Payback time for our profit from the planet

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Since 1900 we have changed the face of the Earth. While it has made us richer, the cost to our planet has been huge

WE LIVE in extraordinary times. In the 10,000 years of recorded human history, there has never been an age like the modern era, and there has never been a century remotely like the 20th century.

For us as individuals, change can be difficult to discern, as one year may vary only slightly from the previous one. To see just how much has really changed, and how quickly, a bird's-eye view is needed.

Between 1900 and 1999, humans altered the very face of the Earth. First, our population quadrupled, the world economy grew 14-fold, and industrial output shot up 40-fold. All this astonishing growth was fuelled by a 13-fold increase in energy usage.

Along the way, we chopped down one fifth of the planet's forests, wiped out 99.7 per cent of the world's blue whales, and caused tens of thousands of other species to go extinct. The side-effects of this whirlwind of activity included a five-fold increase in air pollution, while emissions of the "greenhouse" gas CO_2 rose 17-fold.

And perhaps the most striking statistic of all: in the 20th century, humans employed more energy than in all the previous 1,900 centuries of recorded history – combined.

Energy and resource usage have accelerated since 2000, as globalisation has brought vast countries such as China fully into the world economy.

Surely this is good news, then? Doesn't it mean jobs and more wealth for all? And we in Ireland, recent economic jitters aside, have never had it so good? Today, most of us live lives of comfort and plenty that would have been utterly unimaginable to our grandparents' generation.

Centrally heated homes, cars, foreign travel, iPods and all manner of other technical marvels are now within reach of most working people in Ireland. We're better off by far than our parents' generation, and what's more, we're pretty confident our children will enjoy at least the same level of material comfort as we now take for granted.

But is that a safe assumption? Our success has been achieved at a huge cost to many other species, whose habitats have been destroyed, sequestered or degraded by human activity.

The world's great forests are our richest sources of plant and animal life, but these are rapidly being converted into wastelands as global demand for timber and farmland leads to their destruction. Even where replaced by "farmed" forestry, these new artificial forests only support a tiny fraction of the rich diversity of animal and plant life that exists in natural forests and jungle.

But what has the extinction of some worm you've never heard of or a rare frog, butterfly or bat got to do with us? Why should we care? By way of a simple analogy, a jumbo jet is made up of over six million pieces. Some of its components, like the seats and storage lockers, are unimportant to the plane as a whole.

No doubt you could remove hundreds, maybe even thousands, of "bits" from a jumbo and it would remain airborne. But that assumes you know exactly which little bits are vital and which are not. Remove certain tiny but crucial rivets, loosen a screw or two in the wrong location and you're in big, big trouble.

Our ecosystem is a bit like that, only vastly more complex and less well understood – and it doesn't come with an owner's manual.

The globalised system that is delivering the "miracle" of prosperity, cheap travel and material comfort to many of us in the West is doing so only because it is eating into finite resources, from forests to fisheries, minerals, metals, topsoil, fossil fuels and scarce water reserves.

We are in hock to nature, and payback time on this massive debt may be approaching. "The human race, without intending anything of the sort, has undertaken a gigantic uncontrolled experiment on the Earth," is how environmental historian Prof John McNeill put it.

None of this is surprising, given there are almost seven billion of us scrambling for finite resources. We in the western world do by far the lion's share of the consuming. On average, we use resources and produce pollution at over 30 times the rate of people in the poorer world.

That means that even a country as small as Ireland could have the environmental footprint of a less affluent country with 120 million people. This love affair with our newly-discovered "consumer" lifestyle and its retail therapy and cheap flights is propelling us ever further along an unsustainable path.

And with the chimera of never-ending prosperity comes waste on a heroic scale. Consider the petrol-powered leaf blower. Now on sale in DIY stores all over Ireland, this perfectly useless invention noisily burns 50-million-year-old fossil fuels in order to, well, blow leaves around. Of course a brush does at least as good a job.

Henry Ford could have had the leaf blower in mind when he advised: "chop your own wood and it will warm you twice".

A contemporary of Ford, US president Theodore Roosevelt, in 1907 had this prescient view of the century that lay ahead: "The conservation of natural resources is the fundamental problem. Unless we solve that problem it will avail us little to solve all others." A century later, if you could put a tune to that, it might sound like this, from Joni Mitchell: "Don't it always seem to go that you don't know what you've got till it's gone. They paved paradise and put up a parking lot."