RIBA Climate Change Resolution

Declaration of an environment and climate emergency and support for the UK government's commitment to put into legislation the UKCCC recommendation for a UK 2050 net zero greenhouse gas emissions target.

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RIBA Climate Change Resolution

RIBA to develop an Ethics and Sustainable Development Action Plan to include measurable actions to support a net zero carbon environment, driving change at national and international level in:

- industry standards and practice;
- government and inter-governmental policy and regulation; and
- the RIBA's own carbon footprint

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RIBA Climate Change Resolution

The RIBA should work to support chartered member practices (in the UK and internationally), enabling them to commit to voluntary reporting of core building performance metrics, and to work towards the whole-life net zero carbon standard and standard Post Occupancy Evaluation (POE) reporting metrics when the guidance is available.

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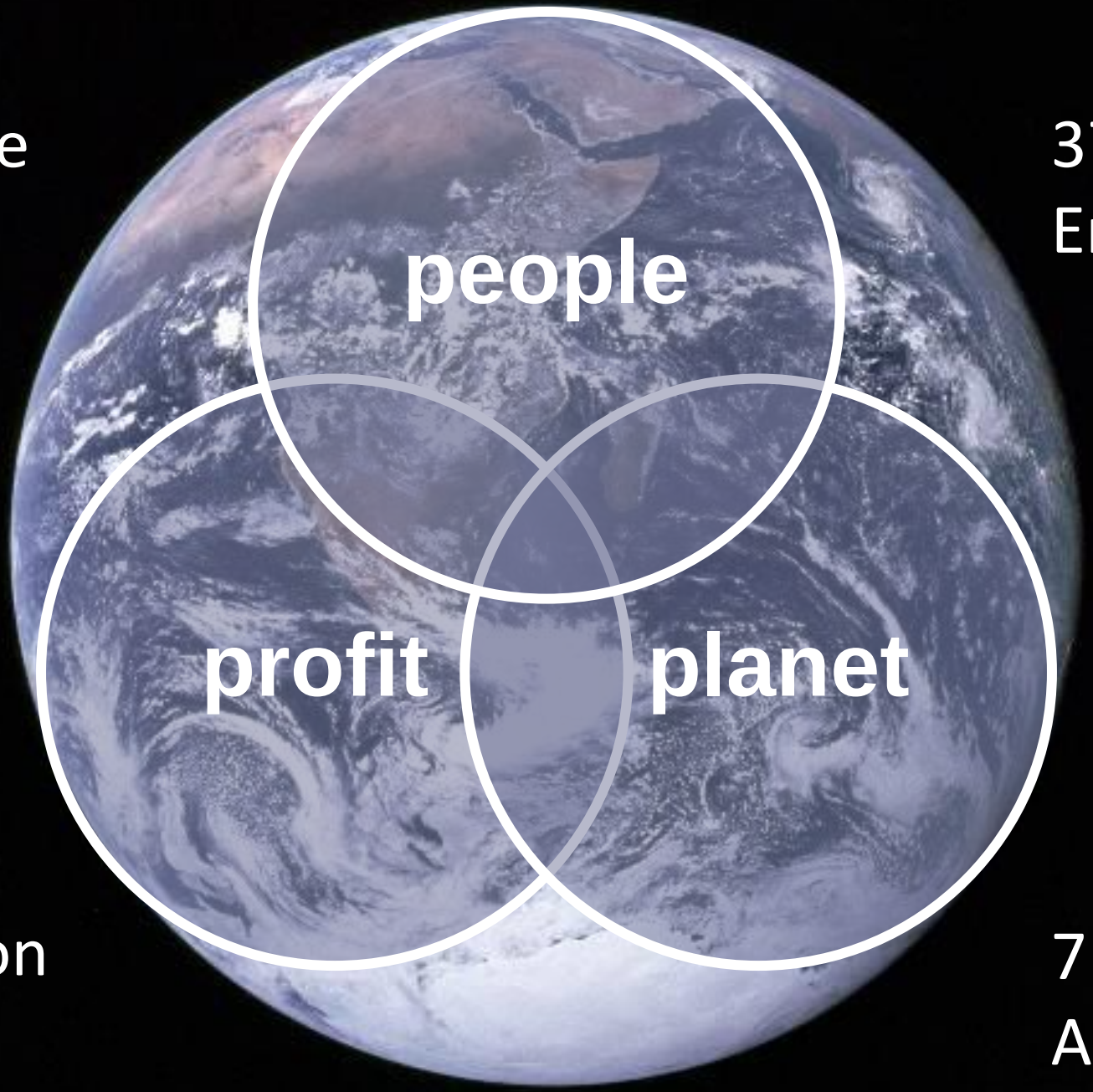
7.7 Billion People

37.1 Billion T CO2 Emissions



$80,683.79 billion

7 Billion T CO2 Absorption

UN Sustainable Development Goals

RIBA Sustainable Outcomes

- Good Health and Well-being
- Sustainable Water Cycle
- Net Zero Operational Carbon Emissions
- Sustainable Life Cycle Cost
- Sustainable connectivity and transport
- Sustainable Communities and Social Value
- Net Zero Embodied Carbon Emissions
- Whole Life Carbon Emissions
- Sustainable Water Cycle
- Sustainable land-use and ecology

RIBA Sustainable Outcomes

Environmental Sustainability

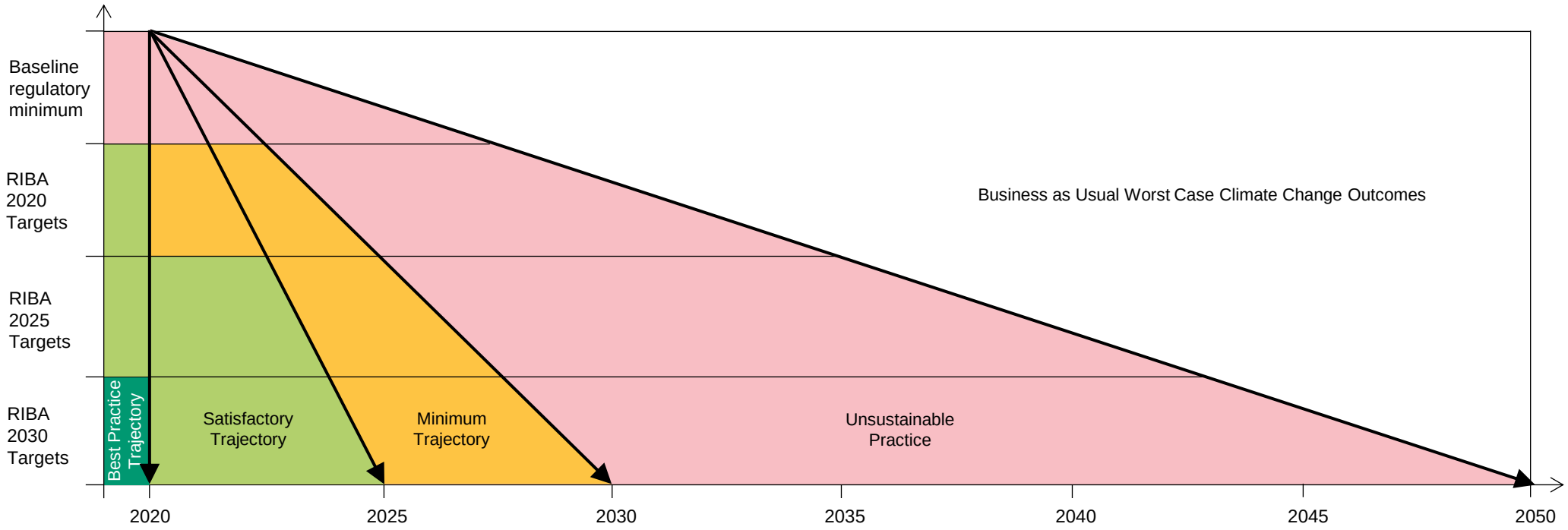
Social Sustainability

Whole Life Net Carbon

Economic Sustainability

Outcome	Net Zero Operational Carbon	Net Zero Embodied Carbon	Sustainable Water Cycle	Sustainable Connectivity and Transport	Sustainable Land Use and Ecology	Good Health and Well-being	Sustainable Communities and Social Value	Sustainable Life Cycle Cost
Metric	*Kwh/m2/y kgCO2e/m2/y*	*TCO2e Embodied*	*Litre/pp/y Potable water*	*kgCO2e/km/per occupant*	*Species added Enhancement*	*Various Metrics*	*Various Metrics*	*£/m2 value*
Principles	1. Prioritise deep retrofit of existing buildings 2. Prioritise Fabric First principles for building form and envelope 3. Fine tune internal environment with efficient mechanical systems 4. Provide responsive local controls 5. Specify ultra low energy sufficient appliances 6. Specify ultra low energy sufficient IT 7. Prioritise maximum use of onsite renewables appropriate to context 8. Demonstrate additionality of offsite renewables 9. Offset remaining carbon through recognized scheme	1. Prioritise building re-use 2. Carry out whole life carbon analysis of building elements. 3. Prioritise ethical and responsible sourcing of all materials 4. Prioritise low embodied carbon and healthy materials 5. Minimise materials with high embodied energy impacts 6. Target Zero construction waste diverted to landfill 7. Promote use of local natural materials 8. Consider modular off-site construction systems 9. Detailing to be Long life and robust 10. Design building for disassembly and the circular economy 11. Offset remaining carbon emissions through recognized scheme	1. Provide Low flow fittings and appliances 2. Provide Waterless appliances where possible 3. Provide Leak detection 4. Provide Rainwater and greywater recycling and attenuation but consider operational implications of complex systems 5. Provide on-site black water cleansing and recycling if viable 6. Create Sustainable Urban Drainage that supports natural aquatic habitats and human amenity	1. Create comprehensive green transport plan including digital connectivity 2. Prioritise high quality Digital Connectivity to avoid need for unnecessary travel 3. Prioritise site selection with good proximity to public transport 4. Provide high quality pedestrian links to local amenities 5. Provide end of journey provision for active travel runners and cyclists (showers, dry lockers etc) 6. Provide infrastructure for electric vehicles as a priority 7. Provide car sharing spaces 8. Provide suitable onsite personal storage	1. Leave a site in better 'regenerative' ecological condition than before development. 2. Prioritise Building and site re-use 3. Prioritise Brownfield site selection 4. Carry out sustainable remediation of site pollution 5. Retain existing natural features 6. Create mixed use development with density appropriate to local context 7. Create a range of green spaces (green roofs, vertical greening, pocket parks, green corridors) 8. Create habitats that enhance bio-diversity 9. Create 'productive' landscapes for urban food production 10. Zero local pollution from the development	1. Provide spaces with strong visual connection to outside 2. Provide responsive local controls eg. opening windows, or local control 3. Design spaces with appropriate occupant density for activity 4. Design spaces with good indoor air quality 5. Design spaces with good indoor daylighting, lighting and glare control 6. Design spaces to adaptive thermal comfort standards 7. Design spaces with good acoustic comfort 8. Design spaces that are inclusive and universal accessible 9. Prioritise active circulation routes-eg stairs, cycling provision, walking routes etc 10. Provide indoor and outdoor planted spaces	1. Prioritse placemaking that expresses identity and territory 2. Create secure places for privacy 3. Create places for social interaction 4. Create vibrant mixed use places 5. Provide high quality permeable links to social amenities 6. Provide High quality pedestrian public realm 7. Create inclusive Places for community interaction 8. Create Secure Places with overlooking	1. Carry out whole life cycle analysis of key building systems 2. Carry out Soft Landings Graduated to Handover and aftercare 3. Measure energy costs 4. Measure management and maintenance costs 5. Measure overall running costs 6. Measure added value of occupant health and wellbeing 7. Measure added value of sustainable outcomes of building
	Performance Verification: Publicly disclose energy in use and carbon emissions	*Construction Verification:* Construction measurement and offset	*Performance Verification:* Measure potable water usage in operation	*Performance Verification:* Post Occupancy Evaluation occupant survey	*Construction Verification:* Measure bio-diversity enhancement in operation	*Performance Verification:* Post Occupancy Evaluation	*Performance Verification:* Post Occupancy Evaluation quesionnaire	*Performance Verification:* Measure operational running costs

RIBA 2030 Climate Challenge: Trajectories



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RIBA 2030 Climate Challenge: Domestic Building Targets

RIBA Sustainable Outcome Metrics	Current Benchmarks	2020 Targets	2025 Targets	2030 Targets	Notes
Operational Energy kWh/m^2/y	146 kWh/m^2/y (Ofgem benchmark)	< 105 kWh/m^2/y	< 70 kWh/m^2/y	< 0 to 35 kWh/m^2/y	UKGBC Net Zero Framework 1. Fabric First 2. Efficient services, and low-carbon heat 3. Maximise onsite renewables 4. Minimum offsetting using UK schemes (CCC)
Embodied Carbon kgCO$_2$e/m^2	1000 kgCO$_2$e/m^2 (M4i benchmark)	< 600 kgCO$_2$e/m^2	< 450 kgCO$_2$e/m^2	< 300 CO$_2$e/m^2	RICS Whole Life Carbon (A-C) 1. Whole life carbon analysis 2. Using circular economy strategies 3. Minimum offsetting using UK schemes (CCC)
Potable Water Use Litres/person/day	125 l/p/day (Building Regulations England and Wales)	< 110 l/p/day	< 95 l/p/day	< 75 l/p/day	Using CIBSE Guide G

Best Practice Health Metrics		References
Overheating	25-28 °C maximum for 1% of occupied hours	CIBCE TM52, CIBSE TM59
Daylighting	> 2% av. daylight factor, 0.4 uniformity	CIBSE LG10
CO$_2$ levels	< 900 ppm	CIBSE TM40
Total VOCs	< 0.3 mg/m^3	Approved Document- F
Formaldehyde	< 0.1 mg/m^3	BREEAM

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RIBA 2030 Climate Challenge: Non-domestic Building Targets

RIBA Sustainable Outcome Metrics	Current Benchmarks	2020 Targets	2025 Targets	2030 Targets	Notes
Operational Energy kWh/m^2/y	225 kWh/m^2/y DEC D rated (CIBSE TM46 benchmark)	< 170 kWh/m^2/y DEC C rating	< 110 kWh/m^2/y DEC B rating	< 0 to 55 kWh/m^2/y DEC A rating	UKGBC Net Zero Framework 1. Fabric First 2. Efficient services, and low-carbon heat 3. Maximise onsite renewables 4. Minimum offsetting using UK schemes (CCC)
Embodied Carbon kgCO$_2$e/m^2	1100 kgCO$_2$e/m^2 (M4i benchmark)	< 800 kgCO$_2$e/m^2	< 650 kgCO$_2$e/m^2	< 500 CO$_2$e/m^2	RICS Whole Life Carbon (A-C) 1. Whole life carbon analysis 2. Using circular economy strategies 3. Minimum offsetting using UK schemes (CCC)
Potable Water Use Litres/person/day	> 16 l/p/day (CIRA W11 benchmark)	< 16 l/p/day	< 13 l/p/day	< 10 l/p/day	Using CIBSE Guide G

Best Practice Health Metrics		References
Overheating	25-28 °C maximum for 1% of occupied hours	CIBCE TM52, CIBSE TM59
Daylighting	> 2% av. daylight factor, 0.4 uniformity	CIBSE LG10
CO$_2$ levels	< 900 ppm	CIBSE TM40
Total VOCs	< 0.3 mg/m^3	Approved Document- F
Formaldehyde	< 0.1 mg/m^3	BREEAM

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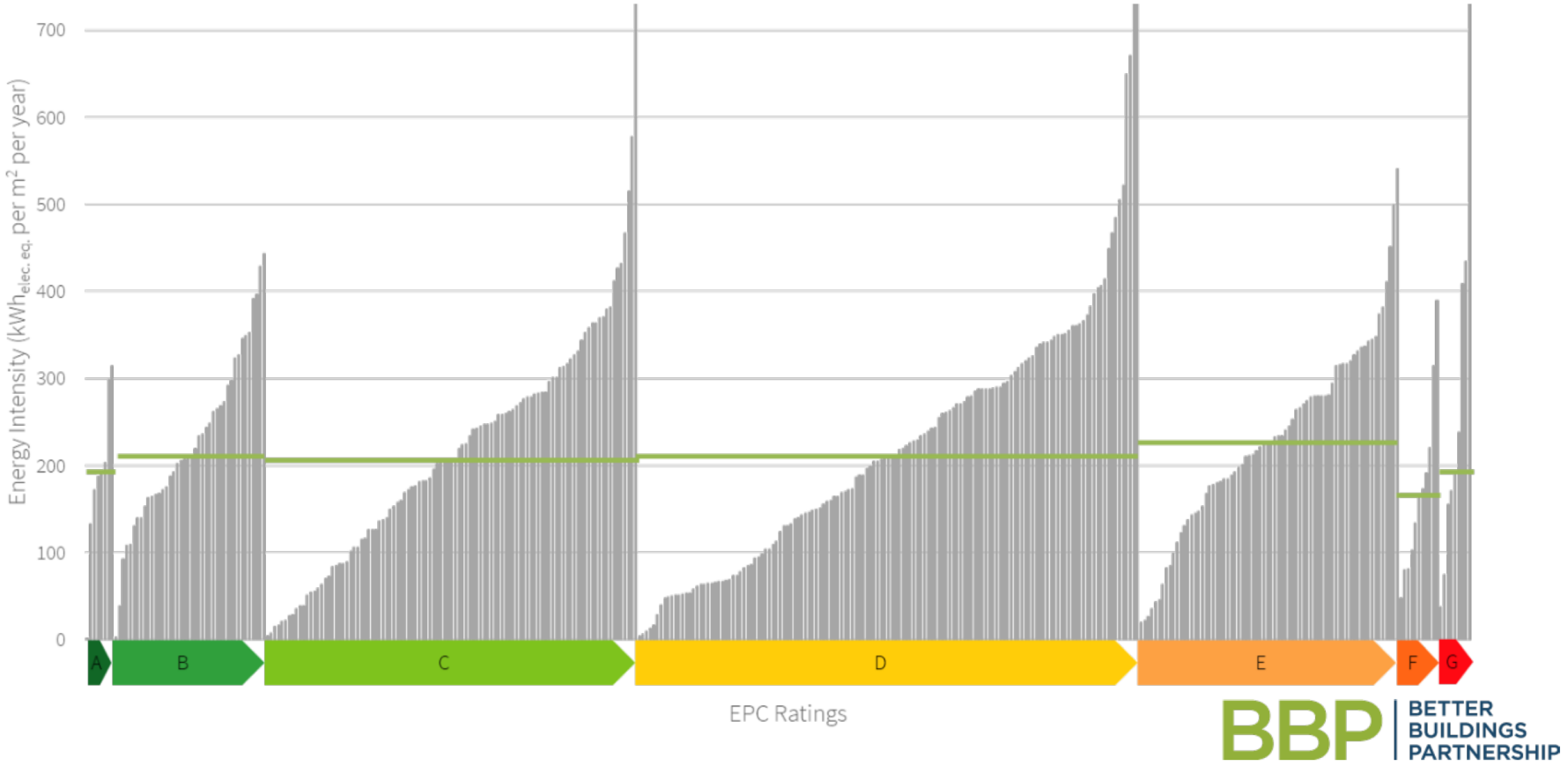
A Dysfunctional Market for Offices



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RIBA 2030 Climate Challenge: Checklist

Existing building stock

- Assist existing clients with carrying out post occupancy evaluation and suggest strategies for fine-tuning existing buildings to reduce energy use and operational carbon emissions.

Whole life carbon

- Target net zero whole life carbon for new and retrofitted buildings by 2030, by following the RIBA 2030 Climate Challenge targets.

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RIBA 2030 Climate Challenge: Checklist

Operational energy and carbon emissions

- Target < 55 kWh/m^2/y operational energy use for non-domestic buildings by 2030 (minimum DEC A or 75% reduction in operational energy as compared to CIBSE TM46 benchmarks), including maximising the use of on-site renewables.
- Target < 35 kWh/m2/y operational energy use for domestic buildings by 2030 (minimum 75% reduction compared to current Ofgem benchmarks) or the equivalent of Passivhaus.
- Design using realistic predictions of the operational energy target to avoid the performance gap and report the energy use by fuel type and include the full breakdown of regulated and unregulated energy use. The RIBA recommends the use of rigorous design for performance methods such as CIBSE TM54 or Better Building Partnership Design for Performance.
- Use low carbon heating, for example heat pumps or connections to district heat networks, and target no new connections to the gas grid or use of fossil fuel boilers by 2025 at the latest, as recommended in the Committee of Climate Change UK housing: fit for the future? report.
- Offset remaining carbon emissions by contributing to renewable energy projects that work towards decarbonising the national and/or local grid.

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RIBA 2030 Climate Challenge: Checklist

Embodied energy and carbon emissions

- Prioritise the retrofit of existing buildings where possible.
- Use the RICS Whole Life Carbon Assessment for the Built Environment professional statement 2017 to assess embodied carbon.
- Target embodied carbon of 500 kgCO2e/m2 for non-domestic buildings and 300 kgCO2e/m2 for domestic buildings (minimum 50%-70% reduction in embodied carbon compared to the Movement for Innovation benchmarks), by using low carbon materials that are responsibly and ethically sourced.
- Offset remaining carbon emissions by offsite renewable energy projects and/or certified woodland and reforestation projects.

Water use

- Target 10 litres/person/day for non-domestic buildings and 75 litres/person/day for domestic buildings (minimum 40% reduction in potable water use compared to CIRIA guidance and UK Building Regulations requirements), by minimising water demand, optimising building systems, and harvesting rainwater as well as recycling and reusing water on-site.

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RIBA 2030 Climate Challenge: Checklist

Indoor health

- Avoid unintended consequences of poor health and wellbeing by meeting key health metrics set out in the RIBA 2030 Climate Challenge.

Biodiversity

- Leave a site with significantly enhanced biodiversity and more green cover than before development.

Delivery

- Follow the RIBA Plan of Work Sustainability Strategy and RIBA Plan for Use Guide and undertake at least light touch post occupancy evaluation to gather predicted and actual performance of existing and new building projects and upload to the RIBA 2030 Challenge platform (when available), with clients' permission.


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