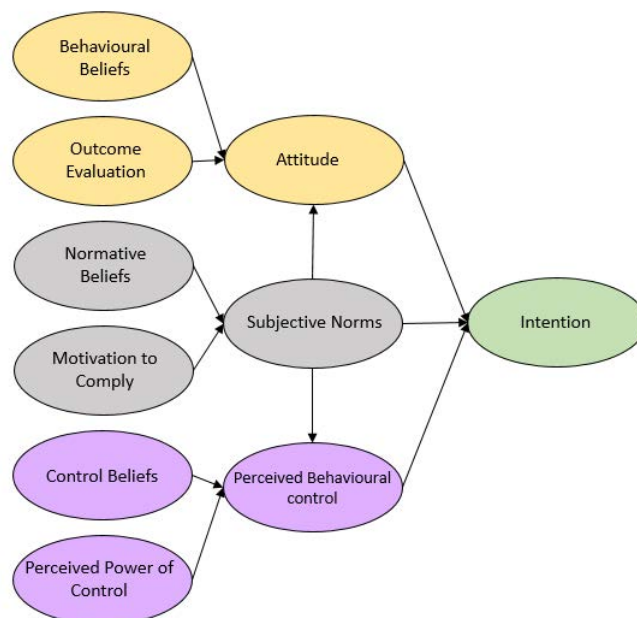
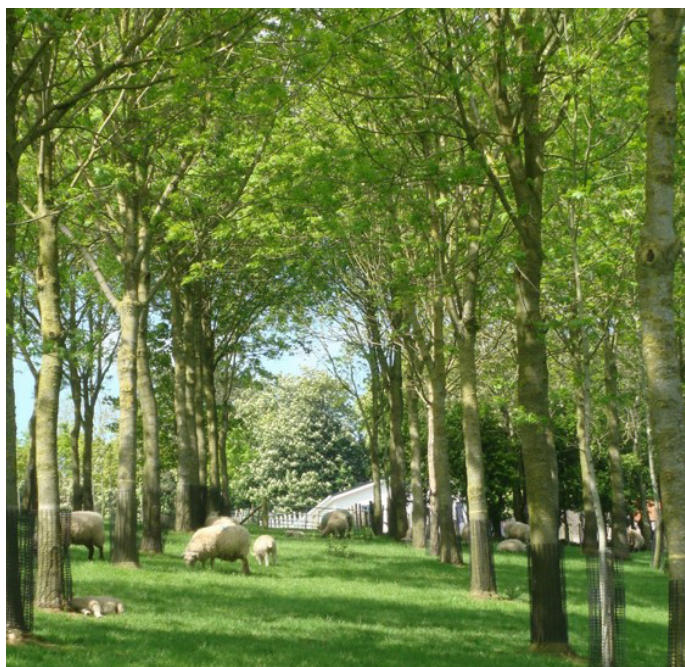


Figure 1. Theory of Planned Behaviour

achieved.

AGROFORESTRY, A NEW TERM FOR AN ANCIENT PRACTICE

Agroforestry is cited by many as a means to achieve this target of 18% forest cover while continuing to produce high quantities of food. Agroforestry refers to the incorporation of trees within agricultural landscapes and has been a land management practice in many countries since the beginning of the agricultural era. There are four main distinct practices of agroforestry within the European Union: Silvopasture; Silvoarable; Agrosilvopastoral; and linear forms of agroforestry such as shelterbelts, riparian buffer strips and windbreaks. Silvopasture refers to the management of livestock and woody perennials within the same parcel of land. On agricultural land, it is classed as either wood grazing, orchard grazing or individual trees depending on the system, while it is referred to as forest grazing on forested land. The inclusion of trees within cropland is classed as Silvoarable and is referred to as either alley cropping, alley coppice, orchard intercropping or individual trees. Forest gardens relate to the inclusion of crops within forested systems. A mixture of both aforementioned practices is referred to as Agrosilvopastoral agroforestry. Linear agroforestry refers to the inclusion of trees between fields as riparian tree strips, wooded hedgerows and shelterbelt networks when occupying agricultural land, whereas linear agroforestry within forestry systems is referred to as forest strips.

Within agricultural landscapes, trees can act as important sources of shelter for livestock while increasing nutrient recycling and providing a supplementary fodder source. Agroforestry systems can lead to the provision of vital ecosystem goods and services, such as climate and water regulation, nutrient recycling, emissions reduction, pollination and aesthetics. As such, they can provide both direct and indirect benefits to all farmers but especially Dairy and Drystock farmers. However, even with profitable financial incentives currently in place to promote agroforestry uptake, adoption of this system by farmers remains low. This suggests that farmer decision-making regarding the adoption of agroforestry may not follow the assumed economic rationality.

UNDERSTANDING FARMERS DECISION MAKING IN REGARD TO PLANTING TREES ON THEIR LAND

Although current European agricultural systems successfully produce high-value market products, costs to ecosystem services regularly

occur. As such, government incentives such as the “greening” measures available under the Common Agricultural Policy, have been introduced as a means to direct farmer decision making towards environmental stewardship and the creation of ecosystem services, allowing for sustainable intensification. However, the efficiency of such ‘greening’ measures to result in positive environmental impacts is controversial and may be attributed to policy design implications, leading to their slow and limited uptake. Many policy makers believe that once sufficient incentives are available, farmers will act in a rational manner and commit to such measures. Previous research assessing farmers’ reasoning for this lack of commitment has shown that factors, such as the productivist attitude of the farming community or preferences for specific agricultural practices, are major barriers towards successful adoption of such conservation practices.

To better understand the factors that influence farmer decision-making with respect to tree planting on farms, the main attitudes, influencers, barriers and intentions of the farmers must be identified. To facilitate this, a research project with Teagasc and University College Dublin (UCD) as partners, has been set up to analyse farmers’ perceptions of, attitudes towards, and willingness to plant trees on farms. The Theory of Planned Behaviour (TPB) as shown in figure 1 above was used as the theoretical framework for the research and is a method used in many social-psychological studies to determine the reasoning behind a farmer’s willingness to adopt specific practices. The TPB states that intention is the most reliable predictor of behaviour and relates to both the motivation of the individual and their willingness to exert effort to partake in this behaviour. The greater the intention to partake in the behaviour, the greater the likelihood that that individual will partake in that behaviour.

To facilitate the use of the TPB, a two-step data collection process utilising both qualitative and quantitative methods was used. Interviews with both Dairy and Drystock farmers across Ireland were conducted to identify their main attitudes, their beliefs regarding the benefits and disadvantages of trees on farms, who are the people that influence their decision-making, and barriers to planting. The results of the study were then used to construct an online questionnaire promoted through various publications. This survey is currently in the early stages of analysis but already interesting results are coming to light.

More research is required to identify appropriate methods of promotion and the creation of new policy measures that do not solely focus on financial gain.