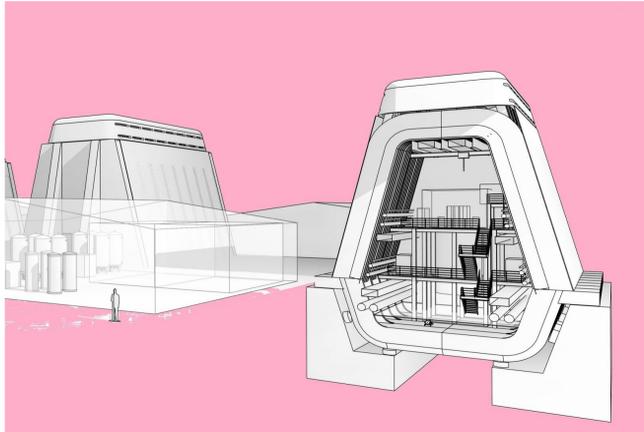


Bryden Wood reveals plan to convert coal-fired power stations to nuclear

5 NOVEMBER 2021 . BY RICHARD WAITE



1/6

AJ100 practice Bryden Wood has revealed plans to repurpose the world's coal-fired power stations to house modular nuclear reactors as part of a 'major initiative' to decarbonise the energy sector

The practice's Repurposing Coal proposal has been drawn up with [Terra Praxis](#), a non-profit organisation focused on action for climate and energy.

Unveiled at COP26 this week, the strategy sets out how coal-fired boilers at existing power plants could be replaced with Advanced Heat Sources (Generation IV Advanced Modular Reactors) to deliver a substantial portion of the clean electricity required to achieve net zero carbon emissions by 2050.

Bryden Wood, which was again recognised in the [AJ100 Best Use of Technology](#) category this year, has created 'a platform solution' making these conversions possible at scale and speed by transforming how projects of this kind are financed, designed, approved and delivered.

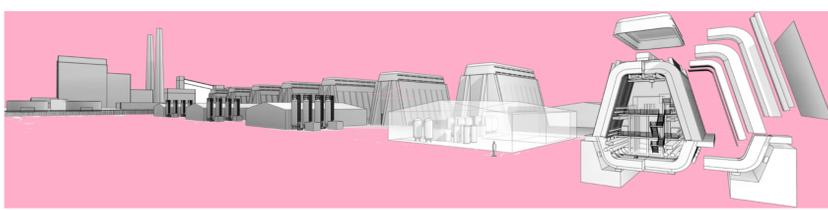
ADVERTISEMENT

A new architecture competition for Brent Cross Town playing fields

Bryden Wood founder Martin Wood said: 'Instead of thousands of individual projects, we must have a unified approach where the design is simplified and standardised so that a much wider pool of designers, manufacturers and contractors can be involved to make this a reality as quickly as possible.'

As well as collaborating with Terra Praxis, the firm is also working with MIT, University at Buffalo, Microsoft and KPMG to standardise and optimise the following key elements:

- > All processes including procurement, investment and approval
- > Building and engineering systems
- > Design, manufacture, assembly and operation
- > Interactions between different supply chain organisations to enable greater collaboration



The practice says that existing coal-fired power plants already have significant value in established markets for their power, grid connections, access to cooling water and experienced personnel necessary for the generation and distribution of reliable, affordable energy. It also claims most plants are less than 15 years old.

Installing advanced heat sources to replace coal-fired boilers at existing coal plants could enable the continued use of existing infrastructure 'to produce continuous, emissions-free energy'.

Because the design and construction of existing coal plants varies widely, the engineering platform solution created by Bryden Wood will deliver a 'variety of solutions needed for different requirements and situations'.

ADVERTISEMENT

These include a standardised, customisable heat-transfer and storage system allowing the new nuclear systems to 'plug in' to existing coal plant infrastructure. A standardised cross-section design encloses the various types of reactor while being able to expand to deal with the increased space required.

Bryden Wood claims that a standardised, mass-customisable design solution will make it possible to use new algorithmic design tools to: assess coal plant viability for refurbishment; create initial concepts; and produce detailed design outputs for manufacturing.

Wood added: 'This simplified design can be applied more quickly by a wide range of designers. The structural components can be mass-produced by existing manufacturers. 'Most of the on-site assembly can be completed by non-nuclear specialists. We're using platforms innovation and future design tech to repurpose plants in a scalable way. This initiative has the potential to break through the challenge of coal. It's complex problems like this that platforms exist to solve.'

The project will be launched in the United States but is designed to be rolled out worldwide and to attract customers and supply chain partners to re-engineer coal plants in all critical locations.



COMMENT AND SHARE



TAGS

BRYDEN WOOD COP26 NUCLEAR POWER

You might also be interested in...



Bjarke Ingels: renewable energy could create a 'hedonistic' future



High culture: White Arkitekter's 20-storey timber culture centre in Sweden



Tree planting is not the only answer to the climate crisis



Kirkland Fraser Moor completes sunken rural house in Hertfordshire

Most popular

1. AJ launches design contest for pavilion at Brent Cross Town
2. Studioshaw completes nestled home in Waltham Forest
3. Bjarke Ingels: renewable energy could create a 'hedonistic' future
4. Taha's Groupwork starts construction of 10-storey flats with load-bearing lava stone
5. AJ offices to be flattened and replaced by Piercy & Co new-build
6. MVRDV picked for Marble Arch Mound without contest, council admits
7. WilkinsonEyre to demolish 1950s Holborn block for biophilic office scheme
8. Cycle parking competition shortlists six rising stars
9. Feilden Clegg Bradley Studios wins Chatham contest – but reports a loss
10. U+I snapped up by rival developer for £190 million

Leave a comment

or a new account to join the discussion.

Please remember that the submission of any material is governed by our [Terms and Conditions](#) and by submitting material you confirm your agreement to these Terms and Conditions. Links may be included in your comments but HTML is not permitted.