



Brief 5:



Made natural

How might we create sustainable, nature-based solutions which use trees to protect the environment and strengthen communities?



RSA

+

Royal Botanic Gardens
Kew

natracare

Brief 5: Made natural

In partnership:

Royal Botanic Gardens
Kew

With support from:

natracare

There is one award
available for this brief:

Made natural
award of £2,000

How might we create sustainable, nature-based solutions which use trees to protect the environment and strengthen communities?

Background

- Trees are a key part of fighting the climate crisis. They play a [major role](#) in capturing harmful carbon emissions, as well as providing a range of other benefits to their ecosystems.
- Trees are an important part of the provision of [Nature-based solutions \(NbS\)](#), led by Oxford University, defines NbS as 'solutions to societal challenges that involve working with nature to deliver benefits for people and biodiversity.' Instead of developing human-centric solutions to climate challenges that only consider the benefits to humans, NbS ensures that we work alongside nature to provide answers that consider all aspects of our environment including our interdependence on biodiversity.
- The Nature-based Solutions Initiative shows that NbS can be used to address any number of challenges, from the protection and restoration of ecosystems to the creation of [urban green infrastructure](#).
- Trees have been used in the development of NbS, such as in the [nurturing of scrub and tree](#) cover to reduce run-off and subsequent flooding in flood-prone areas. Planting trees can also help to [keep urban areas cooler](#) during intense heatwaves associated with global heating.
- Closely related to NbS is the concept of biomimicry. The [Biomimicry Institute](#) defines biomimicry as 'a practice that learns from, and mimics, the strategies found in nature to solve human design challenges'. Both biomimicry and nature-based solutions are closely linked as they take inspiration and learning from the solutions presented by the natural world, for example mimicking a natural form or shape to enhance sustainability, promote ecological resilience and foster a healthier relationship between humans and the natural world.
- Both approaches demonstrate that nature holds the solutions to many of the world's most urgent and pressing problems, whether that be in sustainable housing development or creating carbon sinks.

How to approach the brief

- At Kew Gardens, 2025 is the Year of Trees, and we will be staging a spectacular outdoor exhibition of architect-designed treehouses. For this brief, we are looking for designs that are inspired by Nature based Solutions and biomimicry to come up with nature-based solutions to pressing environmental and social challenges.
- Trees are a vital part of many environments, so you might want to focus on your immediate local area when thinking of your design. What environmental or social challenges does your community face, either now or in the future? And what part might trees play in responding to those challenges? You might want to map out your local area and the people who live there, explore the role that green spaces already play there, and consider how people already interact with their environment.
- You might use trees as inspiration for a particular design or product that meets the needs of communities. What sorts of trees inspire you? What cues can you take from them - whether in terms of their shape, or structure, or functionality, or interactions with one another, or sensory associations - to develop your solution?
- Alternatively, trees themselves might form a part of a nature-based solution to a problem. This might be an environmental or social issue that you can see in your community. For example, we know green spaces mitigate the effects of climate change and encourage biodiversity, but they also [contribute](#) to improving our health and wellbeing, and potentially even help to build stronger community relationships.
- We encourage you to collaborate with multiple disciplines and to use different approaches to address the challenges within this brief. How can you create a diverse team with diverse expertise across different aspects of STEAM (science, technology, engineering, arts and maths) to come up with a solution? When developing your solution, think carefully about the people directly affected by the social or environmental challenge you're focusing on. Who might interact with the solutions and responses you're exploring, and do you involve them in the research and design process

to ensure your proposal is as inclusive as possible? You will want to consider things like their age, ethnicity, or whether they have a disability. Can you potentially involve them as co-creators to ensure equity is foundational to your design?

- Think about the wider systems that your solution is interacting with. How can you design for longevity and ensure that your design has lasting impact? You will want to consider how to ensure your idea is sustainable from a business, community and environmental perspective.
- Regardless of whether your solution is a physical, service or systems-shifting design, you will want to consider things like the sorts of budget, materials, and skills that would be needed to create your solution and enable it to continue to serve ecosystems for the longer term. What sort of local infrastructure already exists that might facilitate or hamper the creation and sustainability of your design? You will want to carefully consider the sustainability and carbon footprint of your proposed solution.

For the purposes of illustration only, viable responses could include:

- One classic example of biomimicry design involves the invention of Velcro. In the 1940s, when an engineer named [George de Mestral](#) was hiking in the French Alps, he noticed that cockleburs, a type of plant, were sticking to his trousers and his dog's fur. When he later put the cocklebur under the microscope, he noticed that they were covered in hundreds of tiny hooks which were perfectly designed to latch onto surfaces. He took this as inspiration to design Velcro, a product that is still in widespread use today.
- Kew Gardens has been involved in a project involving trees that they hope will revolutionise [Cattle Farming in the amazon](#): using them as 'living fences' that lower fencing costs, provide shade for animals, increase the lifespan of the grasses growing around them and produce an additional source of food for the cattle, which can be particularly valuable in times of drought. ...and many more are possible.

Partner information:

Kew

The Royal Botanic Gardens, Kew is a world-famous scientific organisation, internationally respected for its outstanding collections and scientific expertise in plant and fungal diversity, conservation, and sustainable development in the UK and around the globe. Kew's scientists and partners lead the way in the fight against biodiversity loss and finding Nature-based Solutions to the climate crisis. RBG Kew has two botanic gardens, Kew Gardens in London and Wakehurst in Sussex. RBG Kew is pleased to be partnering with the Museum of Architecture to create a spectacular outdoor exhibition of architect designed treehouses set across Kew Gardens' iconic 230-acre landscape, a UNESCO World Heritage Site in 2025.

Natracare

Natracare stands for more than just organic and natural products. It is an award-winning, ethical company committed to offering organic and natural solutions for personal healthcare that leaves a soft footprint on the earth out of respect for our future generations. Natracare's vision is to develop as a worldwide symbol for quality, innovation and ethics; available to all women as the natural choice for maintaining a healthy lifestyle and preserving our environment.

Judging criteria

Your entry should demonstrate a design thinking approach to the brief and clearly communicate the following principles:

Social and environmental impact:

Social: How is your approach benefiting people and generations to come? How have you considered diversity and inclusion in your proposal? How have you brought in different voices and perspectives?

Environmental: How does your proposal make a positive difference for the natural world in your chosen context? How have you considered effective use of resources including materials and processes that can do more good short and long term for people and planet?

Rigorous research and compelling insights:

How have you combined your own first-hand research with a review of existing research and wider trends? How are your insights and proposal grounded in people's needs and desires? How have you considered the potential of your chosen place and the global context? How did you get feedback and incorporate new ideas through prototyping and iterating?

Systems thinking:

What's the bigger picture? How have you considered the root causes of the challenge you're exploring? How does your idea connect to a wider set of issues? What might be some unintended consequences of your proposal?

Viability:

Have you considered potential models for how your proposal could work in the real world? How could it be funded and sustained financially with the resources and skills needed? What are potential barriers? How would you measure success? How could your proposal be adaptive to changes over time?

Creativity and innovation:

How is your idea different from existing interventions? Are there unexpected or surprising elements in your proposal? How is it an imaginative and hopeful alternative for the future?

Entry requirements (Briefs 1-5)

Open briefs

The competition will open for entries via sda.theresa.org on 31 January 2024, and the final deadline for entries is 16 March 2024 at 4.00pm GMT.

Submission requirements

For all briefs EXCEPT the Centenary celebrations brief, the submission requirements are:

1 x A3 PDF hero image with a one sentence description – a single 'poster image' that conveys the essence of your project and includes your project title plus a one sentence description. For example: 'Bare technology: a product and service design proposal to convert old computers (e-waste) into simpler, more straightforward, accessible computers for older people'. Your hero image should aim to bring your concept to life – make sure it is vibrant and engaging. Your one sentence description is very important, make sure you take some time to craft an impactful message.

1 x A3 written summary – a single A3 PDF page that summarises your big idea using the following format:

- **Problem (50 words max).** What is the specific problem you identified within the brief topic? Who experiences this problem, and how does it impact them?
- **Process (75 words max).** How did you investigate this issue and what were your key insights? What journey did you go through to get to your final proposal?
- **Proposal (50 words max).** What is your proposed intervention? How will it address the problem?

Online entry

If you are unable to submit online, please contact us by email at sdaenquiries@rsa.org.uk. As you prepare your submission, please ensure that:

- You do NOT include your name, university/college or other identifying marks anywhere on your submission.
- None of your PDF submission files exceed 10MB – this is the maximum size for each individual file/board when you submit online.

We are open to submissions in alternative formats - such as audio or video. Please contact us for more information if this would help you participate.

4 x A3 PDF boards outlining your proposal – 4 pages describing your proposal and responding to the 5 sections of the judging criteria. Number each board in the top right-hand corner in the order they should be viewed by the judges. You may include relevant hyperlinks in your boards, however we cannot guarantee this will be viewed by the panel.

For details on the submission requirements for the Centenary celebrations brief, please see the Centenary celebrations entry requirements and guidelines. Please note that late submissions will not be accepted, and all entrants are encouraged to submit their work in good time before the deadline.

Competition timeline

07/09/23

Briefs soft launch

The 2023–24 RSA Student Design Awards competition briefs go live on sda.thersa.org.

Nov–Dec

Workshops and events

Free learning workshops and events based on all brief themes.

14/02/24

Early bird deadline

Submit by 4.00pm GMT on 14 February 2024 for a reduced entry rate of £25.

16/03/24

Final deadline

Submit by 4.00pm GMT on 16 March 2024.

Early June

Winners announced

Stay tuned for the big announcement.

Sept–Oct

Online launch events

Sign up to [our newsletter](#) to learn about our in-depth brief launch sessions held by our partners and the SDA Team.

31/01/24

Submissions open

Go to sda.thersa.org to submit your proposal.

28/02/24

Needs-based bursary deadline

Submit your application for a needs-based bursary to cover the cost of your submission by 11.59pm GMT on 28 February 2024.

March–May

Judging

Entries will be evaluated in a two-stage process: shortlisting and interviews.

Late June

Awards ceremony

Join us to celebrate the 2023–24 RSA SDA Winners.