

Land of Hope

This is a work of imagination and of optimism. I have pulled together my thoughts on many issues currently problematic in Britain including climate issues, immigration, housing, agriculture, politics and economics, and combined them with recollections of a holiday in the Orkneys, my background in architecture, and the book *Nomad Century* by Gaia Vince. If any of these imaginings came to be I would be delighted but other people might be appalled, so it may be as well that it is just a dream, a hope.

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2024

Earth 2030

By 2030 many countries have been through nationalism and right-wing isolationist politics and are coming out the other side. The ageing leaders of some of the world's most powerful, often authoritarian states and biggest economies have died, stepped down or been voted out of office and the new leaders are younger, widely travelled and as concerned with the state of the planet as much as their country's place in it.

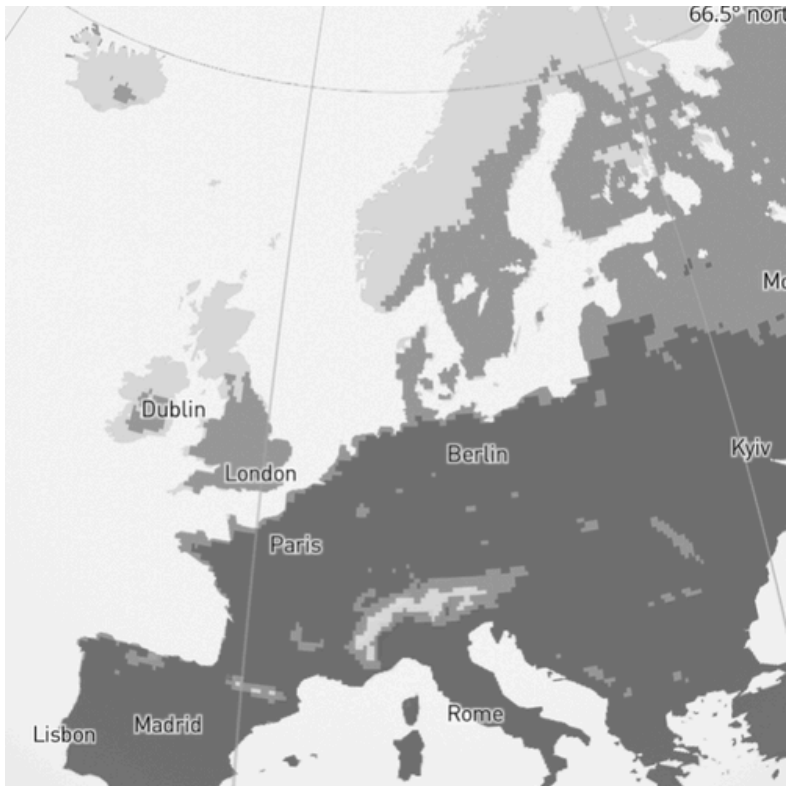
The militaristic and protectionist policies of earlier years have been seen as damaging and the economic benefits of increasing freedom of trade and travel have led to better international cooperation and less-frequent confrontation. This better understanding is beginning to defuse tensions in the middle east, too, eroding the power of religious leaders and benefiting women, minorities and country's economies.

Resistance to authoritarian, top-down government and the difficulties of running massive and growing states has seen increased devolution of power to regional assemblies and ethnic groups. In China, regions like Xinjiang and Tibet are better able to determine their own destinies while Hong Kong and Taiwan have equivalent autonomy and a harmonious relationship with Beijing. Here, the subtle changes resulting from climate change are improving the fortunes of Scotland, Northern Ireland, Wales and the north of England relative to the south, and this, together with years of pressure for independence, has led to a more federal United Kingdom.

Around the world, cities have grown as populous and wealthy as some states and taken on powers of self-determination, diluting the dominance of nation states.

Only the most fanatical and irrational climate deniers still challenge the existence of global warming. Annual COP summits to address the growing climate emergency have continued to make painfully slow progress but the plight of tiny island states and the millions living in coastal areas threatened by rising sea levels and in hot regions being made uninhabitable by heat, humidity and drought is finally being addressed by richer nations.

Countries nearer the equator are slowly becoming less liveable while the opposite is true of regions nearer the poles, like northern Europe.



Scotland 2030

Scotland's confidence is growing. Having found from two referendums that its people were no more enthusiastic about leaving the UK than they had been, years ago, about leaving the European Union, the country found its importance and economic clout increasing. As income from North Sea oil and gas declined renewable energy was enthusiastically promoted by the Scottish government and the country produces more energy than it can use and boosts income 'selling' power to England under the arrangements agreed when Westminster granted more powers and control to regional assemblies.

Immigration has been growing steadily for years and cities like Glasgow and Dundee have found the benefits the new citizens bring to the local economies and the resulting increases in tax take more than compensated for the housing subsidies, health care and educational provision needed to allow them their full potential.

The fossil-fuel-based industries of Aberdeen and Grangemouth have been largely wound down to be replaced by renewable energy facilities like wind and wave power support, green hydrogen production and storage, grid-scale batteries and busy ports thriving in the more relaxed global trading environment.

Simply being further north than most of the UK, always having had high rainfall, and with its land still rising (after the melting of the last ice age) faster than sea levels, Scotland remains less at risk of damaging floods, overheating and drought than England. This and the gently shifting balance of both economic and political power encourages a new optimism and confidence.



Scotland 2030: Hope

Twenty years ago a couple living in Glasgow - an Englishman who had studied at the art school and stayed in Glasgow, marrying a Scotswoman from the highlands - had a daughter they called Hope. Now she is studying social science at the University of Strathclyde.

British universities attract many students from overseas whose fees helped keep them afloat and whose homelands benefit from what they had learned here. Not all return home though. Xin, born to a middle-class family in Nanjing, China, in 2010, is enjoying life at the Macintosh School of Architecture in Glasgow where a pretty student from the other university catches his eye.

Hope and Xin are destined to share their lives together, Xin opts to stay in Scotland just as Hope's father had, years earlier. They both become interested in issues of growing importance in Scotland: the social and economic aspects of increasing levels of migration and the implications for building design of climate change and the scarcity of affordable and social housing.

By the middle of the 2030s they will both know what direction they want their careers to take and will be graduating and looking for suitable jobs openings. Hope will go into the Scottish civil service, while Xin will join a firm designing social housing with an emphasis on sustainability.



Orkney 2030

The Orkney islands, just off the northern coast of Scotland, are believed to have perhaps the longest history in Britain. Scara Brae, on the west coast, predates Stonehenge and the pyramids. The islands are a major destination for cruise ships discharging coachloads of tourists to see the many archaeological sites.

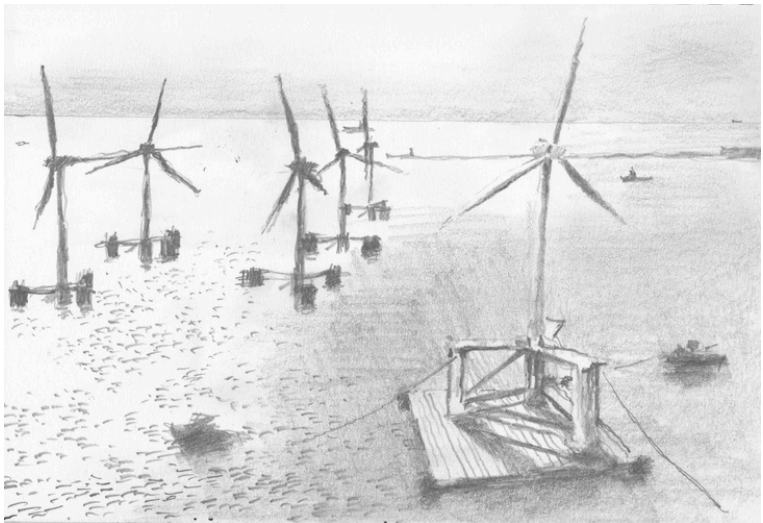
The islands have long been almost tree-less, largely because of sheep grazing, but as people are starting to eat less meat and to recognise the low ecological value of a grass mono-culture, sheep farming has declined and some of the islands have banished sheep and encouraged the return of temperate rain forest. This is just the start and eventually native trees and deeper soil will form a significant carbon sink. In the shorter term, areas have been planted with fast-growing coniferous trees to be harvested as a locally-sourced, low-carbon construction material.



The islands shelter the vast natural harbour of Scapa Flow, once populated by oil rigs but now the site of new ocean farms growing kelp, seagrass and algae to sequester carbon and provide rich new elements to our diet.

Orkney is a windy place and its many wind turbines have, for several years, provided more energy than the islands need, exporting it to the mainland and pioneering the use of excess electricity to electrolyse water to make green hydrogen which helps replace diesel fuel for ferry engines and generators.

Surrounded by sea, this has been an ideal location for research and experimentation in wave and tide energy and this is now becoming an effective and economical source of zero-carbon power and a growing industry. Floating energy platforms incorporating both wind turbines and underwater tide turbines are past the experimentation stage and into production.



Scotland 2040

The North Sea oil and gas industries are running down and the days of cheap fossil fuels are past, but there are still profits to be made providing oil as the raw material for plastics manufacture. The place of fossil fuels in the energy system have been taken by clean renewable electricity and green hydrogen, and Scotland produces more energy than it uses, exporting the surplus to England and Ireland. With far less red meat being eaten and fewer sheep in the uplands, thousands of hectares have been planted with trees and the first wolves to be reintroduced are helping control deer populations. The use of timber in construction has grown enormously, often replacing steel or concrete with its smaller carbon footprint, and Scotland is a growing producer and exporter of timber. Investment in renewable energy has paid off in economic growth and skilled workers and engineers have been attracted to the country along with many others choosing to move north when changing jobs or new homes. The effects of global warming on regional climate and migration have made northern latitudes more attractive. For more than ten years, since significant numbers of people became convinced that more extreme weather in the UK - floods, storms, drought, heat waves - was the result of global warming and would only increase, property prices in Scotland had been increasing faster than the south of England where they had stagnated: a symptom of the growing trend to move north.

Migration into Europe from Africa and Asia, so long seen as a bad thing, has been accepted as inevitable and more forward-thinking governments have embraced it and looked for policies that would minimise the negative impacts while benefiting from the potential of younger population keen to prosper and willing to work. A Labour Party plan, dropped when the US attacked Iraq, to house migrants on the island of Mull, was revisited enthusiastically by the Scottish (who have many islands to choose from) not as a containment and control measure but for as a way to harness the potential of incoming citizens who were willing to work to build a new community. This idea was the subject of debate in parliament, in the media and in the pub, and would in time crystallise into a firm plan for an experimental development-zone-style settlement on one of the Orkney islands.



With its growing economy and population, Scotland has become more confident and slowly wrested control and decision making from Westminster. The central belt has become increasingly urbanised with Glasgow and Edinburgh and the towns between developing into a megacity. Fast rail lines were built parallel to the M8 and then started to extend north towards Stirling, Dundee, Aberdeen and Inverness and south towards the cities of northern England. An enlightened Scottish government realised investment in infrastructure and public transport would improve lives and enable economic growth. Reliable and affordable train services, integrated with buses and roads via transport hubs, made public transport as quick, cheap and convenient as travel by car or plane. Road congestion was eased and pollution and greenhouse gas emissions reduced. After many years of indecision and stalling, England's high-speed rail finally reached from London to those same northern cities, and before many more years would stretch from northern Scotland to southern England.

The thriving economy in Scotland encouraged northern England to look north. The kingdom of Northumbria had once stretched from the Humber to the Forth, and now mayors of cities like Newcastle were forging strong links with the Scots.

Orkney 2040: Hope

As the effects of global warming become more evident, people around the world are beginning to think about more temperate locations if they have the need or opportunity to move. Instead of retiring to Florida, Americans are choosing Canada, and in Europe populations in Scandinavia are growing while those in Spain, Italy and Greece fall. Britain's population would be declining, like many countries such as China, Japan and South Korea, if not for a steady rate of net inward migration. Together with gradual internal migration northwards, driven by climate, this is causing relatively rapid growth of Scotland's population while England's is stagnating.

South Ronaldsay was chosen as the home of the Orkney islands 'experiment'. The most southerly island in Orkney, closest to the Scottish mainland, South Ronaldsay is linked to Orkney Mainland by road via a series of small islands by the Churchill barriers built in wartime to limit access to Scapa Flow. Ferries connect to the north coast of Scotland from St Margaret's Hope, the largest village, and Burwick near the southern tip of the island. The sparse population is scattered around farms and hamlets, St Margaret's Hope being the main centre. Known locally as 'The Hope' it is the 'capital' of the new island experiment informally referred to as 'Project Hope' or just plain 'Hope'.

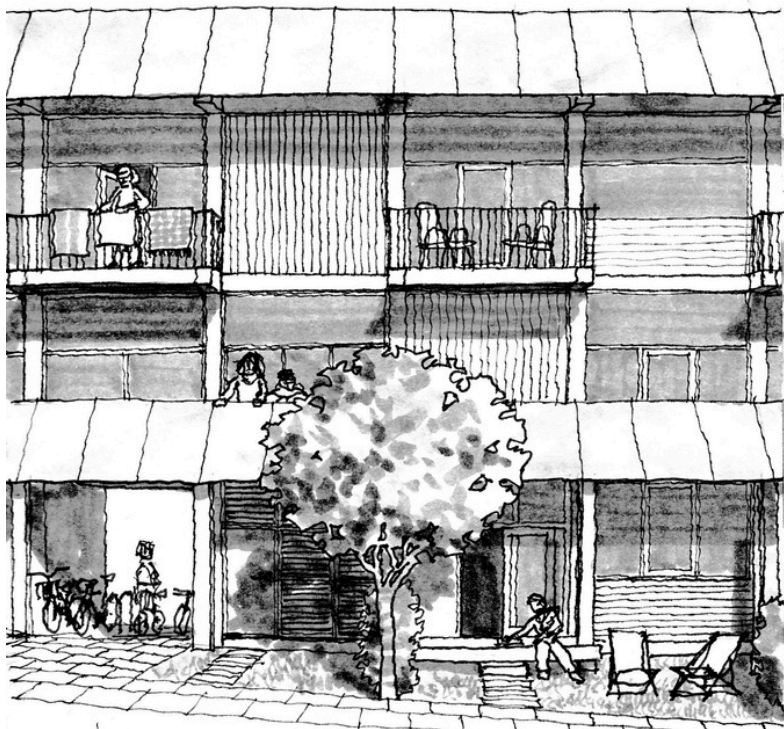
The first steps were to establish administrative headquarters in St Margaret's Hope, develop infrastructure with road repairs and improvements, more renewable energy and storage, high-bandwidth mobile phone and internet and improved docking facilities at 'The Hope' and Burwick.

The island was granted 'freeport' status and the harbour at St Margaret's Hope expanded and improved to allow for freight shipping alongside the ferry to the mainland. The retreat of Arctic sea ice along with continuing instability in the Middle East and the bottleneck of the Suez canal has allowed the opening up of the northern sea route north of Russia and Scandinavia, and Orkney is well placed as a northern gateway to the British Isles.



St Margaret's Hope was quickly transformed. The ferry terminal was improved and a new quay built for freight along with a marina for leisure vessels. Across the bay a new factory, served by the road north to the Orkney Mainland and by its own quay, started producing timber structures and modules for new housing. New council offices were built for the island's administration as well as a secondary school and a new health centre. The old village homes, looking out over the bay, were much sought-after properties and two more housing schemes provided many more homes: rows of houses just east of the old village and linear blocks of houses and apartments on the rising ground on the west side of the bay.

The **row houses** were prefabricated two-storey homes, to buy or rent at affordable prices, with three or four bedrooms, all with gardens and roof-mounted solar panels on the south sides and parking, bike storage and entrances from quiet access streets on the north sides. The streets, just wide enough for cars to pass and paved with blocks that allowed rainwater to soak away, were shared by cars, foot traffic, bikes and playing children, and brought neighbours together both along and across streets.



The **apartments** ranged from two to four storeys down the sloping ground west of the Pier Road. There was vehicle access and some parking by the small back road with ground-level access to broad decks running eastwards and giving access to two-storey apartments on the upper levels. Below, as the land sloped down, were one and two-storey homes with small garden spaces on the south sides, opening onto shared open space.

These apartment blocks adopted new ideas in low-cost housing. The structure was a framework of engineered timber incorporating weather protection and insulation to the roof and end walls as well as the access deck. Occupants could take from one to four 'slots' - sufficient for anything from a one-bedroom ground-floor flat to four bedrooms across two bays and two storeys.

Prefabricated modules slotted into the frame to provide living accommodation and occupants could fill all their 'slots' or leave one or two unused, with insulated blanking panels front and back, to expand into.

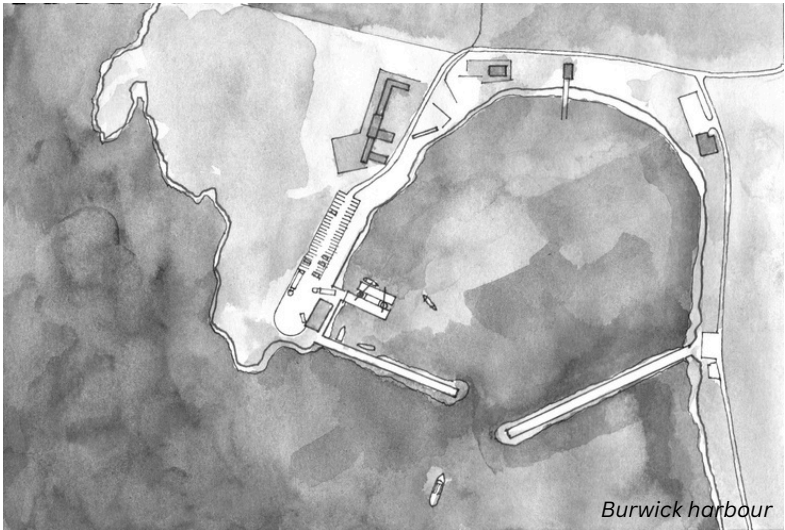
Ground-source heat pumps provided warm air filling the spaces between the modules while each home could supplement this background heat with extract-air heat pumps in small heat-recovery ventilation units.

Solar panels in two rows along the south-facing elevations provided shade from the hot summer sun as well as power for battery storage tucked into the 'undercrofts' along with bike storage.

Owned by the island council who maintain the structure, decks and services,, provide the background heating and levy a service charge, the frame structure is independent of the housing modules slotted into it which are manufactured to better quality at lower costs than traditional building, can be customised when ordering or by 'plugging in' options like balconies, different window configurations, automatic shading louvres, etc. The modules may be rented from the council or owner occupied.

With the expanded harbour busy with larger vessels, The tiny passenger ferry jetty at Burwick at the island's southern tip started to see increased traffic for smaller boats on the shortest route to the Scottish mainland. The pontoon jetty, the breakwaters, car park and lorry space and facilities were all improved and expanded and new ferries built, powered by hydrogen fuel cells and able to carry small electric trucks alongside foot and cycle traffic.

The first small, autonomous 'robot' boats appeared to cross the Pentland Firth carrying cargo containers. Guided by GPS and propelled and steered by two rotating 'wing sails', these boats avoided each other and other shipping and found their way into the automated docking berths by constantly transmitting and receiving location data. Aerial drones too, carrying lightweight goods, constantly buzzed across the Pentland Firth and back and forth to Kirkwall and Stromness on Orkney Mainland. These air and sea drones each had three guidance computers and only if the three were not in agreement was oversight and control passed to a team of remote pilots housed at Hoxa Head.



Like several of the Orkney islands, sheep farming was discontinued and a few farmers switched to being stewards of the landscape, paid by government funding to plant broadleaf trees and rewild the landscape. Already the numbers and variety of wild animals, birds, insects and wildflowers are visibly increasing, and as the trees grow the whole character of the landscape will change for the better, the soil will steadily grow deeper and richer and far more carbon dioxide will be sequestered.

Archeological sites - many very ancient, a few more recent - remain a great draw for tourists but South Ronaldsay previously had little else. With rewilding the landscape becomes more complex, interesting and beautiful: as well as the archeology there are more birds and other wildlife to see, bike trails through woodland, a varied full-island coast walk, picnic spots and cafes.

Orkney 2040: Hoxa



At Hoxa Head in South Ronaldsay stand two ruins of first-world-war gun emplacements which once guarded the Sound of Hoxa, the southern gateway to Scapa Flow. One is preserved as a tourist destination and as part of Orkney's modern archeology but the other has been retrofitted and brought into the twenty-first century as the Orkney Energy Island Oversight HQ.

The buildings, built into the hillside, have been adapted as offices, library, dining and meeting rooms, while the lookout tower houses the coastguard and the drone pilots. Below, the circular gun platform is an outdoor court surrounded by gardens blending into the wild landscape of the cliffs. Policy is hammered out in this retreat by a resident 'think tank' of scientists, demographers, economists, political experts, sociologists, educationalists, philosophers, architects, planners, engineers and artists trusted with charting the island's development. together with council members and officers from the town. Hope and Xin are a perfect fit and join the policy team.



2050: Orkney

As Orkney's economy and population grew alongside those of Scotland, so did the need for faster, easier, cheaper ways to shift goods and people between the islands and the mainland. Taking a cue from the Oresund Bridge between Copenhagen and Malmo, three parallel tunnels - one for rail and one for road traffic with a smaller tunnel between for cycles, services and maintenance - link the mainland to the first of a series of energy islands, allowing sea traffic clear navigation east to west. The boat-shaped energy islands each carries a wind turbine and two submerged tidal flow turbines taking advantage of the strong currents of the Pentland Firth. A road and rail bridge links the energy islands to come ashore near Burwick at the south end of South Ronaldsay.

The railway line and road continue to St Margaret's Hope and beyond, over the Churchill barriers to Kirkwall. The cycle path runs alongside, with drainage, water, power and comms below, and connects to other walking and cycling routes crossing above or below the road and railway.

There are just a few groups of farm buildings surrounded by fields of crops managed by robot farm machines and drones able to sow, monitor, manage and harvest multiple crops on the same land. Hedges and margins link patches of woodland providing habitat for wildlife and shelter from the islands' strong winds. The relatively small numbers of animals raised for their meat, milk and wool graze between trees and in the shelter of solar arrays. Each farm has its own wind turbine and the barn roofs are formed of solar panels. Off the island's west coast in Scapa Flow, seagrass, kelp and algae farms, again managed partly by drones, provide the ingredients for the new foods that have helped replace meat. As always, migrants make a significant contribution to the manpower needed for both land and sea farming, but migrants become residents and then natives. Populations evolve and the British have always been a rich mix of peoples.



a robot cargo boat with a container load on its way to Burwick sails past on of the energy islands carrying the road, rail, cycle and services bridge

2050: Britain

The United Kingdom still exists but has evolved into a more federal form with regions and cities having more control over their economies and destinies. Central government looks after the essential services shared by all - water, power, railways, etc - as well as law-making and international affairs. The crown now has a much more modest role and most of the palaces and castles are tourist attractions adding to instead of draining public funds. The House of Lords has become the House of Elders, people who have distinguished themselves through their achievements and wisdom and who moderate the workings of the Commons.

Following clever initiatives like gov.uk and the NHS app which made the mechanics of life easier and more accessible, taxes and benefits were integrated into an equally easy-to-use IT platform with the complex system of benefits and means tests simplified to 'negative tax' and a basic universal income to eliminate extreme poverty.

The centre of gravity has shifted north and northern England, Scotland and Northern Ireland are more populous, richer and ambitious. The northern universities attract the best academics and do ground-breaking research, matching Oxford, Cambridge and the London universities.

All the fossil-fuel-burning power stations have closed and energy is 100% renewable with carbon capture cleaning up even the few industries such as steel and cement manufacture where clean electricity is still not quite enough.

A revival of social housing has eased the housing crisis and virtually ended homelessness and attitudes to housing have been transformed to regard it as a right and an essential of life, like food and security, rather than in terms of investment, profit and wealth. Finally, after seventy years of rising faster than inflation, property prices are showing signs of returning to affordable levels.

There are 'super-cities' in the north and across Scotland's central belt but even the biggest cities are organised as networks of '15-minute' neighbourhoods with their own characters and workplaces, shops, libraries, parks, health centres and so on all accessible on foot.

2050: Earth

The extremes of capitalism on one hand and communism on the other have been diminished. The excessive individualism of America has, like the dominance of the state in the old communist regimes, been diluted and political and social systems have converged towards social democracy. In large part this change is a result of the ease of communication and exchange of ideas brought about by the internet and social media.

As global warming is becoming more apparent in its effects on climate, regions nearer the equator are year by year becoming more difficult to live in, while the reverse is true for areas closer to the poles, previously too cold for growing crops or living comfortably. Populations are slowly drifting towards the poles and new settlements are growing in previously deserted parts of Alaska, Canada, Greenland, Iceland, Scotland, Scandinavia, Russia and Mongolia, as well as Patagonia in the southern hemisphere. The retreat of the Arctic sea ice has opened up the northern sea route for most of the year and coastal cities in the far north are growing. Meanwhile, the spread of deserts - even to parts of Spain - is driving migration away from many tropical and sub-tropical regions.

Having realised that migration is unstoppable and trying to resist it leads to bigger problems, countries have come to embrace it and to see the benefits to their economies. Together with ever-increasing international trade and communication, migration is leading to a softening of borders, increased free trade and the softening of tariffs and border controls. The Westphalian model of state sovereignty is starting to be seen as too rigid and, with increasing devolution of power to the regions (like Scotland or Catalonia) and to cities, nationalism is being replaced by a more nuanced and layered identity of place and ethnicity. Xin, for example, might feel Scottish, British, European, Chinese and just plain human.

With every part of the world now having stopped increasing emissions and some achieving net zero, there is finally hope if halting global warming and, one day perhaps, even reversing it. The reversal of polarisation in ideas and politics - neocon, neoliberal, extreme capitalism or communism - and the growth of a more caring social and democratic philosophy has brought lessening of global tensions and increased co-operation, and the United Nations is finally able to perform an effective role.