UK
ENGINEERS
WITHOUT BORDERS

Participant brief and guidance

Reshaping Engineering
2022

By **Engineers Without Borders UK**
in collaboration with **AzuKo**

Jacobs

Thank you to our founding sponsor for this initiative

This document has been produced by AzuKo and Engineers Without Borders UK [January, 2022]. The content has been created together.

AzuKo

AzuKo is an architecture charity, working to end housing poverty in Bangladesh and the UK. We co-design housing and infrastructure, deliver construction training and support communities to understand their housing rights. Everyone deserves a safe, clean, dignified place to call home.

Learn more at www.azuko.org

AzuKo is a CIO, and registered charity in England and Wales (no. 1156354).

Engineers Without Borders UK

Engineers Without Borders UK are working to reach the tipping point to ensure a safe and just future for all. Part of a global movement of over 60 Engineers Without Borders organisations, we inspire, upskill and drive change in the engineering community and together take action to put global responsibility at the heart of engineering.

Learn more at www.ewb-uk.org

Engineers Without Borders UK is a registered charity in England & Wales (No. 1101849) and Scotland (No. SC043537) and is a company limited by guarantee (No. 4856607).

CrowdSolve

CrowdSolve is an open-innovation platform that helps organisations find solutions to important societal challenges by connecting them to a collaborative network of individuals with great ideas.

Learn more at www.crowdsolve.net

Designing with Dignity

If you are interested in embedding ethics and co-design in your work, we encourage you to sign up to AzuKo's Designing with dignity programme. The course explores what community-led design means, looking at new approaches, participatory methods and tools for engagement.

Learn more at www.azuko.org/training

Welcome

Welcome to Reshaping Engineering 2022. This month-long multidisciplinary challenge will provide participants with the space to rethink how engineering is taught and practiced to ensure a safe and just future for all.

What is in this resource?

- **Challenge Information**
- **Context**
- **Problem Statement**
- **Scope of Challenge**
- **Areas of Interest**
- **The Process**
- **Marking Criteria**

This challenge is unique in its multidisciplinary approach; intended for not only those with a background in and practicing engineering, but for a variety of disciplines including business, design, architecture, humanities and social sciences. The more diverse perspectives you have to develop your concept, the better.

Collaborators

The brief for this national event has been written in collaboration with architecture charity, AzuKo, which empowers communities through design. The charity, founded by **Change Maker** Jo Ashbridge, works with disadvantaged communities in Bangladesh and the UK.

> "
>
> Every design decision you make has an impact - it is never neutral. How can you lead with empathy, and deliver genuinely sustainable solutions? This Designathan offers a unique opportunity to collaborate and explore how we, collectively, can do just that.
>
> **Jo Ashbridge, Founder & CEO, AzuKo**

Timeline

The month-long event will launch on **Tuesday 1 February** and will be interspersed with sessions covering various topics, from tips on how to present your ideas effectively, to approaches to design. You will also have the opportunity to gain feedback from others whilst developing your projects..

1st February:

Read through this brief to build upon your understanding of the challenge and guide your design process. We invite you to explore **CrowdSolve** where you will submit your concept notes and final design ideas. If you have any questions please contact **community@ewb-uk. org**. Otherwise, we look forward to seeing your ideas develop throughout February.

You have the option to come up with something entirely new, or look for ways to build on ideas produced in the **2021 Designathon**.

11th February:

Submit a concept note (200–300 words) outlining your team's idea. This will provide you with an opportunity to receive feedback from others and explore ideas being developed by other teams..

21st February:

Submit your final concept with a three-minute video, a 500 word description, and any supporting documentation (diagrams, photos, calculations, data etc.) on CrowdSolve. The video presentation can be any format you choose (filmed presentation of team members, animation, narrated slideshow etc.) and should be embedded into your post as a YouTube/ Vimeo video.

In addition to a team submission, you are each encouraged to develop and share at least three personal actions you will take. Examples of the kinds of actions we will encourage people to take can be found within the individual **Commitment** to global responsibility. If your action is to develop your own competence, areas to consider can be found under **Competencies**.

22nd–27th February:

Submissions will be reviewed by a panel of judges.

28th February:

The challenge will conclude during a final event on **Monday 28 February**. The judges will be looking for teams that have most effectively considered the **principles of global responsibility and collaborated most effectively** to generate their concept. Note that collaboration is not just limited to your own team's team working. Try to expand who you discuss your proposal with and even consider collaborating directly or connecting your idea to be relevant to another group participating.

Licensing

By taking part in this challenge, teams agree to share their solutions under an open-source Creative Commons license CC BY 4.0. Teams shall own the Intellectual Property of their work, however, they will agree to provide others (including Engineers Without Borders UK and Azuko) permission to share and build upon their ideas for a wider benefit, and be credited accordingly. If you have any queries, please get in contact at **community@ewb-uk.org**.

Context

Global indicators show us that the way we live is creating complex challenges for humanity and the planet we inhabit. Millions of people continue to live without access to the basics for a safe and just life, yet in providing for the few that have, we've already overshot the ecological limits of planet Earth.

One model which provides a new approach is Kate Raworth's **Doughnut Economics model** which shows the shortfall for delivering on all people's needs and how we are exceeding our planetary boundaries. The model is a useful framework to explain our design parameters and the tensions between them. While we would ideally sit within these limits, we have fallen short on life's essentials (from food to housing to political voice) for millions of people across the world. At the same time, we have already overshot at least four of the nine planetary boundaries such as a stable climate, our natural world, fertile soils, and biodiversity.

The latest landmark **IPCC report** states humanity's role in driving climate change is undeniable, and the risk of a disorderly transition to a positive future is highlighted in the **2022 Global Risk Report by the World Economic Forum**. Human development and the advancement of technologies is directly linked to increasing carbon emissions, biodiversity loss and human exclusion. Whether we look at our food and water supply globally or the huge amounts of land being converted and nutrient pollution occuring in our soils and waters, reducing air quality, we can clearly see the gravity of the situation at hand. Exceeding our planetary boundaries represent critical thresholds or tipping points where abrupt environmental change may occur on a continental or planetary scale.

Many livelihoods of people around the world are already being directly impacted by the climate and biodiversity emergencies, and in 2021 an estimated **698 million people**, or 9% of the global population, are living in extreme poverty – that is, living on less than $1.90 a day.
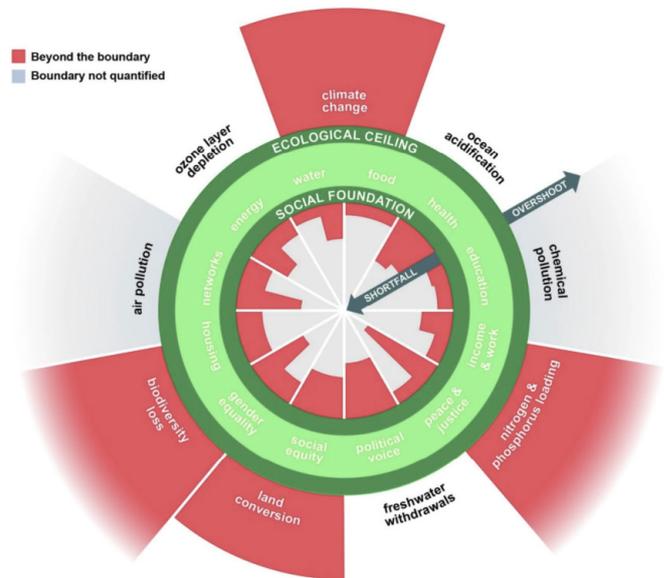
The Doughnut of social and planetary boundaries. Licensed under Creative Commons Attribution – Share Alike 4.0 International

We need to choose to address social inequity, contribute financially to create a fair and just transition for people who are adapting to the impact of climate change, but who did not cause it.

Together we can have hope – for a better, sustainable and more equitable future in the best way that we can. Because in short – why wouldn't you?

More than any other time in human history, the future is ours to shape. We have some serious choices to make. Unfortunately, time is not on our side. The global consensus is that these enormous issues must be addressed by 2030, just eight short years away. We cannot wait on new technology to solve the issue. It is a wakeup call for many. Our future depends on collective action. We have to change how we live, how we educate and how we work. In the **Decade of Action** we must all act.

In 2019, the UK became the first major economy in the world to pass laws to reduce all greenhouse gas emissions to net zero by 2050. In November 2021, the 26th Annual Summit of the Conference of Parties, **COP26**, was hosted in Glasgow. The Climate Change Committee has outlined the **key actions** for what the UK must do at home and internationally from the outcome of COP26, the Glasgow Climate Pact. Building on the momentum from COP26 is a priority for 2022.

However, we have to broaden our focus to look at the wider impacts and think carefully about how to ensure a transition to a low-carbon future is just, and does not further increase social inequity. If we want a future where everyone's needs are met for generations to come, we need a radical reflection on what has been business as usual and innovative new ways for all life to flourish.

It is all of our collective global responsibility to deliver a safe and just future for all. To do so we need to consider the following principles in all that we do.

> "
>
> We need to change the conversation so that it's not just about the here and now or your specific bubble, but 50 to 100 years time and further afield. And the environment of people who are less well off.
>
> **Nav Sawhney, The Washing Machine Project**

> "
>
> We can now say with credibility that we have kept 1.5°C alive. But, its pulse is weak and it will only survive if we keep our promises and translate commitments into rapid action.
>
> **COP26 President Alok Sharma**

Four key principles

1. **Responsible** (to meet the needs of all people within the limits of our planet);

2. **Purposeful** (to consider all the impacts of engineering, from a project or product's inception to the end of its life. This should be at a global and local scale, for people and the planet);

3. **Inclusive** (to ensure that diverse viewpoints and knowledge are included and respected in the engineering process), and;

4. **Regenerative** (to actively restore and regenerate ecological systems, rather than just reducing impact).

Are you responsible for your work? Purposeful about considering the broader impact? Who do you include or exclude in the decision making process? Do you think about how to be regenerative? Reshaping Engineering is your opportunity to push yourself and design with these principles at the heart of your concept..

"

Globally responsible engineering is thinking beyond the specification. It's considering all the external effects that we have on the world as we do our job. Engineers are so fundamental in ensuring that people live healthy lives. We're really going to have to get our heads in gear, stop pursuing vanity projects, and start focusing on how we deliver what is being asked of us – from society but also from the planet.

Brittany Harris, Co-founder of Q-Flow

Problem Statement

Our profession's strength as practical problem solvers, can also be our weakness. Our focus on a practical problem solving approach often means we spend limited time on critically reflecting about our role in the world. The result of this is that we are typically not as proactive about evolving our profession in comparison to other fields where critical self reflection is a stronger part of their core culture.

Thinking critically includes the ability to see ourselves as potentially part of the problem. When breaking down the categories within the Doughnut Economics model it is clear how our professions can play a direct and indirect role to the unjust and unsustainable use and facilitation of these resources. For example, architecture and engineering is critical to delivering the social foundation of housing that provides safety and security to people; to provide housing we use the planet's resources such as: land which can negatively impact on biodiversity; water for daily use can impact on freshwater withdrawals; and manufacturing construction materials such as concrete contributes to climate change.

While our professions have resulted in incredible advances to our comfort, health, and quality of life, they have also played a fundamental role in contributing to the unjust and unsustainable practises that dominate the world today. The building and construction sector alone is responsible for **38% of global emissions**. This is evident from the inequalities demonstrated through the Doughnut model, and in specific examples such as the **gender bias in designing seatbelts** and **racial bias in facial recognition software**, to the impact of **poor ethical decisions**. The intricate societal and global challenges are complex systems that are not as simple as a cause and effect relationship.

Click here to be presented with a short video explaining the work of practising engineers towards each of the Sustainable Development Goals.

We didn't intend to cause a climate emergency or lose our privacy and security to AI. Therefore the skills, competence, confidence and supportive opportunities to propose new ideas are important to challenging business as usual and to uphold ethical and inclusive decisions. We need to be honest about where skills and behaviours fall short in the sector, workplace and drastically improve our ability to produce sustainable and equitable outcomes.

It is in societies and the planet's best interest for global responsibility to be embedded deeply within the culture of engineering companies. Business as usual is no longer acceptable and maintaining the status quo of how we practice needs to be challenged.

When thinking about reshaping engineering, we must recognise that what we change must not limit people's rights to a better quality of life, that is why a transition to a better future must be just. The **UN Declaration on the Right to Development** states, "The right to

development is an inalienable human right by virtue of which every human person and all peoples are entitled to participate in, contribute to, and enjoy economic, social, cultural and political development, in which all human rights and fundamental freedoms can be fully realized." Our professions have a critical role and responsibility in enabling that right be met for all on this planet, in a way that is deeply sustainable and not just following in the default trajectory that dramatically increases our impact on the planet.

To achieve social and environmental justice, we need those working in and around engineering to commit to global responsibility, and deliver on that commitment.

Regardless of where you are in your ability or career, to achieve social and environmental justice, we need those working in and around the engineering sector to commit to global responsibility.

Scope of Challenge

Your brief: Your team must pitch an idea for how to make the engineering sector more globally responsible.

We encourage you to be creative and curious with how you approach Reshaping Engineering. You could design a campaign, digital platform, an ethical toolkit or even a new way to inspire, upskill and drive change with your peers and/or organisation.

Your projects may start from existing ideas, proposals, briefs, or challenges and are independently led by your team. The aim is for your projects to explore how advocacy, knowledge exchange, cultural change, education, entrepreneurship and research could work in practice. Often, detailing who you would collaborate with, for example external organisations, brands, and institutions, will be a core part of your concept.

Consider how the **four key principles** of global responsibility can inform and guide how you approach these.

To help you get started, we have suggested some areas of interest below.

Reshaping
Practice

Reshaping
Entrepreneurship

Reshaping
with Society

Reshaping
Education

It is up to you to decide if you use these areas, adapt them or choose to focus on something outside the listed areas.

Areas of Interest

Reshaping Practice

Organisational culture plays a big part in who gets exposed to messages and ideas underpinning global responsibility. Organisations can enable engagement from all levels, active participation and reviews of the effectiveness of decisions aiming to be sustainable, and provide ways for people to voice concerns and work together effectively to resolve challenges. Allowing for frequent opportunities to apply and develop richer, more informed understanding helps develop competence fast and equips people to be able to lead effectively and enable cultural change to meet aspirations within organisational sustainability strategies..

How do you challenge the status quo within the culture of engineering? When more familiar materials, products and approaches are used, how can globally responsible standards become part of procurement processes? When considering your ethical responsibilities, what ways could you navigate ethical debates and past, present and future ethical issues and decisions?

Example of a shared vision and action plan for achieving net zero across the UK built environment

The **Climate Action Tracker** highlights that the credibility of pledges and policies to meet 1.5°C is lacking. The UK's Net Zero Strategy maps out potential scenarios to reach net zero by 2050, however details for interim targets fall short.

In November 2021 during COP26, the UK Green Building Council (UKGBC) launched the **Net Zero Whole Life Carbon Roadmap for the Built Environment**. This sets out a common vision and agreed industry wide actions for achieving net zero carbon in the built environment sector in the UK. Importantly, the roadmap is co-developed by stakeholders from cross-industry including early career professionals who will be helping deliver a net zero built environment now and in the future.

Potential Starting Points

- Reflect on your current practice and work. It's easy to focus on what practical barriers prevent placing global responsibility in day-to-day practice but what action can you take? Focus on what you can do rather than the constraints.

- Impact assessment tools aid significant, quantifiable progress towards understanding and improving the impact of actions. Reflect on your own current practice. What impact assessments and toolkits are used in your own day-to-day? How do these influence your decision making and advocate for alternative solutions?

- Sustainability assessment and certification enables more sustainable environments to protect natural resources and enhances the well-being of people who live and work in them. How would you transform existing assessment methods such as **BREEAM** and **LEED**, that

continue to celebrate buildings that have huge environmental impact, to focus on sustainability in more meaningful and substantial ways?

- **The SDG Impact Assessment Toolkit** is a free online learning tool that aids users better understand the complexity of sustainable development and how an activity, organisation or innovation affects the SDGs.

- Check out **Feilden Clegg Bradley's Climate Responsive Design**, that considers local cultural understanding, reflecting peoples expectations of comfort and sources local materials. Also check out **Morrow + Lorraine's** commitment to sustainability in their practice, projects, ethics and ethos.

Reshaping Entrepreneurship

Entrepreneurs and innovators are incorporating global responsibility into day to day practice, through innovative technologies and incorporating social and environmental value across the lifecycle of proposed outcomes. As different perspectives and priorities are evident across society, value tensions exist across the design process that can result in unintended consequences. We need to move from the belief there is a 'right' answer to intentionally and skillfully seeking a 'best' answer.

Collaboration is needed to accelerate progress towards the SDGs and ensure global responsibility is a strong cultural feature in engineering. This includes going beyond building knowledge, to actively opening up tangible opportunities for global responsibility to be integrated into work. How could those working in existing engineering entrepreneurs be given a platform to collaborate and enable sustainable and inclusive approaches?

Example of collaborative action on supply chains

Typically, the engineering sector still relies on unsustainable practices and resources. Rather than focusing on the outputs, should we shift our gaze to the overall change we seek to make in the engineering process? From waste streams to transparency in supply chains, if we're going to drive change in the industry, we must acknowledge when we make mistakes and then try to address them.

Qualisflow (QFlow) was founded in 2018 with the vision of delivering a built environment that meets the needs of society without compromising future generations. QFlow is independent from the supply chain but works with construction teams to take a data driven approach to track social and environmental impact. Digital automation captures information, generating actionable insights to help reduce unnecessary waste, resource consumption and carbon on site, whilst driving down costs.

Potential Starting Points

- Have a look at the **Inclusive Engineering Framework**. A willingness to share, listen and work collaboratively with a range of groups, particularly marginalised voices, is critical to ensure representation, understand where engineering can disadvantage groups and find evidence-based and innovative solutions.

- Look for participatory approaches, such as **Design Kit**, that recognise and value the input relevant stakeholders and communities. How can these be integrated and/or amplified within your own engineering practice?

- What could be learnt from disciplines outside engineering in the design process, such as **valuing humanities perspectives in tech**? How could multi-disciplinary insights facilitate a willingness to test new approaches and models?

- Check out **IDEO**, who champion an **open-source model** for innovation and accelerates innovation in the development sector through their **Amplify programme**. Could you design a platform to showcase track records of co-production and encouragement for others to ideas forward.

Reshaping with Society

With the greater awareness of the impact our professions have on society, the planet and our future comes a realisation that there is a responsibility to consider more than the technological factors. We are being called to adopt more decisions and behaviours that are conscious of the broader impact to society and the environment, to support faster decarbonisation and more sustainable use of resources.

Decisions at every stage of the engineering process are value laden. Judgements and compromises are made to bring ideas into practical reality, considering the value of technological, economic, social and environmental factors, whether this is done knowingly or not. What can you do to drive change and to create tangible opportunities for regeneration to be integrated into work?

"

Who would expect in a portrait of the city of Amsterdam that you would include labour rights in west Africa? And that is the value of the tool.

Kate Raworth

Example of Doughnut Economics in action

Doughnut Economics is taking shape in **cities across the world** including. Amsterdam was one of the first cities to adopt the model **in 2019**, to shape a post-pandemic society, by asking; How can our city be a home to thriving people in a thriving place, while respecting the wellbeing of all people and the health of the whole planet? The city also considered local and international priorities, the SDGs and working within planetary boundaries. The model encourages interrogating global relationships within society. For example, Amsterdams port is the single largest importer of cocoa in the world, arriving largely from west Africa where labour can be exploited.

New standards for sustainability and circular use of materials for contractors in all city owned buildings have been introduced. 'Materials passports' are needed for new buildings, so the city can reuse materials after demolition. The model also inspired the city's COVID-19 pandemic response, understanding that access to computers would become increasingly necessary to socialise and take part in society. Rather than contributing to costly e-waste through purchasing new laptops, old and broken laptops were refurbished and distributed to those who needed them.

Potential Starting Points

- We need to think about the bigger picture and work towards long-term goals with achievable milestones. How could strategic thinking and planning skills be utilised to put social and environmental justice at the centre of decision making?

  - Check out the Doughnut Economics Action Lab who work with changemakers worldwide, turning ideas into transformative action and learn from others through experiments in co-creating a new economy.

  - Check out One Planet Living and PlanetMark, route maps and certification deisnged to aid continuous improvement for all aspects of social, environmental and economic sustainability in society.

- How could our professions engage and drive debate within society to strengthen the connection between the public and engineering projects? How might this influence our ethical responsibilities and transparency within society? Are there big public forums that are making waves?

  - Take a look at TED talks on racism in AI, transformative economies, counterfeit goods and learning from failure.

  - Have a look at the This is Engineering, a campaign to inspire people to value the creativity required in engineering.
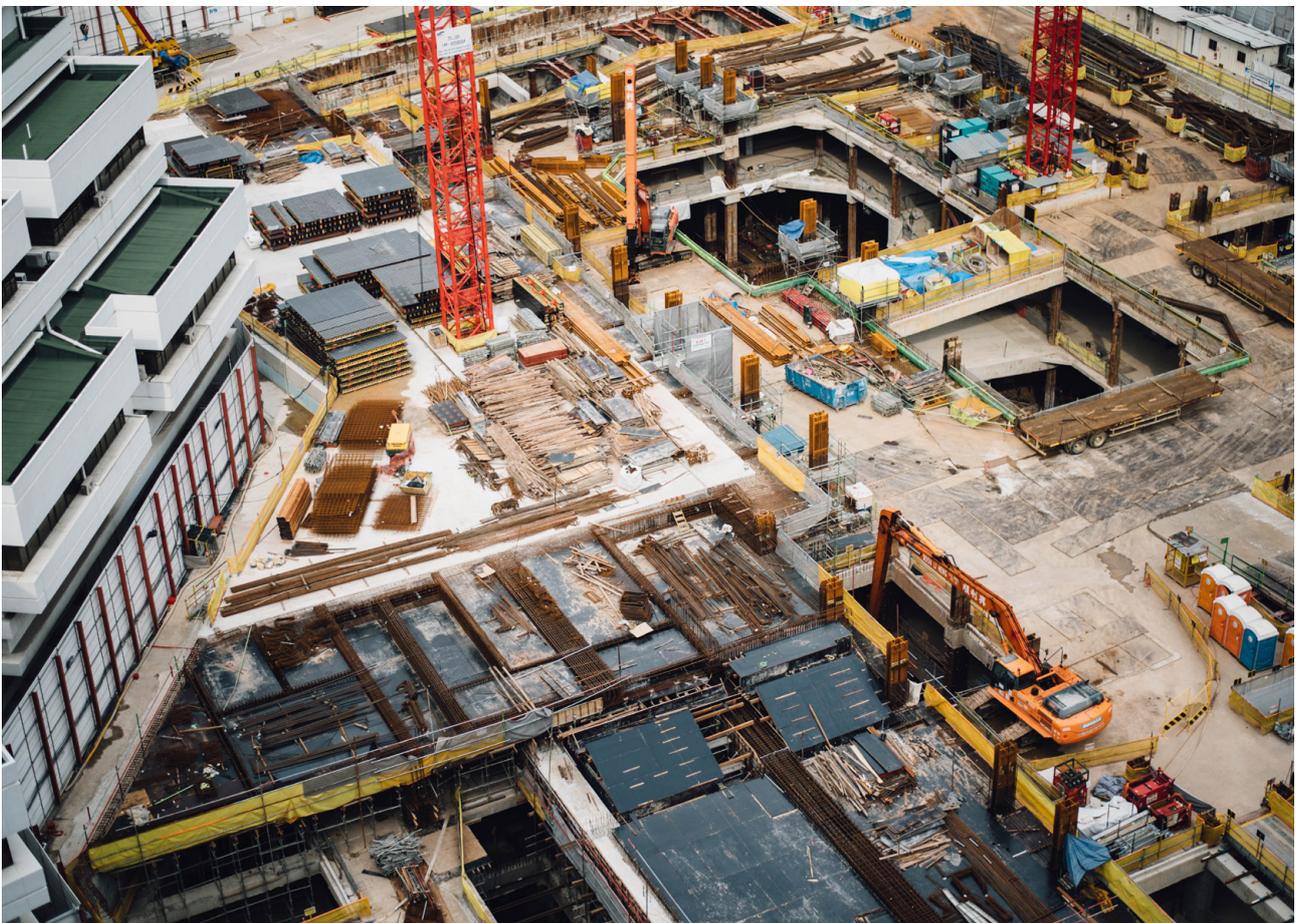
Reshaping Education

Our professions are required to continually develop our professional competencies through lifelong learning. However, a **survey** by the Institution of Engineering and Technology (IET) found that only 7% of engineering companies with a sustainability strategy have the staff with the skills to fulfil it, while only 53% believed it was possible for them to meet net zero by 2050.

To address this century's complex problems, we must reflect and think critically about our professions role in the world. Importantly, moving beyond a linear engineering process to navigating complexity and critiquing the outcomes. As a participant in Reshaping Engineering, we encourage you to reflect on and challenge your own education and continued professional development. What is/was missing? Are the skills you developed future proof? Could you design a learning journey that facilitates critical thinking as a fundamental cornerstone of engineering competence?

### Example of transforming the culture of engineering

The engineering community is recognising that social and environmental injustices need to be actively redressed, such as embedding the Climate Emergency as a very necessary **cultural feature of how engineering is taught**. However, such a transformation cannot happen without a wide-ranging declaration of intent and a paradigm shift in our behaviour.

Engineers Declare is a declaration uniting all strands of engineering and calls for a paradigm shift in behaviour, established following the first professional declaration, **Architects Declare**. This recognises and commits to take positive action in response to climate breakdown and biodiversity collapse. A unified commitment opens the door to sustainable and inclusive change, shows leadership and commits to sharing knowledge and resources to inspire others.

Potential Starting Points

- Critical thinking and navigating complex problems top the **list of skills for 2025**. Could you design a roadmap for developing competence in global responsibility?

  - Take a look at **Holistic competencies** and examples in the **humanitarian sector**.

  - Reflecting on declarations throughout the sector, what can be done to turn intent into individual and organisational action?

- Check out the **UNESCO Engineering for Sustainable Development**. University and industry relationships are important for lifelong learning activities and competency development.

  - Often the narrative for professionals is to give back to students and early career engineers. What if we challenged that

  cultural norm? What could professionals learn from young people who are driven by ideals and who think big? What could be achieved if we flip the power? Check out the learnings from **volunteer professionals in an undergraduate design challenge**.

- Industry may be clear on what new knowledge and skills they want, but may be influenced by competing organisational priorities. Who does this benefit? How can you advocate for opportunities to develop competencies in global responsibility in your organisation?

- Have a look at the **Globally Responsible Virtual Programme**. What role could virtual platforms play in advocating for and upskilling engineers in global responsibility?

The Process

DESIGN PROCESS

1. Analyse the context
2. Define the problem and the design criteria
3. Explore lots of options/solutions
4. Justify your recommendation and explain how it works
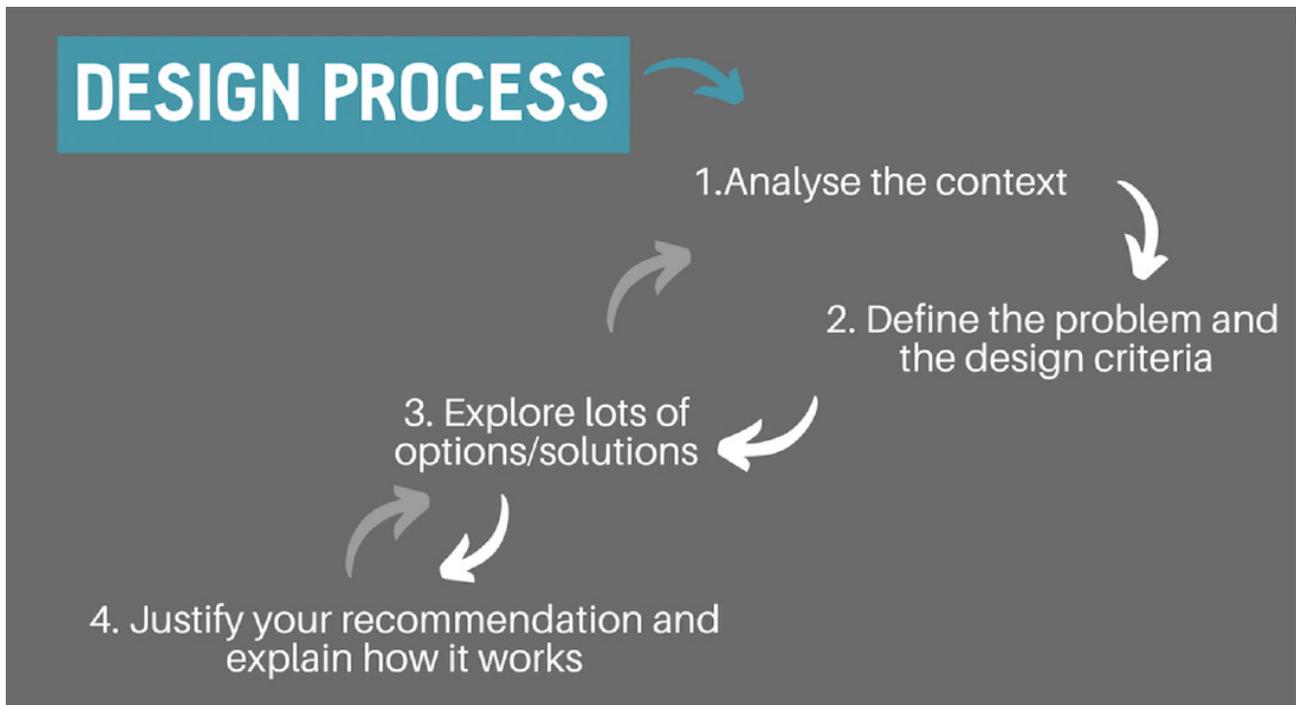
Step one: Analysing the real world context

To get off to a good start, you will need to take time to gather information and build your understanding before you start proposing ideas. Here is where you explore, research and discover what exists already and further understand the context of the problem. Be curious.

Step two: Defining the problem (e.g. refining the brief)

You should now be able to identify the problem that you are going to tackle. Whatever issue or issues you choose to work on, you will need to justify why you think they are important.

You may choose or challenge some of the ideas above, but this is where you focus on what problem your team is looking to solve and set criteria for success.

Step three: Explore lots of options

Here is where you generate ideas. Ideally you will prototype, test and iterate your project.

Who influences the types of projects and technologies we work on? We are looking for innovative and alternative approaches. Be sure to catalogue your findings and share your process and updates on CrowdSolve.

Step four: Justify your recommendation

Within your team's submission you will need to:

- Explain and justify your idea. Clear communication is vital here.

- Consider the use of images, diagrams, videos and models as well as the written and spoken word to get your idea across.

- Outline the process you have gone through. This will assure people that you have taken responsible steps to reach your proposed design and that you are confident it is appropriate.

- Present a plan covering how you propose to implement your project, and evolve it. Who would you seek feedback from and how would you incorporate this in your approach?

Marking Criteria

Globally Responsibility

To achieve globally responsible outcomes requires critical analysis and reflection throughout the creation process.

For the judges to assess your project and provide feedback, all of the principles of global responsibility will be used to assess how your project may reshape engineering for the better. Even if you focus more on one specific principle, you are expected to consider them all. We are actively encouraged to adopt these principles to guide how you approach this professional design challenge and your project, as demonstrated within the marking criteria.

Marking Criteria	Marking Allocation				
	1	**2**	**3**	**4**	**5**
Responsible	No consideration or justification.	Little consideration or some reference.	Clear description of how this concept is advocating to make engineering more responsible. In addition to team submission, three personal actions from each team member were shared.	Good potential and logic demonstrated as to how this concept could advocate for change and reach desired impact. In addition to team submissions, three personal actions from each team member were shared with evidence of how they will be achieved.	Excellent potential, logic and creativity for how this concept could be applied in practice, and reach desired impact. In addition to team submission, three SMART personal actions from each team member were shared with evidence of how they will be achieved.
Purposeful	No consideration or justification.	Little consideration or some reference.	Clear description of how this concept is advocating to make engineering more purposeful.	Good potential and logic demonstrated as to how this concept could advocate for change and reach desired impact. Some demonstration of Purposeful principle guiding how the team worked to create the final concept.	Excellent potential, logic and creativity for how this concept could be applied in practice, and reach desired impact. Demonstration of how Purposeful principle guided how the team worked to create the final concept.
Inclusive	No consideration or justification.	Little consideration or some reference.	Clear description of how this concept is advocating to make engineering more inclusive.	Good potential and logic demonstrated as to how this concept could advocate for change and reach desired impact. Some demonstration of the Inclusive principle guiding how the team worked to create the final concept.	Excellent potential, logic and creativity for how this concept could be applied in practice, and reach desired impact. Demonstration of how Inclusive principle guided how the team worked to create the final concept.
Regenerative	No consideration or justification.	Little consideration or some reference.	Clear description of how this concept isadvocating to make engineering more regenerative.	Good potential and logic demonstrated as to how this concept could advocate for change and reach desired impact.	Excellent potential and logic demonstrated as to how this concept could advocate for change and reach desired impact.

Marking Criteria

Communication and collaboration

Team working is critical to the success of any project and being able to communicate your project is fundamental. Collaboration with other teams is actively encouraged as demonstrated within the marking criteria.

Marking Criteria	Marking Allocation				
	1	**2**	**3**	**4**	**5**
Communication	No justification for idea and concept.	Limited description of the idea and justification.	Satisfactory description of the idea, clear justifications and communication of concept.	Good description of the idea, clear justifications and communication of concept.	Excellent description of the idea, clear justifications and communication of concept.
Collaboration	No evidence of collaboration.	Limited collaboration evident.	Reasonable collaboration. Submitted both Concept note and final submission on time to CrowdSolve.	Good collaboration with other students and professionals. Submitted both Concept note and final submission on time to CrowdSolve. Evidence of active engagement with mentors on CrowdSolve.	Excellent collaboration with other students and professionals. Submitted both Concept note and finalsubmission on time to CrowdSolve. Evidence of active engagement with mentors and regularly shared resources and information others mayfind useful on CrowdSolve.

> "Believe that change IS possible! The biggest barrier to driving change to be more responsible, more accountable and more transparent is that we are so afraid of the negative consequences that we don't see the positive opportunities. So my advice would be not to fear the negative so much that you don't even begin to explore the positive. You can make a difference!"

Brittany Harris, Co-founder and CEO of Qualisflow

We wish you the best of luck and look forward to seeing the projects you come up with on CrowdSolve. We encourage you to be creative and think outside the box, making the most of connecting with other teams through CrowdSolve and listening carefully to the varied perspectives in your own team.

If you have any questions please contact us at **community@ewb-uk.org**.

UK
ENGINEERS
WITHOUT BORDERS