

1. How has forest coverage in Ireland changed over the past 100 years, and what is the projection for the future?
2. How much of the USA is forested? Have our forests grown or shrunken in the past decade? By how much?
3. What continents are still being massively deforested, and is this off-setting the "reforesting" of the West?
4. What type of land, typically, is being re-forested in so called rich countries, and why?
5. What does one farmer say about land in Texas and Oklahoma, now being converted to forest land?
6. What services do forests provide? Explain the term "carbon sink".
7. Eucalyptus trees were imported into Portugal and elsewhere in Europe. Why? Why are some Europeans not happy with Eucalyptus farms?
8. Sitka Spruce plantations in Ireland are described by one farmer as "vertical deserts"? Is this partially true? Totally true? Or entirely false?
9. In the last paragraph, what, again, is mentioned as being a valuable characteristic of these planted forests, a quality that governments are willing to financially support?

## Woodlands

# The foresting of the West

ESLIN

**The steady expansion of tree-covered land in rich countries is not always popular. It will continue all the same**

**C**OLM STENSON drives around County Leitrim, pointing out new tree plantations. In this corner of Ireland, close to the border with Northern Ireland, conifers seem to be springing up all around. The encroachment is not just visual. Mr Stenson, who is a police officer as well as a cattle farmer, recently received a bill from his feed supplier. It came with a brochure advertising easy returns from converting farmland into woods. Forestry companies tout for business in the local livestock market. The forest is "closing in", he says.

In the 1920s, when Ireland became independent, it was thought to have just 220,000 acres (90,000 hectares) of woods, covering about 1% of the land. Once-extensive forests had been shrinking for centuries. Farmers had cut trees for firewood and to clear space for animals and crops since at least the fourth millennium BC; some tree species were wiped out by disease. Beginning in the 17th century, most of the trees that remained were felled to build ships or fed into charcoal kilns to fire the Industrial Revolution.

Today, though, almost 11% of Ireland is covered with forest, and an unknown additional amount by small woods and scattered trees. The government's target is to cover 18% of the land area with forests by 2046. Ireland is behind schedule. Still,

about 6,000 hectares of new forest ought to be planted this year, while almost none will be lost. It is part of a broad trend: the foresting of the West.

Trees are spreading in almost every European country (see map on next page). Because many of these forests are young, the quantity of wood in them is growing faster than their extent. Europe's planted forests put on a little more than 1.1m cubic metres of wood per day. For comparison, the iron in the Eiffel Tower is about 930 cubic metres. Russia's forests spread more slowly in percentage terms between 2005 and 2015, but, because Russia is so big, more than in the entire European Union in absolute terms. Forests now occupy a third of America's land, having grown by 2% in the past decade. They are even expanding in Australia, following a long decline.

### Trunk routes

Deforestation in South America and Africa rightly gets most of conservationists' attention. That loss is huge—equivalent to about 4.8m hectares a year, which far outweighs gains elsewhere. Yet the foresting of rich countries is still one of the world's great land-use changes. It seems just as unstoppable as the deforestation of poorer places. It has plenty of critics, too.

The growth of forests is partly a result of

changes to food markets. As the best farming areas have become more productive, and as rich countries have imported more of their food, marginal land has become unusable for ordinary agriculture. Some of the most dramatic forest growth in Europe has been in high, dry places where farmers once scratched a living from goats, sheep or olives. Forests now cover two-thirds of Catalonia, in Spain, up enormously from a century ago. In America, the fastest expansion over the past ten years has been in states such as Oklahoma and Texas, which have indifferent soils. "Good cropland is always going to be good cropland," says Thomas Straka, who follows American forestry at Clemson University. But "a lot of land should never have been planted."

Forests are also growing because governments have favoured them through laws and subsidies. Forest-boosting has a long history, beginning with a French forest ordinance in 1669. In Europe, war drove policy: countries needed wood for warships and then, after the first and second world wars, sought to become self-sufficient in a bulky commodity. In America, a ready supply of cheap home-grown wood was seen as essential for the creation of a suburban, home-owning democracy.

Since the 1990s environmental considerations have weighed more heavily. Forests are increasingly valued as sponges for heavy rain, as wildlife habitats and as carbon sinks. Governments point out that their countries used to be thickly forested—even if the large forests disappeared many centuries ago, as is the case in a country such as Iceland. Some feel inadequate: European countries with scant forest cover sometimes lament how far behind the EU average they have fallen. ▶▶

Whatever their reasons, governments have treated forests generously. In Britain, forests are not liable for capital-gains tax (though the land under them might be). If a forest is bought with the proceeds of a business sale, the tax that would be payable is deferred. Timber sales incur neither corporation tax nor income tax. Forests can be transferred to heirs free from inheritance tax. And, whereas many farm payments in the EU have been decoupled from production, forest subsidies reward planting. The rate in England is £1.28 (\$1.72) per tree, plus grants for fences and gates. Money does not grow on trees, goes one quip—trees grow on money.

Planted forests are far from universally popular, though. Between June and October this year, forest fires in Spain and Portugal killed more than 100 people and darkened Europe's skies. The fires were partly blamed on the spread of non-native trees, especially eucalyptus. That Australian import, which was planted with support from the World Bank, among others, grows so quickly that trees can be harvested for pulp when less than ten years old. It also burns readily, scattering embers far afield. Portugal's government has begun to restrict planting, in an effort to prevent the country from turning into what one green group calls "Eucalyptugal".

The eucalyptus tree is a scapegoat for a bigger problem, argues Marc Castellnou, a fire analyst in Spain. The real trouble is that forests in Portugal and Spain have expanded quickly, with little thought for the consequences. Well-managed eucalyptus plantations are not the biggest danger—much worse are ill-managed ones with lots of underbrush and fallen wood, and the impromptu forests that grow on abandoned farms. The fires that get going in such forests jump to the treetops and burn so energetically that they cannot be stopped.

In Ireland, the criticisms are different. The country's default tree is the sitka spruce, a fast-growing, damp-tolerant conifer from America's Pacific Northwest. Spruce plantations are said to be devoid of life—vertical deserts of dark green. They are accused of wrecking rural communities and driving farmers off the land. And they are said to be out of place in a mostly pastoral setting. Gerry McGovern, another farmer in County Leitrim, puts it bluntly: conifer forests are "not landscape".

The first charge is false. Mark Wilson of the British Trust for Ornithology says that conifer plantations support more bird life per hectare than farmland, largely because they harbour more insects. Inevitably, some birds benefit more than others. The march of conifers across Britain and Ireland has increased the numbers of pine-loving birds such as siskins and crossbills. Conifers are also loved by crows—which is less obviously good, because crows raid the nests of rare birds such as curlews.

The second accusation, that trees push out other kinds of agriculture, is only partly true. Forestry subsidies and regulations have indeed distorted Ireland's land market. Farmers who plant trees get generous payments for 15 years, while continuing to receive ordinary farming subsidies. At that point, with perhaps 20 years to go before conifers are harvested, they often sell to pension funds and other investors.

Forested land in Ireland hardly ever returns to farming. To help speed rational afforestation, the government requires that land cleared of trees must be planted with new trees (which are not subsidised). Ireland also bars commercial planting on the poorest soils, where young trees would struggle. Partly as a result, forests have spread from the hills to the lowlands, says Steven Meyen of Teagasc, Ireland's agriculture authority. Macra na Feirme, which lobbies for young Irish farmers, argues that forest payments are now preventing good land from coming onto the market.

That said, trees are sprouting in rural Ireland because farmers want them to. Many own at least one indifferent, boggy corner of land where animals get stuck and only rushes grow well. Stephen Strong, a farmer in County Meath, has planted 80 acres of his 500-acre farm with sitka spruce, Norway spruce, oak and ash. The trees require much less attention than the sheep that grazed there before—"where you have sheep, you have trouble," he says. Forestry appeals especially to ageing farmers who are looking for a gentle exit. In 2015, 45% of newly planted land in Ireland was owned by people aged 60 or older.

The final accusation, that forests are drastically changing the appearance of the countryside, is spot-on. Advocates may

point to a forested past. But rural people have become used to the landscape as it is, and often do not want it to change. What worries Mr Stenson, in County Leitrim, is not just that the ever-spreading trees will displace farmers and make it hard for him to acquire more land, but also that they will prevent him from seeing his neighbours' lights at night.

In America and Germany, people have been conditioned to see forested landscapes as sublime by painters like Caspar David Friedrich and Albert Bierstadt. Irish painting and poetry, by contrast, usually celebrates hills, bogs and farms. In "The Deserted Village", published in 1770 and probably inspired by scenes from his birthplace in Ireland, Oliver Goldsmith lamented the transformation of a lively landscape, studded with cultivated farms and busy mills, into a silent one dominated by "glades forlorn" and "tangling walks".

### Safe harbours

Ireland and other countries will nonetheless have to get used to the green invaders. The EU's Common Agricultural Policy is set to change in 2020. Nobody yet knows how, but it is a safe bet that subsidies will tilt towards greenhouse-gas mitigation, which will probably mean more money for carbon-absorbing forests and less for methane-belching livestock. John O'Reilly, the boss of Green Belt, a forest-management company, worries that Ireland's afforestation rate might dip below 6,000 hectares a year in the next few years—a level that he views as necessary for sustaining business. He also worries about Brexit, because Britain is a crucial market for Irish timber. He is not at all worried about the long-term future of his industry. ■

