



Your Role in Achieving Net-Zero

Professor Christopher Jackson (he/him/his)



CONTEXT

Existing C-DICE Activities

10:10-10:30 **C-DICE Roadmap Launch – a five year plan for the advanced skills requirements for Net Zero by 2050** Dr. Kathryn North

In this session, Dr Kathryn North (Director, C-DICE) will unveil the C-DICE Roadmap for higher-level skills readiness for the net zero transition. The roadmap is a five-year plan identifying the challenges which were compiled by expert stakeholders from industry, academia, funders and skills development professionals at the C-DICE Grand Challenge in December 2023.

10:30-11:30 **Impactful Careers in the Transition to Net Zero: Panel Discussion and Q&A** Dr. Kathryn North, Dr. Lois Milner-Elkharouf, Dr. Mike Colechin

Dr. Kathryn North (Director of C-DICE and Associate Pro Vice-Chancellor for Climate Change and Net Zero at Loughborough University), Dr. Mike Colechin (Co-Founder of Heuristic Games) and Dr. Lois Milner-Elkharouf (Senior Project Manager – Arup) will present their ideas on how researchers can make a real-world impact on the transition to a Net Zero society, in a panel discussion that is centred around the multiple career pathways open to postdoctoral researchers and highlight the impact they can have.

15:15-16:15 **Postdoc Careers With Impact** Dr. Ines Tunga, Dr. Ahmad El-Kharouf, Dr. Gavin Harper, Dr. Abobakr Elwakeel

Listen to some early career researchers to find out about their career journeys, the valuable lessons drawn during their career so far, and how they feel the work they are doing is impacting the transition to a Net Zero society and economy.

CONTEXT

Existing C-DICE Activities

Dr Tosin Adedipe



Dr Tosin Adedipe is the Project Manager for the HyPER project at Cranfield University and a regular attendee and contributor to C-DICE activities. Tosin has many professional interests and accolades, including being listed as one of the Women's Engineering Society's top 50 women in engineering in 2022, and has research interests that centre around hydrogen as a solution to the climate emergency. HyPER (bulk hydrogen production using sorbent enhanced steam reforming and CO₂ separation) involves the design, procurement, construction and operation of a demonstration plant.



Influencing Policy as Researchers, 31 October 2024

Join C-DICE for this exclusive one-day event - Influencing Policy For Researchers: Inside the Energy Security and Net Zero (ESNZ) Committee - delving into energy and net zero policymaking in the UK and offering invaluable insights for researchers and academics...

31st October 2024,
London, United Kingdom

[Read more](#)

WHAT CAN I CONTRIBUTE?

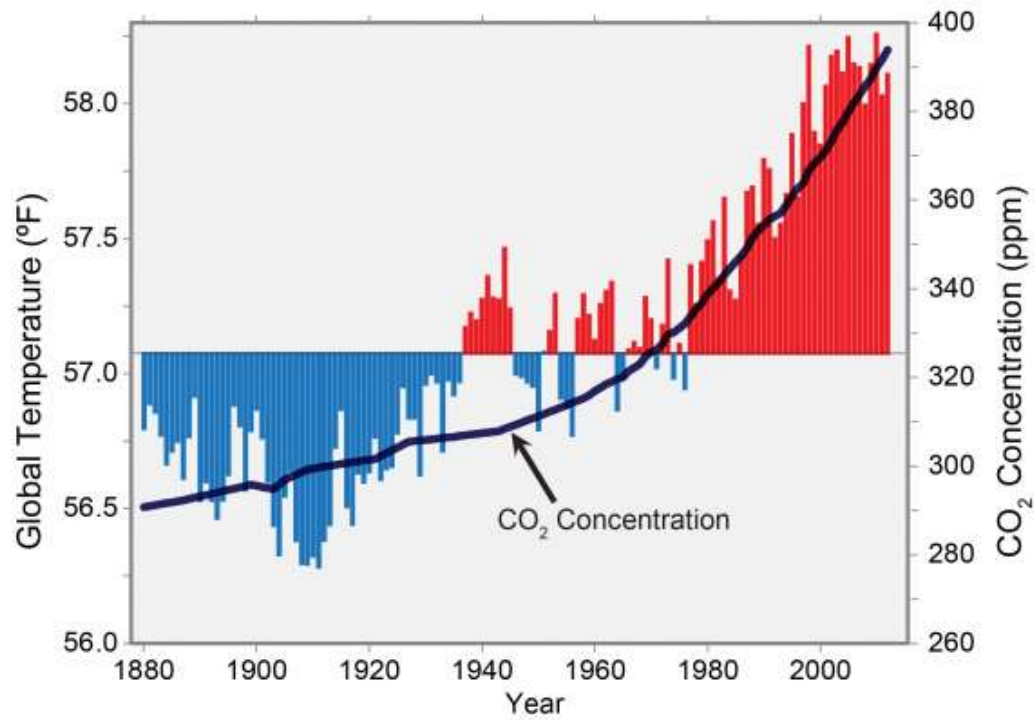




WHAT ARE THE ISSUES?

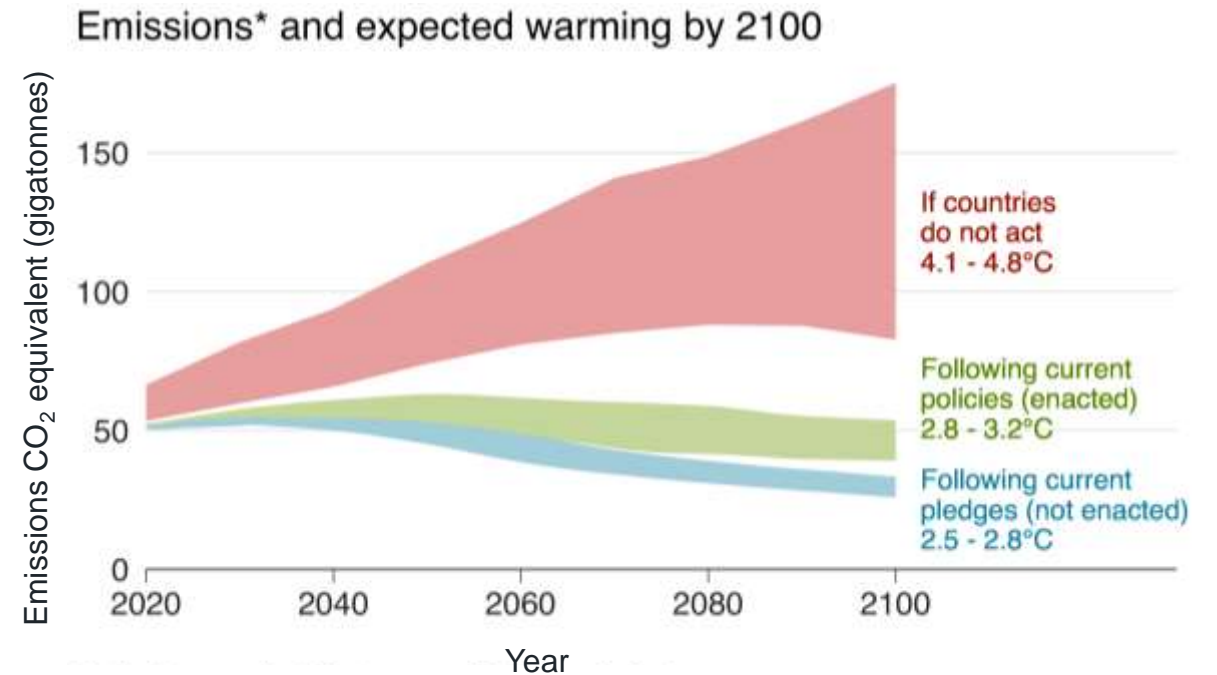
Anthropogenic Climate Change

The Past...



www.globalchange.gov (see also: <https://climatefeedback.org/claimreview/link-between-co2-earth-temperature-well-established-despite-claims-fox-news-tom-harris/>)

The Future...

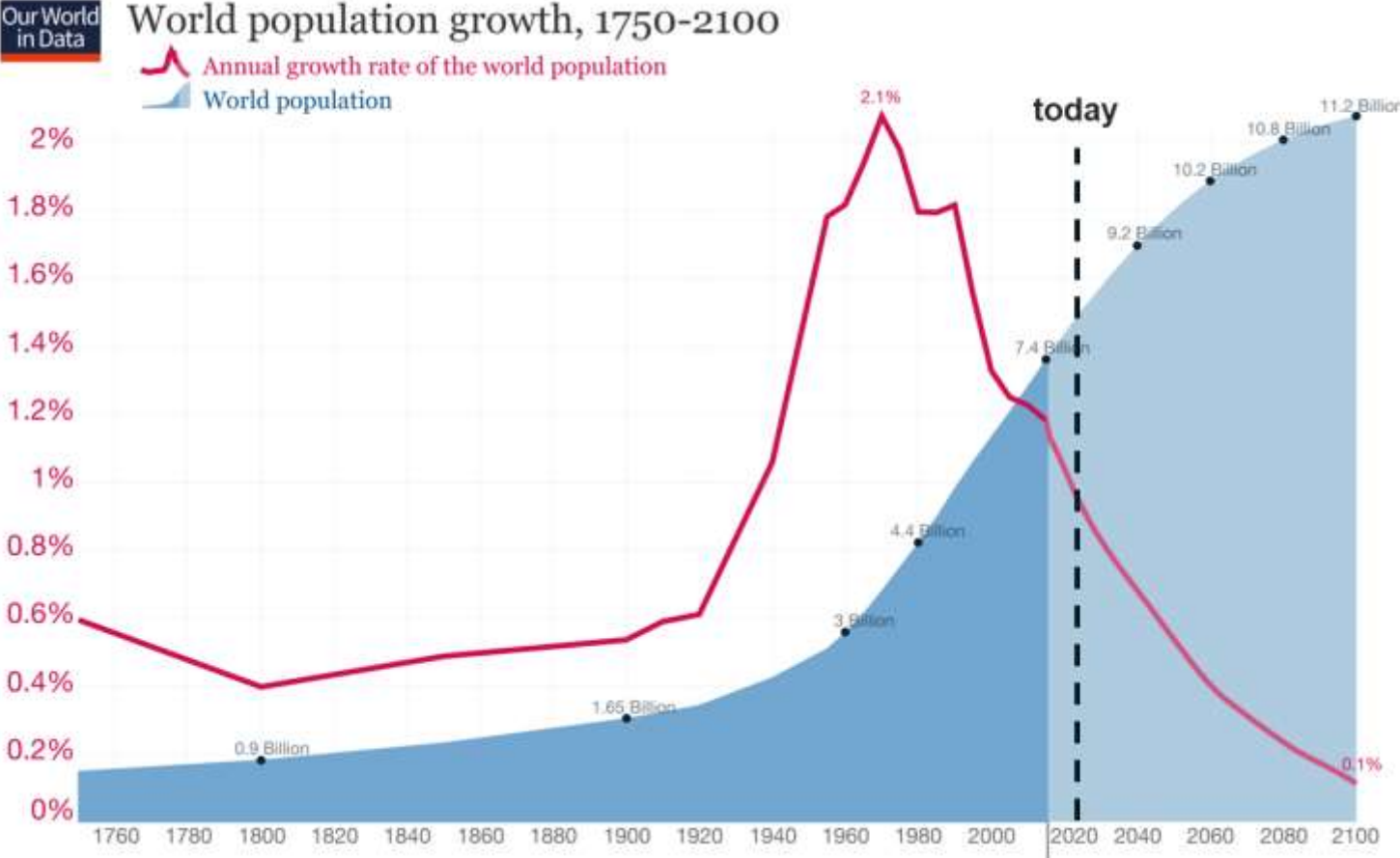


Source: Climate Action Tracker

BBC

WHAT ARE THE ISSUES?

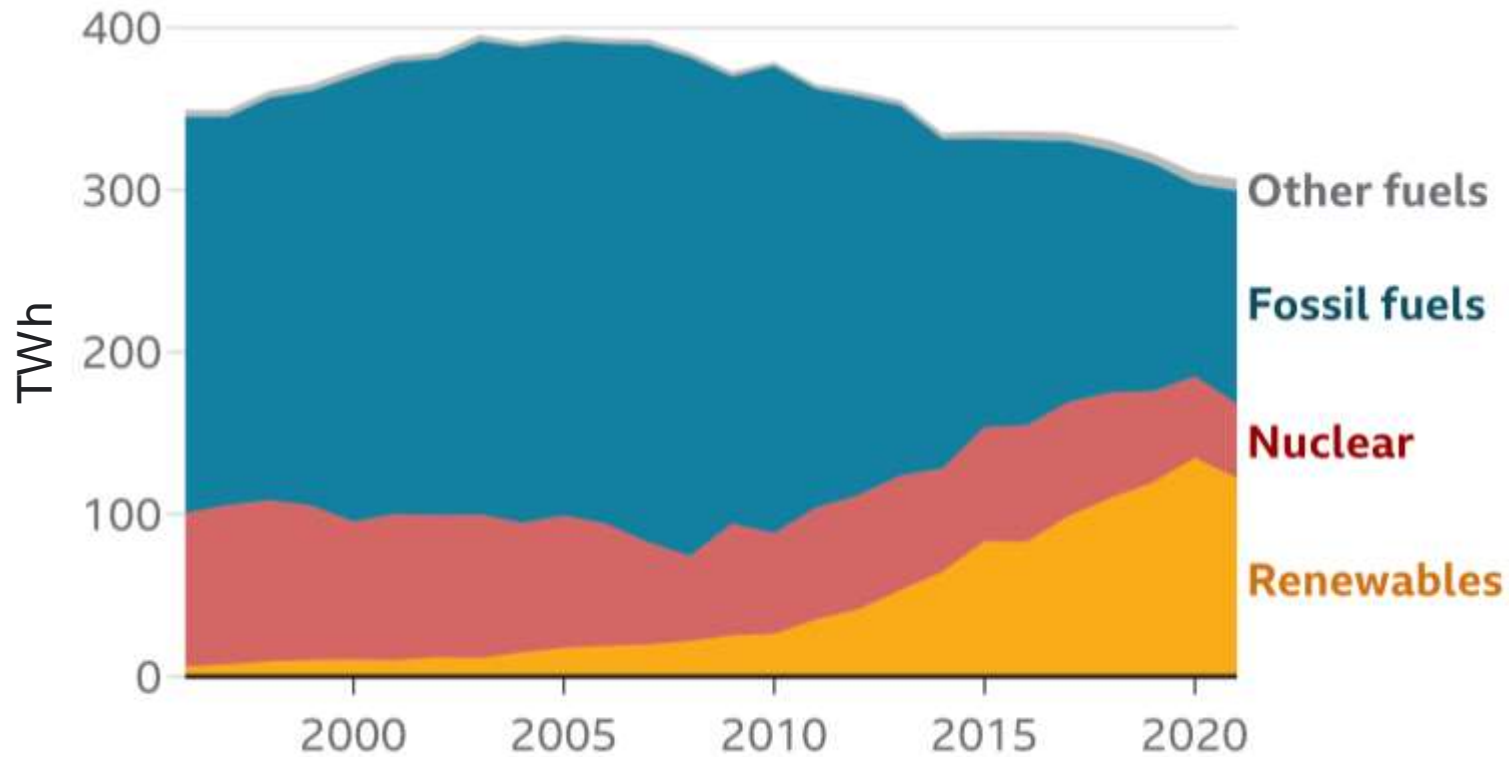
A Growing Population



supercarblondie.com)

THE CHALLENGE

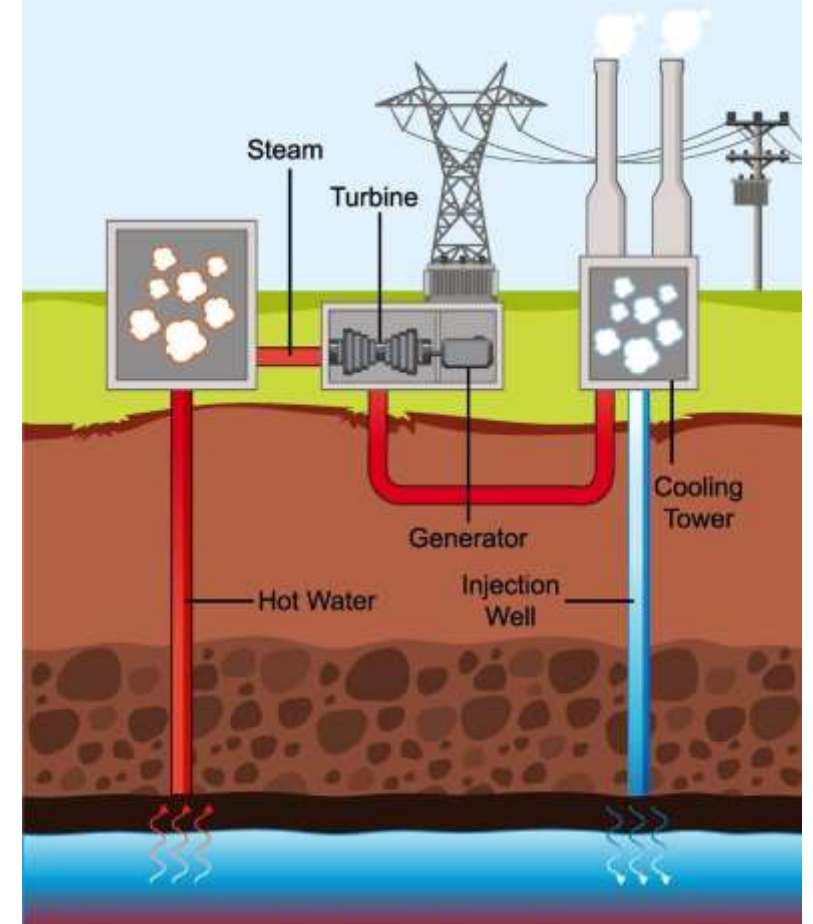
The Energy Transition



Source: Department for Business, Energy and Industrial Strategy



Geothermal Power



<https://www.dreamstime.com/geothermal-power-station-sketch-imitating-chalk-drawing-blackboard-isolated-white-background-eps-vector-illustration-image130212376>

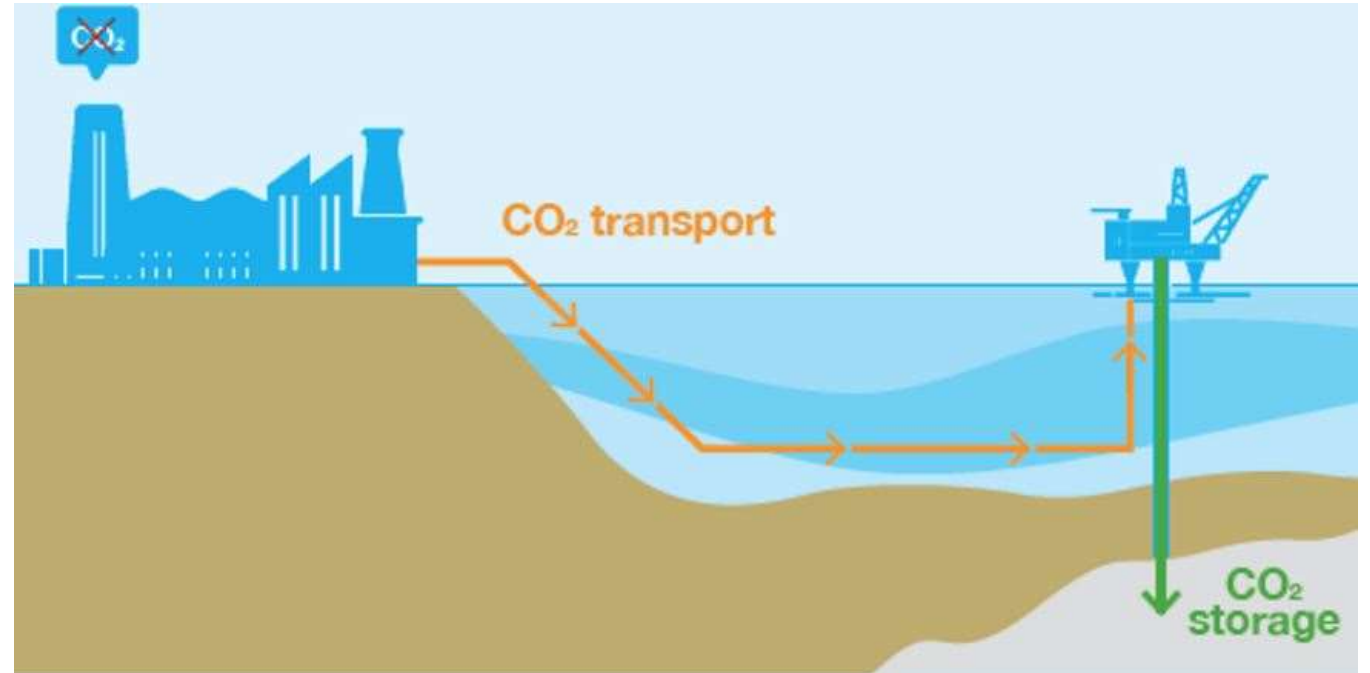
THE CHALLENGE

Waste Disposal

Nuclear Waste



CO₂

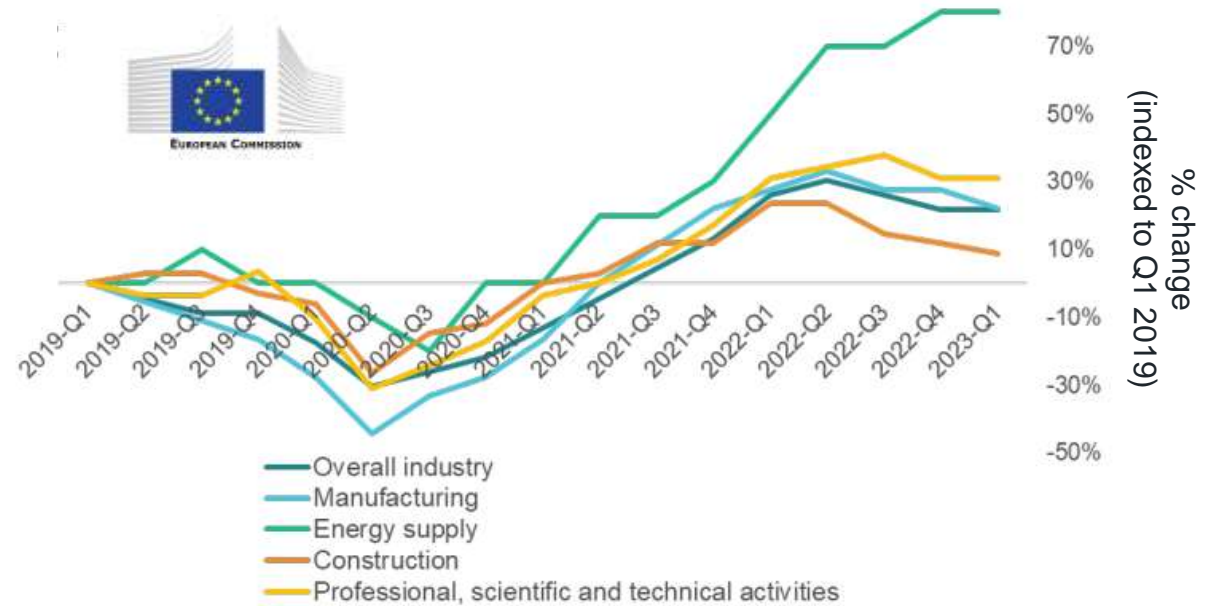


<https://oeuk.org.uk/burying-co2-forever-uk-announces-first-licensing-round-for-up-to-100-geological-storage-sites-for-permanently-storing-co2/>

DO WE HAVE ENOUGH PEOPLE?

A View from the EU

- The energy transition could require >1 million new jobs by 2030
- However, in sectors relevant to the energy transition, vacancy rates doubled from 2020 to 2023
- Career paths need to attract a diverse pool of people
- Employees' participation in education and training, which indicates lifelong learning, in key sectors relevant to the energy transition, is very low (c. 10% avg.)



Source: JRC based on Eurostat [JVS_Q_NACE2] 2023

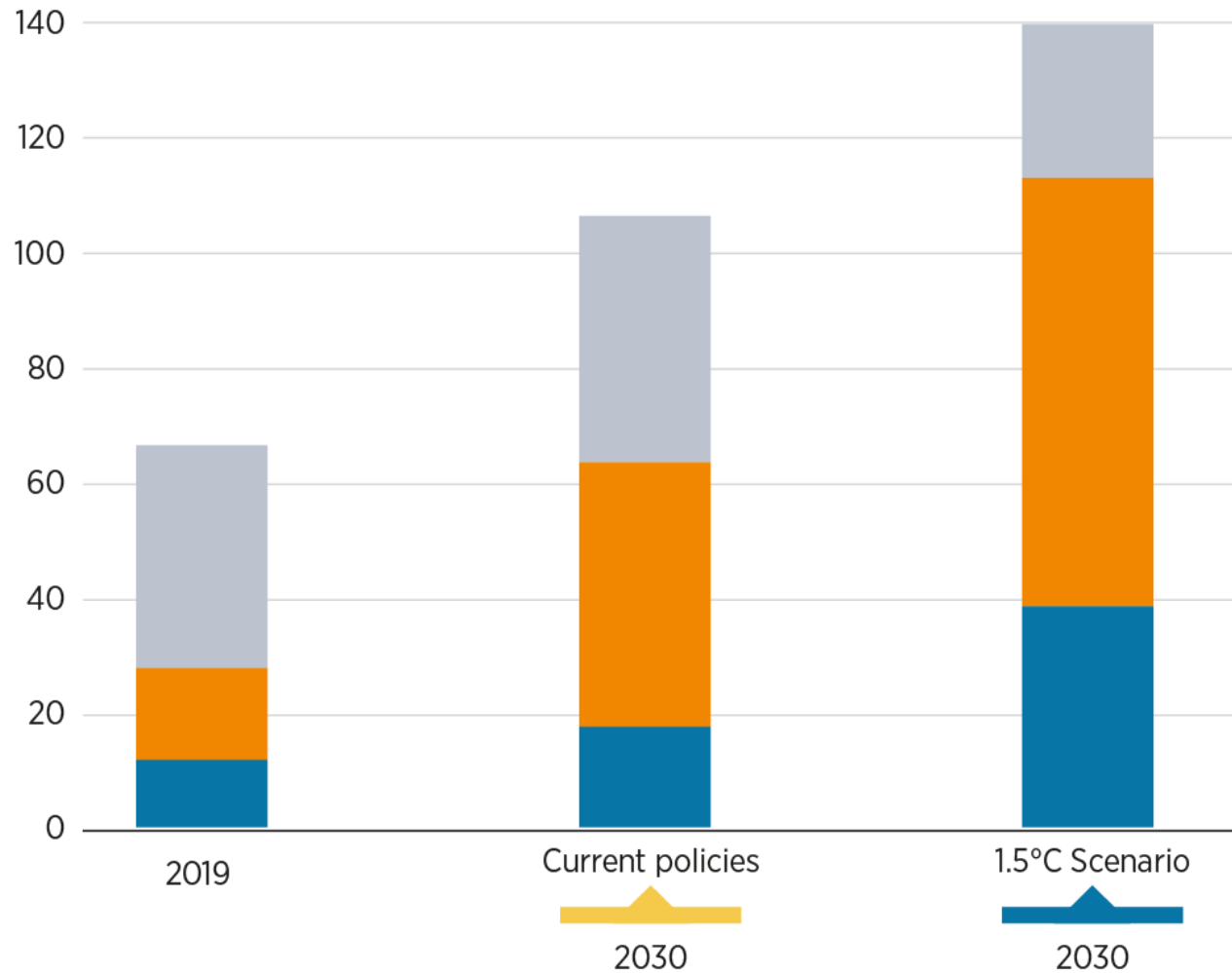


Source: JRC based on Eurostat [TRNG_LFS_08B] 2023

DO WE HAVE ENOUGH PEOPLE?

A Global View of the Energy Sector

Jobs (in Million)



- Conventional energy
- Other transition-related sectors
- Renewable energy

AM I THE RIGHT PERSON?

YES!

Dr Deblina Majumder – oxygen carrier material for low-carbon and energy efficiency



Dr Gary Nichols – offshore renewables



Dr Ola Michalec – digital twins and energy systems



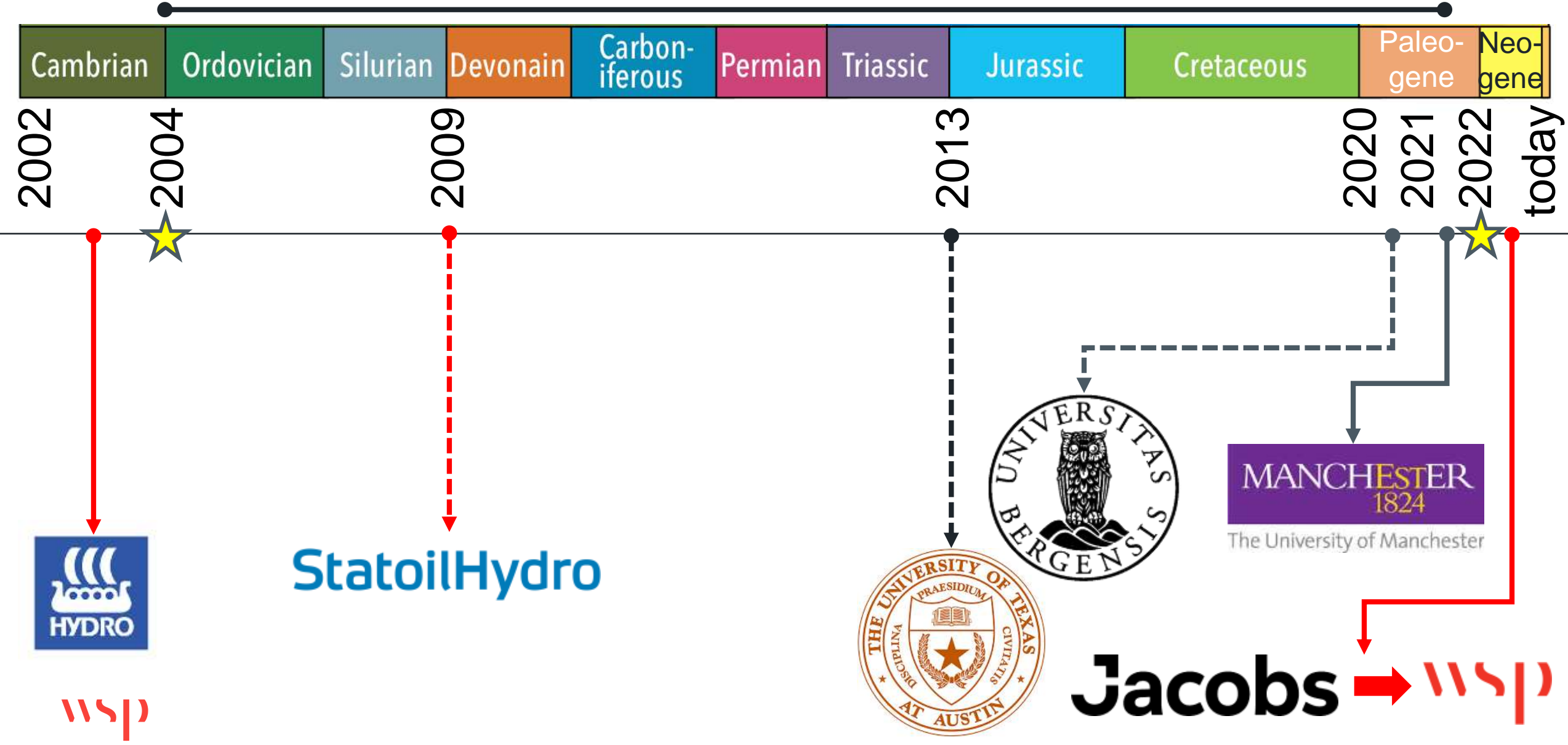
HOW DO I DO IT?

You're Already in the Right Place!



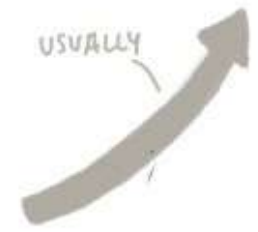
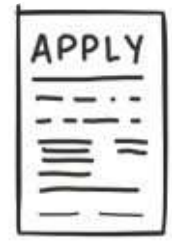
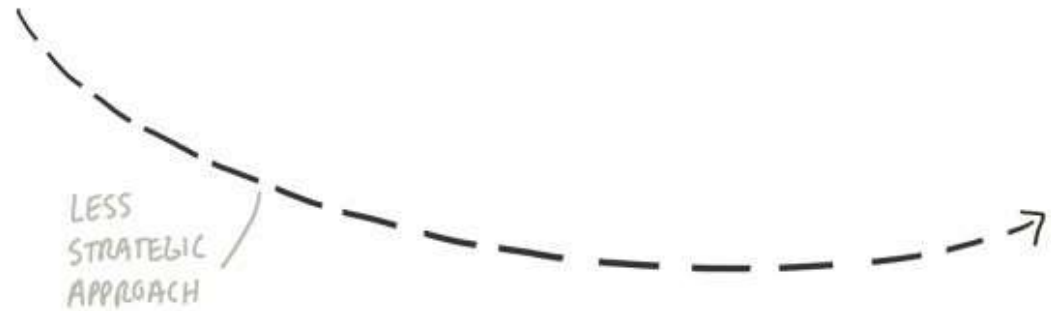
- **10** Research Sandpits
- **£1.2m** in grants to postdocs
- **4** Fellowships
- **4** Dragons' Den Events
- Engaged **800** researchers
- **3** conferences
- **57** published outputs
- **100** micro-credentials awarded
- **11** funded to attend COP27 and COP28
- **54** secondments and placements
- **61** networking grants
- **75** workshops, webinars and training programmes

Imperial College London



HOW DO I DO IT?

START



HOW DO I DO IT?

Identify Transferable Skills

- **Transferable skills** - abilities, qualities, and experiences that can be applied across various roles and industries



https://community.themomproject.com/hubfs/Transferrable%20Skills_Hero.png



https://miro.medium.com/max/1024/1*51QUw4uvPQ79IM5Vale7yw.png

**time management,
communication,
and problem-solving**



<https://cdn.iconscout.com/illustration/premium/thumb/girl-working-on-digital-marketing-4650746-3855829.png>

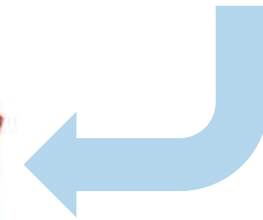
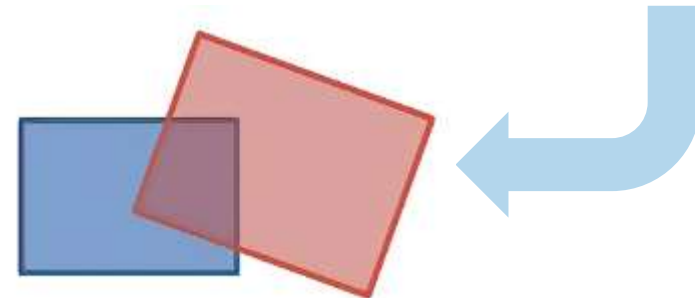
TRANSFERABLE SKILLS MAPPING

How?

- 1. Identify Your Target Role** – Identify the role or industry you are targeting, and key responsibilities, skills, and qualifications
- 2. List Your Current Skills** – List your existing skills, both hard (technical) and soft (interpersonal)
- 3. Identify Skill Overlaps** - Compare these lists, highlighting areas of overlap, as well as gaps that need closing; design a visual representation that showcases this



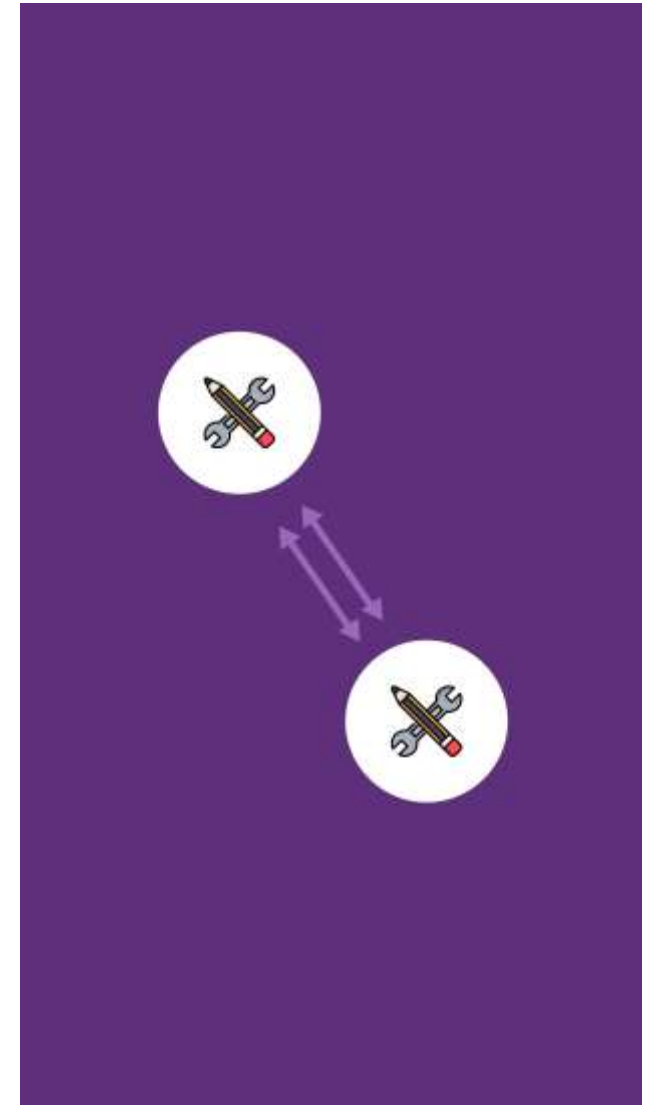
Soft Skills	Hard Skills
1. Problem-solving	1. Computer programming
2. Time management	2. Network security
3. Communication	3. Data analysis
4. Creativity	4. UX Design
5. Negotiation	5. Business analysis
6. Collaboration	6. SEO / SEM Marketing
7. Adaptability	7. Artificial intelligence
8. Emotional intelligence	8. Sales & Administrative
9. Decision making	9. Certifications & Licenses
10. Organization	10. Foreign language skills



LEVERAGING YOUR TRANSFERABLE SKILLS MAP

How and Why?

- 1. Interviews**, i.e., when discussing your career transition, reference specific skills examples from your map to demonstrate how they align with your target role. Highlight your adaptability and eagerness to learn
- 2. Networking:** Share your transferable skills map with mentors and industry professionals; their insights may help you bridge skill gaps and provide valuable guidance
- 3. Professional Development:** Use the map to identify which skills you need to acquire or enhance. Seek out relevant courses, workshops, or certifications



LEVERAGING YOUR TRANSFERABLE SKILLS MAP

Examples

1) Teacher to Corporate Trainer

Transferable Skills: classroom management, curriculum design, public speaking, adaptability

Skill Overlap: Public speaking skills = effective training sessions; curriculum design experience = engaging training materials

Skill Gap: familiarity with corporate training tools and methods



2) Graphic Designer to UX/UI Designer

Transferable Skills: Graphic design, visual communication, creativity, attention to detail

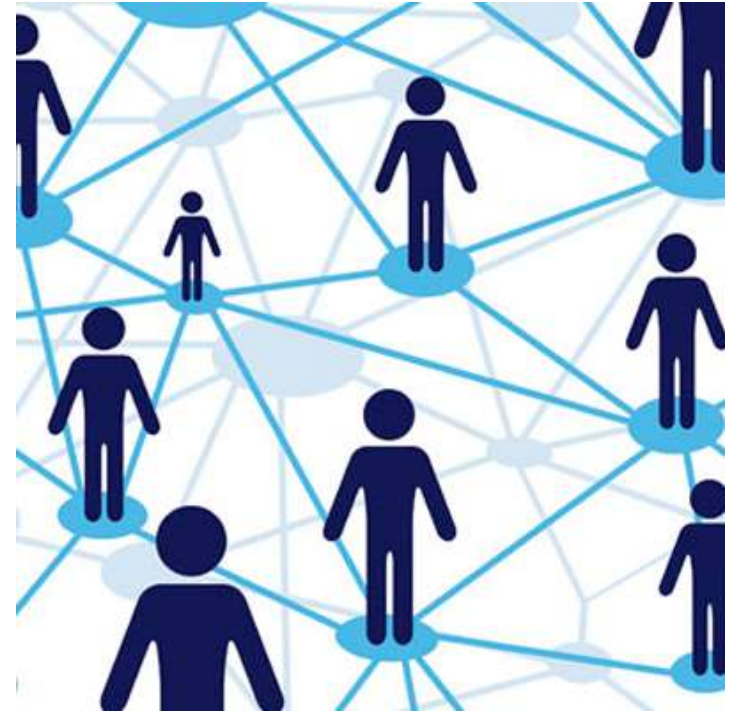
Skill Overlap: Strong visual communication skills; attention to detail = user-centred experiences

Skill Gap: Understanding of user research and prototyping techniques



HOW TO DO IT

Get out there!



YOUR ROLE IN ACHIEVING NET-ZERO

Final Thoughts

- There are significant and growing opportunities to contribute to tackling net-zero challenges...
- ...and you are already very well-positioned to contribute...
- ...but prepare yourself for immediate and subsequent changes in career and *where* you do your science and engineering