Network Rail have multiple environmental challenges that their engineers are working on to solve.

These topics may give you an idea of what to base your Tomorrow's Engineers EEP Robotics Challenge Project Presentation on. If you do decide to find a solution, please let us know all about it at: robotics@tomorrowsengineers.org

- How can you increase biodiversity on the thin stretches of railway land without compromising safety of passengers or workforce?
- Wildlife is often prevented from moving about fences in back gardens. Network Rail must fence the railway to prevent sheep and cows from getting on to the tracks, and to stop people from putting themselves or others in danger. What practical solution is there to create 'gaps' for animals no bigger than a badger in existing fences that do not make it easy for people or livestock (especially lambs) to get through (over, under, etc)
- How can you 'green up' redundant space on station forecourts, platforms and car parks do that it makes space for nature, but is easily maintained and does not pose hazards to passengers or railway staff?
- Graffiti artists use brickwork as their blank canvas. Climbing plants like ivy are excellent for biodiversity but can damage brickwork if left unchecked and by their nature cover the structure preventing inspection. What possible solutions are there that could create a system to cover low level brickwork accessible to graffiti artists with vegetation but that can be periodically 'moved' to allow structural inspection.
- 'Can you think of a way to remove carbon dioxide from the atmosphere to help combat global warming?'

Ideas from a climate change impacts perspective:

- In an increasingly warm climate, how can we achieve cooling for buildings and assets sustainably?
- How can we use SUDS (sustainable urban drainage systems) to manage the projected increase in rainfall? And how can we overcome the challenges posed by the long linear nature of the railway?
- How can we use the landscape around the railway to manage weather impacts e.g. flooding, wind, etc
- How can we build green infrastructure into the railway asset base?