

Entrepreneurs not Emissions:

An introduction to a UK FIRES report on business opportunities to fill the gap in emissions policy

The gap between the UK's emissions-reduction targets and its delivery policies creates a vast and largely unexplored space for entrepreneurship and business growth.

The UK is legally committed to having zero emissions in 2050, with around half the change delivered by 2030. To date, the government and its advisors have mainly talked about new energy infrastructure technologies to cut emissions. However, progress is so slow that it's now extremely unlikely that this approach will work: in the UK we have no commercial carbon capture and storage (CCS), no zero emissions hydrogen production, and no negative emissions technologies. Without question, we need to try to gain experience of new technologies as rapidly as possible, but the focus of policy must shift to ensure climate safety.

In the Absolute Zero report, UK FIRES set out a different approach to delivering zero emissions based on **today's** technologies. This involves closing any activities that cause emissions by their chemistry, including steel blast furnaces, cement kilns and ruminant farming. We then need to electrify all other energy uses, like cars, heating and industrial processes. However, at today's rates of growth in non-emitting electricity generation, by 2050 we will have only 60% of the electricity we'd like, so we need to plan to use less of it.

In one generation's time, we can be living well with zero emissions, with smaller, fuller electric cars, well-insulated homes, new forms of material conservation and new services like trains loaded with a mix of passengers and freight.

As we develop that different electrical future, a whole plethora of new businesses are going to grow and flourish. Whether it's delivering information and advice, installing energy efficient equipment, or producing plastics with electric processes, there is untold opportunity for business growth.

The report is a wake-up call. It points to the rich seam of entrepreneurial opportunity and business growth that will be revealed rapidly as the government's current plans fail to deliver. Whether for new entrepreneurs, or well-managed incumbents, the report shows that the restraints necessary to delivering zero emissions are themselves the breeding ground for new growth.

The report presents a smorgasbord of untapped opportunity backed by a directory of agencies ready to support its realisation.



To read the full report, visit:
<https://ukfires.org/reports-entrepreneurs-not-emissions/>



Which businesses are certain to grow as we approach zero emissions and are short of energy and materials?

The first twelve pages of **Entrepreneurs not Emissions** lays out a detailed description of the numerous areas of opportunity for innovation on the road to zero emissions and gives examples of organisations already seeing success.

Beginning with *Information Provision*, it is clear that that negotiating responsibility for emissions, and planning and validating a journey to zero emissions depends on information, for example in providing performance metrics, developing new product standards and quantifying knowledge about user experience.

Consultancy Service, such as anticipating and analysing risk, carbon-accounting and emissions analysis, and personal and domestic energy tracking will also see a surge in demand.

Given the urgency and scope of the challenge of delivering zero emissions in 29 years, there will be a rapid growth in demand for *Education* at every level from Ministers to schools to boardrooms.

Between now and 2050, all *New Infrastructure* development in our towns, cities and transport systems must be designed to be compatible with zero emissions. This includes a wide range of opportunities in the electricity system as generation expands and storage capacity improves, in transport as passenger and freight is electrified and used more efficiently, and in cities as UK planning becomes aligned with zero emissions.

The UK is almost certainly entering an era of energy shortage, as we turn rapidly to electricity as our only energy source but are not deploying new non-emitting generation fast enough to supply our needs. This will see a surge in the need to *Reduce Energy Demand* and the business ideas which will facilitate this. This includes retrofits, zero-emissions building materials, alternatives to scrapping, and better ways to heat and cool space and water.

Manufacturing and Materials presents a rich opportunity for, amongst others ideas, electric steel, plastics and glass, reducing imports, and manufacturing energy supply equipment.

Our demand for service from the *Construction* industry will necessarily shift away from new-build, as the supply of cement and new steel is phased out leading to a plethora of opportunity in providing construction services.

Product lifetime and intensity of use will find rapidly growing markets, such as servitisation models, repair services to increase product longevity.

These are just some of the areas we examine and dissect in our report, **Entrepreneurs Not Emissions**, which is the the outcome of a brainstorming meeting at the UK FIRES Annual Form. 160 delegates from UK organisations, triggered by short talks from 20 UK activities around Resource Efficiency, shared creative thoughts on opportunities for business growth.

Who is going to champion faster rates of change to reach zero emissions and how?

The opportunities for business innovation presented in this report are very likely to grow rapidly as we move towards our zero-emissions commitments. Current government plans for solutions based on novel energy infrastructure technologies are very unlikely to deliver on time, but public concern, driven by increasing evidence of extreme weather events, increasing positive feedbacks, evidence of increasing climate migration and the looming conflict of resource wars, will ensure that action accelerates. The fact that these opportunities exist now demonstrates that in many cases they are not currently recognised as being sufficiently profitable to attract entrepreneurship and

investment. That will change, and here we anticipate some of the drivers of accelerated implementation.

Entrepreneurs who pursue the zero-emissions opportunities early to establish brands, and influence policy processes to support adoption which become champions of change and innovation. We also identify and examine the huge potential a large number of groups which will inspire and motivate change, including government agencies, children and young people, social networks, influencers and journalists, NGOs, charities and philanthropists, policymakers, regulators and investors.

What upsides/co-benefits can we find while reducing emissions?

The rapid transition to zero emissions will not lead to benefits for everyone in all aspects of their lives, and will cause difficulty for some. For example, jobs and investments in unavoidably emitting industries will be lost and families currently spread across continents have one generation to co-locate, before fossil fuel aviation ends. However, there are many potential gains to be found in the transition.

Individual lifestyles will improve through better air quality, reduced noise and pollution, reduced congestion, improved local facilities, better diets, a happier work-life balance and improved road safety.

We may find ourselves feeling more rooted and living with a stronger sense of community. Acts of leadership at all scales in making the transition to zero emissions can be beneficial for self-esteem, collaboration and collective identity

We will develop new skills as we work together to live zero-emissions lives effectively.

Finally, as the UK has sought to assert global leadership through its target setting, it will achieve much greater respect through delivering on those targets, by identifying, growing and then exporting the knowledge, skills and systems of real zero-emissions life.

Gridserve

Gridserve is the UK's first service station designed solely for electric vehicles. providing charging infrastructure for cars, motorbikes, HGVs and buses in the form of an Electric Forecourt.



Home working in 2020 / 2021

During the lockdown following COVID-19, many people worldwide found they could make better use of their living space, by combining work and living with new layouts.



Retroelectric

Retroelectric takes what is truly great about classic cars and improve upon the parts that aren't.



Steel in the USA

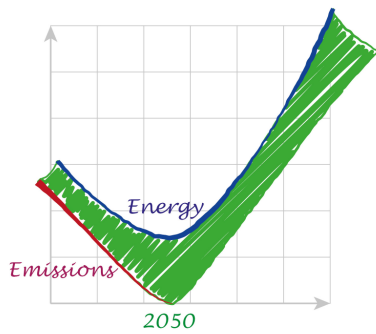
70% of the steel made in the USA is made by recycling in electric arc furnaces, with market leaders Nucor now able to produce the highest grades of sheet steel with more than 90% recycled content.



For more case studies, read the full report at www.ukfires.org

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Absolute Zero



Delivering the UK's climate change commitment with incremental changes to today's technologies

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Entrepreneurs not Emissions



New business opportunities to fill the gap in UK emissions policy

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ZERPAs



Financing the transition to net zero under future zero-emissions resource supply constraints

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MINUS 45



Delivering the UK government's pledge to COP26: Cutting UK emissions by 45% from 2018 to 2030

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