

LUF Round 2: Application Template

Word counts are included for several questions throughout the application, these are provided as a guide only. The level of detail you provide in the online application form should be proportionate to the amount of funding that you are requesting. For example, bids for more than £10m should provide proportionally more information than bids for less than £10m.

Whilst there are some annexes that we ask applicants to complete (via the proforma documents supplied) and some additional documents we request as evidence, applicants must point to specific additional text that they have submitted if they wish it to be considered in the assessment. Any answer referencing any information contained in annexes must be relevant to a specific question in the application form and referenced within the answer.

The application portal opens on Tuesday 31 May 2022 and will close at **12:00 noon, on Wednesday 6 July 2022**. Please ensure that the online application is complete and all supporting documents are uploaded by this deadline.

All of the proformas referred to in the table below can be downloaded in a zip file on [Application guidance](#) page along with the costings and planning workbook.

Part 1 - Gateway

Applicants will be asked a series of questions to ensure that they have met all the eligibility requirements for the bid type. This information sits outside the scoring framework but will affect how the bid is processed. The application will not be able to proceed until all the relevant eligibility checks have been met.

Allowance checks in England, Scotland and Wales only.
Please confirm which bid allowance you are using: - Constituency allowance X - Transport allowance
For bids using the transport allowance , is your bid at least 90% investment in the transport theme with the remaining investment related to the transport element of the bid? YD ND Not Applicable
Bids from a single applicant, excluding large transport and large culture bids
Please confirm that the bid does not exceed £20 million. y ND
Package bids
Do you have more than three component projects? YD ND Not Applicable
Joint bids
For a joint bid in England, Scotland, and/or Wales , please confirm the names of the other local authorities you are working jointly with and confirm which bid allowance they are using to support this bid.

For a joint bid in Northern Ireland, please confirm the registered names of the other organisations you are working jointly with.

Please confirm if any of your partners are from the non-public sector.

Not Applicable

All joint bids. Do you have the support of the other organisations you are working with and have a signed pro forma to this effect from each organisation?

Y N

For bids in England, Scotland, and/or Wales, please complete pro forma 2.

For bids in Northern Ireland, please complete pro forma 3

Not Applicable

Joint bids with only one component project. Please confirm that your bid does not exceed the maximum threshold allowable for joint bids with only one component project.

I am submitting:

- a joint bid that contains only one component project with one other applicant organisation and can confirm that the bid overall does not exceed £40 million grant value.
Y N
- a joint bid that contains only one component project with two or more other applicant organisations and can confirm that the single component project within the bid (and therefore the bid overall) does not exceed £50 million grant value.
Y N

Not Applicable

Joint bids with multiple component projects. Please confirm that your bid does not exceed the maximum threshold allowable for joint bids that contain multiple component projects.

I am submitting:

- a joint bid that contains multiple component projects with one other applicant organisation and can confirm that the bid overall does not exceed £40 million grant value.
Y N
- a joint bid that contains multiple component projects (maximum of three) with two or more other applicant organisations and can confirm that no single component project within the bid exceeds £50 million grant value.
Y N
- a joint bid that contains multiple component projects (maximum of three) with two or more other applicant organisations and can confirm that the total for the overall bid does not exceed £60 million grant value.
Y N

Not Applicable

Large transport bids (from a single applicant) >£20 million

Please confirm that the bid does not exceed £50 million.

YD ND

Not Applicable

Please confirm that at least 90% of the investment is in the transport theme. The remaining investment must be related to the transport element of the bid?

YD ND

Not Applicable

Large cultural bids (from a single applicant) >£20 million

Please confirm that the bid does not exceed £50 million.

YD ND

Not Applicable

Please confirm that at least 90% of the investment is in the cultural theme with the remaining investment related to the cultural element of the bid.

YD ND

Not Applicable

Transport bids from the Northern Ireland Executive (NIE)

For transport bids in Northern Ireland from the Northern Ireland Executive (NIE), do you have the support of the relevant local council(s)?

YD ND

Please complete proforma 4.

Not Applicable

Any bid with a transport element

For bids in Northern Ireland with a transport element, which are not from the Northern Ireland Executive (NIE), do you have the support of both the NIE and the relevant local council(s)?

YD ND

Please complete proforma 4.

Not Applicable

For bids in England, Scotland, and/or Wales, where you (the applicant) do not have statutory responsibility to deliver all of the transport elements of your bid, please confirm that you have the support of all the authorities with the relevant statutory responsibility before proceeding.

YD ND

Please note that this also a requirement for all bids using a transport allowance.

Please complete pro forma 1

Not Applicable

ALL BIDS

1.1 Gateway Criteria for all bids. Please tick the box to confirm that some LUF grant funding will be defrayed in the 2022/23 financial year.

YD ND

Eligible expenditure in 2022-23 could include capital development costs.

1.2 Gateway Criteria for single and joint bids where the lead applicant and any partner organisations are higher education / university, private and/or third sector organisations in Northern Ireland bids only.

Please confirm that you have attached audited financial statements covering the last three financial years (or audited annual accounts for registered charities).

For the applicant (if applicable) YD ND

For partner organisation(s)
(if applicable) YD ND

Not Applicable

1.2.1 Gateway Criteria for single and joint bids where the applicant and/or partner organisations are higher education / university, private and third sector organisations in Northern Ireland bids only.

Please provide evidence demonstrating that your organisation (as the applicant) and/or your partner organisations (for joint bids) has experience of delivering two capital projects of similar size and scale in the last five years.

For the applicant (if applicable)

For the partner organisation(s) (if applicable)

Partner organisation evidence should be copied from pro forma 3.

Not Applicable

Applicant Details

Legal name of lead applicant organisation:

Bid Manager:

Officer with day-to-day responsibility for delivering the proposed scheme and nominated contact for the bid.

Name: **Phil Edwards**

Position: Assistant Director Transport and Connectivity

Contact telephone number: [REDACTED]

Email address: Philip.Edwards@birmingham.gov.uk

Postal address:

Birmingham City Council

PO Box 14439

Birmingham, B2 2JE

Senior Responsible Officer contact details:

Name: **Paul Kitson**

Position: Strategic Director - Place, Prosperity and Accountability

Contact telephone number:

Email address:

Chief Finance Officer contact details:

Name: **Rebecca Hellard**

Contact telephone number:

Email address:

Local Authority leader contact details:

Name: **Councillor Ian Ward**

Position: Leader, Birmingham City Council

Contact telephone number: 0121 464 4000

Email address: ian.ward@birmingham.gov.uk

Please provide the name of any consultancy companies involved in the preparation of the bid:

Where is your bid being delivered?

England

Scotland

Wales

Northern Ireland

For bids from **Northern Ireland applicants** please confirm type of organisation

Northern Ireland Executive

Third Sector

Public Sector Body

Private Sector

District Council

Other (please state)

If third sector, private sector, higher education/university or other please provide charity and/or company registration number.

Charity number:

Company number:

For all bids. If VAT is applicable to your organisation, please provide VAT number:

Part 2 - Subsidy control and State aid analysis

If the Levelling Up Fund is used to provide a subsidy, expenditure must be compliant with the UK's obligations on subsidy control. All bids that have the potential to be a subsidy must consider how they will deliver in line with subsidy control principles (or State aid for aid in scope for **Northern Ireland only**) as per [UK Government guidance](#).

All applicants must establish if the direct award of LUF funds could constitute a subsidy. It is vital that all applicants complete this section of the application **form. Where applicants do not adequately demonstrate that the LUF award is compliant under the UK Subsidy Control Regime or State aid rules then the project could be considered ineligible and the application may be rejected.**

<p>2.1. All applicants must establish if the direct award of LUF funds from UK Government to you (as the applicant) could constitute a subsidy.</p> <p>Applicants must consider whether any of the planned activities meet each of the four key characteristics which indicate if it would be considered a subsidy.</p> <p>If any of the four responses is a 'No' then the award is not considered to be a subsidy.</p>	
2.1.1	<p>Is the support provided by a 'public authority' and does the support constitute a financial (or in kind) contribution such as a grant, loan or guarantee?</p> <p>YI:8I ND</p>
2.1.2	<p>Does the support measure confer an economic advantage on one or more economic actors?</p> <p>YD NI:8I</p>
2.1.3	<p>Is the support measure specific insofar as it benefits, as a matter of law or fact, certain economic actors over others in relation to the production of certain goods or services?</p> <p>YD NI:8I</p>
2.1.4	<p>Does the support measure have the potential to cause a distortion in or harm to competition, trade or investment?</p> <p>YD NI:8I</p>
2.1.5	<p>Did you respond 'Yes' to all the above? If so, the planned activities meet all four key characteristics which indicates it would be considered a subsidy.</p> <p>YD NI:8I</p>
2.2.	<p>Please demonstrate how the direct award of LUF monies from UK Government to you (as the applicant) has been considered under each of the subsidy principles.</p> <p>This will involve consideration of the how the subsidy can be provided in accordance with the following Subsidy Control principles listed in the Subsidy Control Bill:</p> <p>If the proposed LUF activities do represent a subsidy and all principles have been met,</p>

the LUF application will be considered compliant.

Not APPLICABLE

2.2.1 Subsidies should pursue a specific public policy objective to remedy an identified market failure or to address an equity rationale such as social difficulties or distributional concerns ("the objective")

Please demonstrate how your bid meets this principle.

2.2.2 Subsidies should be proportionate and limited to what is necessary to achieve the objective

Please demonstrate how your bid meets this principle.

2.2.3 Subsidies should be designed to bring about a change of economic behaviour of the beneficiary that is conducive to achieving the objective and that would not be achieved in the absence of subsidies being provided.

Please demonstrate how your bid meets this principle.

2.2.4 Subsidies should not normally compensate for the costs the beneficiary would have funded in the absence of any subsidy.

Please demonstrate how your bid meets this principle.

2.2.5 Subsidies should be an appropriate policy instrument to achieve a public policy objective and that objective cannot be achieved through other less distortive means.

Please demonstrate how your bid meets this principle.

2.2.6 Subsidies should be designed to achieve their specific policy objective while minimising any negative effects on competition or investment within the United Kingdom.

Please demonstrate how your bid meets this principle.

2.2.7 Subsidies' positive contributions to achieving the objective should outweigh any negative effects, in particular the negative effects on trade or investment between the Parties.

Please demonstrate how your bid meets this principle.

2.3 All non-public sector applicants delivering in Northern Ireland. If the award of funds is or isn't considered to be a subsidy please set out in detail how you will deliver the funds compliantly under the subsidy regime.

If you are proposing to allocate some of the grant funds to third parties, such as project partners working with you to deliver the project, (e.g. sub-granting) please identify how you will ensure disbursement of the grant is done so in accordance with the UK subsidy control

regime.

The department will need to assess how funds will be awarded and how risk is managed.

2.3.1 All non-public sector applicants delivering in Northern Ireland.

Confirm that you have obtained and uploaded independent legal advice that is aligned to your response in this section and verifies that the award of funds is considered to be UK subsidy control regime and/or State aid compliant.

YD ND

2.4 Public authorities only.

Please confirm if you will be disbursing the funds as a potential subsidy to third parties.

Y1:81ND

2.5 Public authorities only.

Confirm that you have completed proforma 5 statement of compliance signed by your Chief Finance Officer.

Y1:81ND

2.6. Public and private sector applicants for delivery in Northern Ireland only.

Is the direct award of funds from UK Government to you (as the applicant) considered to be as State aid under the four EU State aid rule tests?

YD ND

Not applicable

2.6.1 Is the support granted by the state or through state resources?

YD ND

2.6.2 Does the support confer a selective advantage to an undertaking?

2.6.3 Does the support distort or have the potential to distort competition?

2.6.4 Does the support affect trade between EU member states?

2.6.5 Do the planned activities meet all four key State aid tests?

If all four tests are met then the award constitutes State aid and **must** comply with the State aid law.

YD ND

2.7 For **private sector applicants**, what is the size of the enterprise applying for funding?

Refer to the official [SME definition](#).

2.8 Please list all the organisations (if known) which may benefit from the funding of the project and any economic benefit they may receive as a result of the funding.

2.9 Applicants must consider whether the award meets all the tests for each beneficiary.

If beneficiaries are considered to be in receipt of State aid then you must consider how this is compliant under the State aid rules.

Applicants may wish to refer to the European Commission's "[Notion of State aid](#)" guidance.

(see table in guidance note)

2.9.1 Where a project is funded under an exemption based on the General Block Exemption Regulations (651/2014), the Applicant is required to either

- a) confirm that the project falls within the scope of Regulation 6(5) or
- b) submit a separate document to demonstrate incentive effect in line with Regulation 6(2) containing the following information:
 - i) the applicant undertaking's name and **size**
 - ii) a brief description of the project, including start and end dates
 - iii) the location of the project
 - iv) a full list of the project costs used to determine the allowable level of funding
 - v) the form of the aid
 - vi) the amount of public money needed for the project.

2.9.2 Do you confirm that the project falls within the scope of Regulation 6(5) under the General Block Exemption Regulations(651/2014)

YD ND

2.9.3 If no, confirm that you have attached document containing the required information.

2.9.4 If you intend to use an exemption(s) under GBER to deliver the project, please confirm you have read the terms of the scheme and meet all the relevant terms.

YD ND

2.9.5 Identify the GBER provision, the title of the scheme and the amount of LUF award to be delivered under the provision. Describe how you meet all the relevant terms of the exemption.

2.10 As the bidding organisation are you subject to an outstanding recovery order in respect of State Aid? If 'Yes', provide brief details.

YD ND

2.11 Describe the system in place for collecting and recording the required information for

State aid audits and returns.

2.12 All non-public sector applicants delivering in Northern Ireland.

Confirm that you have obtained and uploaded independent legal advice that is aligned to your response in this section and verifies that the award of funds considered to be State aid compliant.

Part 3 – Bid summary

In this section applicants should provide the core details of their bids; clarifying what, where, how and how much. If your bid is a package bid you should also complete Application Form [Annexes A – C](#).

To note, word counts are included for several questions throughout the application form, these are provided as a guide only. The level of detail you provide should be proportionate to the amount of funding that you are requesting.

3.1 Bid Name: **National Centre for Decarbonisation of Heat (NCDH)**

3.2 Please provide a short description of your bid, including the visible infrastructure that will be delivered/upgraded and the benefits that will be felt in the area

(100 words max)

The proposal is to establish the National Centre for Decarbonisation of Heat (NCDH), to be located at the Tyseley Energy Park in the Yardley constituency of East Birmingham. The NCDH will address fuel poverty and skills deficit of communities in an area of Birmingham with the highest levels of deprivation and inequality. Operated by the University of Birmingham, it will work with community groups, Further Education sector, industry partners and local and regional government to deliver a programme of community-based retrofits across the city and the region. A fully equipped facility and a training site will be established.

3.3 Please provide a more detailed overview of the bid proposal. Where bids have multiple components (package bids) you should clearly explain how the component projects are aligned with each other and represent a coherent set of interventions.

(500 words)

The National Centre for Decarbonisation of Heat (NCDH) will work with communities of East Birmingham, wider Birmingham and West Midlands to unlock the delivery of energy efficiency, low carbon heating solutions and skilled jobs to communities experiencing high levels of fuel poverty and economic/social deprivation. The NCDH will work with communities and delivery partners establishing heating solutions for the households and associated local energy infrastructure, deliver the training to upskill the communities, creating the jobs and workforce, to deliver the interventions, seek funding to support the programmes, and provide delivery oversight and coordination. This will start with a focus on 300 homes in Castle Vale, scale to the full 5,000 homes in Castle Vale, then build to 100,000 homes of East Birmingham and the “Three Cities” programme of 166,000 homes in Birmingham, Wolverhampton and Coventry.

The proposal would fund the construction of the NCDH and equip the centre with training, community engagement and test and learn facilities. The NCDH would convert the historic brownfield site in Tyseley in East Birmingham, within the land owned by Webster and Horsfall who downsized their manufacturing footprint and workforce creating Tyseley Energy Park (TEP). The old factory buildings have been cleared, ready for construction. A supplementary site will be created

The required interventions have been explored through a series of local and national reports. The 'Pathways for local heat delivery' commission chaired by Sir John Armitt, Chair of the UK's National Infrastructure Commission; East Birmingham was a case study. Establishing the NCDH in Birmingham, builds from the East Birmingham community groups, their council representatives and Birmingham City Council (BCC), the West Midlands Combined Authority (WMCA), the government department BEIS, industry and the Catapults. [REDACTED]

[REDACTED] This will be a place where young people from these communities will be trained and recruited into highly skilled jobs by the locally-based companies. The adjacent Birmingham Energy Innovation Centre will be leveraged to ensure innovation is integrated into the programme.

Beyond enhancing employment, there will be direct impact on fuel poverty. Energy efficiency measures will drive-down bills and a transition away from gas to heat pumps and district heating will drive deliver health benefits. The inward investment associated with the manufacturing and delivery is expected to be £100m.

The Consortium that will have oversight of NCDH will include BCC, WMCA, [REDACTED] the University of Birmingham, Energy Systems Catapult, energy companies, finance organisations and local community groups, as described in section 6.1.10. The facility will be the responsibility of the University of Birmingham in partnership with BCC.

3.4 Please provide a short description of the area where the investment will take place. If complex (i.e. containing multiple locations/references) please include a map defining the area with references to any areas where the LUF investment will take place.

(500 words)

East Birmingham was chosen as an optimal location to establish NCDH because of its societal diversity, social challenges, the range of housing archetypes and geographic scale. Many of the characteristics found here, are also found across wider Birmingham and in the three cities alliance that also include Coventry and Wolverhampton. Building a pathfinder heat decarbonisation programme, builds the capacity and confidence to expand across the region.

East Birmingham is an area that features an ethnically diverse population exceeding 230,000 people, and many different languages other than English are spoken. It is a young society where a third of residents are under 16 years old, one of the highest proportions of children in the country. The ethnicity breakdown is White 41.2%, Asian/British Asian 42.0% and Black/Black British 11.4%. Those born overseas are 28.8% of the population.

There are issues with overcrowding, with 15.3% of people living in overcrowded households. Birmingham has 1 in 5 households classed as living in fuel poverty, considerably higher than the national average of 1 in 10. Life expectancy in East Birmingham wards is as low as 74.9 years compared to other parts of Birmingham where it is 85.1 years. Poor air quality is a significant problem across this area, mainly arising from major roads around and into the city centre, including the A45 and the MG corridor.

Many families in East Birmingham struggle to manage with low income; more than one in three children in the area is living in poverty. Unemployment is more than twice the national average, including due to a higher proportion of long-term sick or disabled. Unemployment is particularly high amongst women due to caring responsibilities for family members. Unemployment is also high amongst young people, with almost twice the national average of people between the ages of 16 and 24 unemployed.

[REDACTED] NCDH

Targets young people from ethnically diverse communities providing them with training and jobs in low-carbon heating sector. It will rebalance the skills deficit and high unemployment rates in East Birmingham. Training programmes will be prioritised for those from local communities, where the net zero heating programmes will be delivered.

Building on existing relationships, the Centre and its stakeholders will deliver an outreach programme with East Birmingham schools and communities. Utilising the visibility of the Birmingham Energy Innovation Centre, and TEP, will support the breakdown of some of the barriers and weaknesses of social groups that do not typically engage beyond their community.

3.5 Please confirm where the investment is taking place (where the funding is being spent, **not** the applicant location or where the bid beneficiaries are located).

If the bid is at a single location please confirm the postcode and grid reference for the location of the investment.

If the bid covers multiple locations please provide a GIS file. If this is unavailable please list all the postcodes / coordinates that are relevant to the investment.

For all bids, please confirm in which constituencies and local authorities the bid is located. Please confirm the % investment in each location.

The primary postcode for the investment is B25 8DW, Tyseley Energy Park (TEP). The second location is [REDACTED]

The primary constituency is Yardley (95% of funding)

[REDACTED] The local authority is Birmingham City Council. [REDACTED]

The investment is to fund the capital development of the NCDH which will serve as a coordination centre for low carbon heating, skills and training, intervention design and testing and community engagement and leadership. It is the co-location of these activities which is key to its success. Tyseley is a community where housing co-exists with mixed industrial and commercial units of varying quality and one of the areas of Birmingham most in need of support from the perspective of jobs creation and alleviating fuel poverty. Within Tyseley, TEP is a post-industrial site that dates to 1860, where the factory buildings have been cleared to leave a brownfield site which would be exploited for the present development and seen as a catalyst for change by the local community.

TEP co-locates large scale energy production in the form of green electricity, waste heat and planned scale-up of hydrogen production, all of which will play a part in low carbon heating solutions. It is where the University of Birmingham, partnered with Webster and

Horsfall to develop an Energy Innovation Zone and is part of a wider area where BCC has worked with consultant Jacobs to develop a masterplan to establish a new Green Innovation Quarter in the City. The Birmingham Energy Innovation Centre (BEIC) at TEP supports world-leading R&D and clean tech start-up companies and is an integral part of the Energy Research Accelerator (ERA), a community of 1,500 energy researchers from eight universities in East and West Midlands.

3.6 Please confirm the total grant requested from LUF (£). **£19,999,260**

3.7 Please specify the proportion of funding requested for each of the Fund's three investment themes:

Regeneration and town centre (100%)

Cultural (%)

Transport (%)

3.8 Please tick one or more sub-categories that are relevant to your investment:

Regeneration

Commercial

Civic

Residential X

Other

3.9 Please provide details of any applications made to other funding schemes for this same bid that are currently pending an outcome. Where a successful outcome might lead to you no longer requiring the LUF grant please provide details and confirm when might you expect the outcome to be known.

(150 words)

Not applicable - there are no other applications for the NCDH currently being reviewed elsewhere.

Part 4 - Strategic Fit

4.1 Member of Parliament Endorsement (England, Scotland and Wales ONLY)

4.1.1 Has an MP given formal priority support for this bid? **Yes**

4.1.2 Please confirm which MP has provided formal priority support: **Jess Phillips**

4.1.3 Which constituency does this MP represent? **Birmingham Yardley**

[REDACTED]

[REDACTED]

Over the last 15 months, TEP and UoB developed an extensive outreach programme. In total, this engaged more than 50 local schools with estimated 2,000 online and face-to-face pupil interactions; three local FE colleges; and almost 40 community groups including mosques and churches, conservation groups, museums, education associations and cultural groups. There is a significant amount of interest in all aspects of reaching national Net Zero commitment. A recent community consultation at TEP is included in Appendix 11.

4.2.2 Has your proposal faced any opposition? Please provide a brief summary, including any campaigns or particular groups in support or opposition, and if applicable, how will you work with them to resolve any issues.

(250 words)

NCDH is to oversee the delivery of community heat and retrofit programmes, starting with local pilots and expanding to a regional pathfinder. Although there are substantial benefits from improving the energy efficiency and lowering energy costs of households, at the level of individual houses the intervention can last several days and involve significant changes to homes. These are not always welcomed by homeowners.

Moreover, to be done efficiently and to minimise the costs, scale is required. [REDACTED]

[REDACTED]

[REDACTED] These are not fundamental barriers to delivery but mean that the confidence and understanding of communities will needs to be built.

As described in section 4.2.1, the present programme has already started laying foundations for this work. [REDACTED]

[REDACTED] CC's Three Cities programme of council owned dwellings is a vehicle for expanding the retrofits to the rest of Birmingham, Coventry and Wolverhampton.

The development of the NCDH at TEP is widely supported by community leaders, including BCC Councilor for Tyseley and Hay Mills, Zafar Iqbal, and MP for Yardley, Jess Phillips.

4.2.3 Do you have statutory responsibility for the delivery of all aspects of the bid?

If no:

- Please confirm those parts of the project for which you do not have statutory responsibility
- Please confirm who is the relevant responsible authority
- Please confirm that you have the support/consent of the relevant responsible authority

No, the bid will be delivered by the University of Birmingham via its framework contractors as described in section 6.2.3. This will include a funding agreement signed between UoB and [REDACTED] BCC will act as accountable body for the bid and appropriate governance mechanisms will be put in place as described in sections 6.1.10 and 6.3.5.

4.3 The Case for Investment

Applicants should use this section to detail a compelling case for why the proposed investment supports the economic, community and cultural priorities of their local area.

Applicants should upload their completed Theory of Change model that supports this section at the time of submission.

For package bids, an explanation should be provided as to how the component projects are aligned with each other and represent a coherent set of interventions.

4.3.1 Please provide evidence of the local challenges/barriers to growth and context that the bid is seeking to respond to.

(500 words)

East Birmingham has a population of 230,000 and is a supra diverse region of the city with high levels of unemployment and fuel poverty, suffering from a skills deficit and historical under investment. Disproportionate Covid-19 morbidity within the BAME community has added to the sense of a polarisation and segregation with the wider East Birmingham area. It is a young society where a third of residents are under 16 years old - one of the highest proportions of children in the country. According to the Tyseley Environmental Enterprise District (TEED) Masterplan (Appendix 23), in the area of the NCDH:

- Unemployment rate is 2.6 times higher than the national average and 1.8 times West Midlands
- 18.8% of people have no qualification, which is 3 times the national average and 2 times that of the West Midlands average
- It is 6th (in over 500) most fuel poor nationally, with 23.5% of households being fuel poor, compared to 13.4% nationally and 21.2% in the West Midlands

This proposal will develop new jobs, skills and investment in one of the most deprived areas of the West Midlands. For example, it is estimated that a programme of 10,000 homes would create in excess 200 new jobs for the installation alone, in addition to the manufacturing and service sectors. Nationally, there are 150,000 heating engineers (i.e. about 2,500 in Birmingham) who need to be retrained to support heat pump installation and servicing.

East Birmingham has been prioritised by BCC for investment and development, as articulated in the East Birmingham Inclusive Growth Strategy

(https://www.birmingham.gov.uk/download/downloads/id/19118/east_birmingham_inclusive_growth_strategy_2021.pdf):

“In 2017 a baseline study was undertaken to explore the best way forward for the East Birmingham and North Solihull Inclusive Growth Corridor, to tackle the long-standing problems facing the area The study concluded that a new approach is required with two key elements. There will be a focus on places, including improving transport connections, stimulating local growth and involving local people and businesses in shaping this growth and benefiting from it. There will also be a real focus on people including partnership working to improve the way that the public sector works, both for local people and with local people. In East Birmingham this work will be led by the East Birmingham Board”.

East Birmingham also has many of the energy generation assets in Birmingham, but local citizens benefit little. The NCDH provides the opportunity to connect these assets into local energy services. TEP and the Tyseley Environmental Enterprise District (TEED) are located in East Birmingham, midway between the city centre and the airport. It has presently around 35MW of electricity generation (including the city energy from waste plant) which is to be scaled up to 60MW, with potential for capturing the waste heat from these plants into district heating. As such, most of the energy production of Birmingham lies within TEED or at the Severn Trent Minworth site adjacent to Castle Vale. These can provide enough heat to service 50-75% of the homes in East Birmingham.

4.3.2 Explain why Government investment is needed (what is the market failure)? (600 words)

The Government’s Heat and Buildings Strategy was published in 2021 and sets out a plan to initiate a transition to low carbon heating via heat pumps, district heating or hydrogen boilers. This has been slowed by the cost of fitting, e.g., heat pump and energy efficiency measures. Subsequently, the rise in energy prices and the adjustment of the energy price cap have introduced new challenges and the number of people in fuel poverty is expected to double. For low carbon heating and energy efficiency to be cost-effective and consumer confidence to grow, they need to be delivered in a coordinated programme and at scale. Deprived communities with elevated levels of fuel poverty need the greatest level of support.

Analysis by the Climate Change Committee shows there are 10 million homes that could fit a heat pump without additional insulation – an enormous potential market. EON says that if the government introduces the right policies now, heat pumps could be cheaper to buy and run than a gas boiler – without subsidy – by the end of the decade. The carbon emissions from 10,000 household’s gas heating are estimated to be 27,000 tonnes of CO₂ per year, equivalent to 27,000 transatlantic flights (<http://www.birmingham.ac.uk/Documents/college-eps/energy/policy/23216-local-heat-energy-policy-commission-report-accessible.pdf>).

The level of coordination required is significant. It needs community groups to work together, for industry and local government to coordinate, the skills programmes to be sized and timed to deliver, the heat and retrofit programme to be optimised to local housing archetypes, and financing to be secured, recognising that this will be a mixture of sources from government programmes to private investment. At present there is no mechanism.

There are several existing or previous interventions that have had limited impact because of poor bottom-up engagement, including:

- Green Homes Grants: £191m of the initial £1.5bn budget was allocated for improvements, with 52,000 households having an application approved - far from the 600,000 homes promised.

- Numbers of heat pumps installed remain low, e.g. the Domestic Renewable Heat Initiative (DHRI) Quarterly Report shows social landlords only installed 4,000 heat pumps in 2021 (<https://www.ofgem.gov.uk/sites/default/files/2022-01/NDRHI%20Quarterly%20Report%20Q4%202021.pdf>).

Despite the growing demand, less than 200,000 heat pumps have been installed in UK homes since 2000, and around 27,000 are currently being installed each year. The government has pledged for 600,000/year by 2028, but concerns remain.

The bulk of the deployment of low carbon heating installations in the homeowner sector has been in more affluent communities. With the rise in gas prices, we are now at the point where the transition from gas boilers to heat pumps could lead to lower energy bills. However, the communities in East Birmingham are unlikely to take advantage of government sponsored schemes for a variety of reasons:

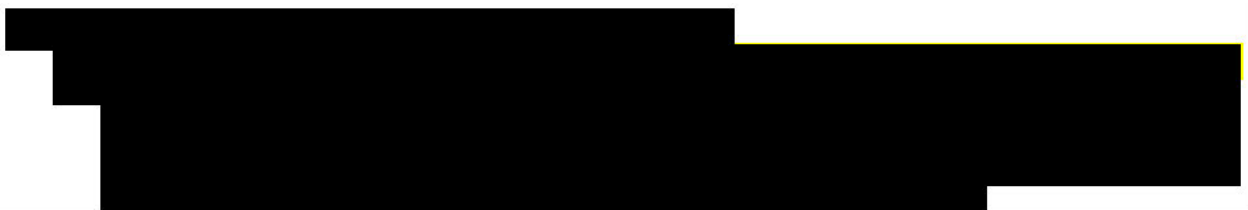
- Poor levels of understanding of household energy systems
- Poor understanding of government funding schemes and ability to make complex funding applications
- Lack of engagement with local authorities and council
- Low levels of confidence in new to market interventions
- Low levels of education and skills
- Higher levels of economic pressure due to inflation and energy prices

NCDH will work with communities to build an understanding of the nature of low carbon heating technologies and options around thermal insulation, enhance their skills levels through training programmes targeted at their community, work to support access to funding schemes and aggregating to a scale which is commercially attractive to private sector investment.

The scale of activity proposed will draw in investment from industry and create a manufacturing base for housing retrofit within East Birmingham. At present consumer confidence in heat pumps is low as is the industry confidence in the market opportunity and hence levels of investment have been minimal. This represents a significant market failure that can only be addressed by a scaled-up retrofit programme, to be unblocked by the proposed NCDH.

4.3.3 Please set out a clear explanation on what you are proposing to invest in and why the proposed interventions in the bid will address those challenges and barriers with evidence to support that explanation. As part of this, we would expect to understand the rationale for the location. (750 words)

The proposal creates a facility that would embed the delivery of community retrofit programmes in Birmingham and the wider West Midlands, with learning to be spun out into national programmes and national policy. The proposed NCDH building is a 2,121sqm mixed industrial, training, and office/meeting space, with net zero integrated into its design and function.



[Redacted text block]

[Redacted text block]

NCDH location within TEP is critical due to TEP's focus on energy activities within the city. It sits with ^{m e ys} _{istrict} (TEED) as a newly established Green Innovation Quarter, within some of the most deprived areas of Birmingham.

A series of options have been examined which range from refurbishment of existing space through to an all-encompassing NCDH proposition, as considered as part of the CSR submission. The proposed development has been evaluated as the best value for money whilst maximising the delivery potential. The solution leverages existing investments into TEP and ongoing programmes:

[Redacted text block]

The total value of these investments is several hundred million pounds, not available elsewhere in Birmingham.

The proposal incorporates the establishment of a parallel training facility [Redacted text block]

4.3.4 Please explain how you will deliver the outputs and confirm how results are likely to flow from the interventions. (500 words)

This should be demonstrated through a well-evidenced Theory of Change. Further guidance on producing a Theory of Change can be found within [HM Treasury's Magenta Book](#) (page 24, section 2.2.1) and [MHCLG's appraisal guidance](#).

The Theory of Change for the scheme is included in Appendix 10.

The overarching aim of the bid is to deliver benefit to the communities of East Birmingham by accelerating energy efficiency and low carbon heating solutions to contribute to UK achieving its net-zero goals by delivering a scaled-up programme of retrofitting residential heating in Birmingham and West Midlands.

The NCDH will deliver change by

- Working with communities to improve understanding of net-zero heating
- Working with communities to develop low carbon heating projects
- Attracting investment into projects
- Designing the delivery of the projects
- Training for delivery for local communities
- Coordinating the delivery of low carbon heating programmes
- Creating a single hub to co-locate the activities

In terms of direct outputs of the present investment, the following will be achieved:

- Remediation of a 1.2 acre brownfield site at Tyseley Energy Park.
- National Centre for Decarbonisation of Heat, a new 2,121sqm building at Tyseley Energy Park containing training and demonstration equipment associated with transition to low-carbon building heating solutions.
- A refurbished 100sqm dedicated facility at the Bordesley Green campus of South and City College Birmingham, containing training stations and an operational plant.

Underpinned by the University of Birmingham's operational support and building on ongoing pilots such as the WMCA-supported Net Zero Neighbourhood programme, NCDH will closely align with the 'Three Cities' strategy. The capital investment under this proposal will enable the following outcomes (the figures do not consider deadweight which is further discussed in section 5.4.1 of the economic case):

- 166,000 council-owned houses retrofitted in Birmingham, Coventry and Wolverhampton in the ten years of the 'Three cities programme'
- A training pathway established and trialled with 300 people trained/upskilled in the first ten years of operation
- 500 community events held, reaching 5000 residents
- Up to £2b public and private funding leveraged to deliver the 166,000 retrofits

The impact of these will be both at local and national level. In West Midlands:

- 770 jobs will be created in the low-carbon sector and associated supply chains in the first ten years of operation

- 31,553 households lifted out of fuel poverty in the Three Cities area, with associated benefits to household income and health outcomes
- Up to 3m tons of CO2 emissions prevented (£0.98b monetised value)
- Local businesses supported to transition to clean energy economy

However, the challenge of heat decarbonisation extends beyond the initial scope of 166,000 homes. Retrofit of housing stock will be unfolding across West Midlands and nationally, and NCDH will evolve into a Centre of Excellence informing decisions about technology, training and manufacturing pathways.

The application contains a scope of works to be delivered



The delivery of scaled-up retrofits will require close coordination among key partners including local and devolved authorities, industry partners, training providers, housing associations and community representatives themselves. A multi-stakeholder governance structure will be put in place while the construction and fit-out on two sites are being completed and the Consortium Agreement will be put together to guide the realisation of project benefits. This will be supplemented by a working group chaired by a Community Engagement lead which would draw together community groups from across East Birmingham and communities involved in low-carbon heating and energy efficiency projects. This group will influence the operation and priorities of the NCDH.

4.3.5 For package bids you should clearly explain how the component projects are aligned with each other and represent a coherent set of interventions. (250 words)

Not applicable

4.3.6 Applicants should also briefly set out how other public and private funding will be leveraged as part of the intervention. (500 words)

There are several UK Government funding schemes to support net zero heating and buildings, including:

- Sustainable Warmth Competition: Local Authority Delivery (LAD) scheme for homes heated by a gas boiler (£300m)
- Sustainable Warmth Competition: Home Upgrade Grant (HUG) scheme for homes on non-gas fuels (£950m)
- Public Sector Decarbonisation Scheme, funds retrofits for schools, hospitals and council offices (£1.4b)
- Social Housing Decarbonisation Fund, which covers council homes and housing trusts (£800m)
- Boiler Upgrade Scheme, which funds heat pump replacement of gas boilers (£450m)
- The Heat Networks Delivery Unit, HNDU, funding for heat network studies (£23m)
- Green Heat Network Fund GHNFD £300m

These, and other, funding schemes are essential elements in supporting the delivery of community retrofit programmes. The NCDH would work with communities, housing associations, BCC and WMCA to make applications for funding to deliver programmes. These funding sources would be augmented by investment from private sector finance.

██████████ ry ██████████ g ██████████ p

This represents a small fraction of the potential inward investment in East Birmingham.

This funding would also support the operation of the NCDH, as would funding to support the training activities of the energy companies and innovation/R&D activity, which will be underpinned by University of Birmingham core support.

A key element of the NCDH is that its location enables it to tap into the R&D capability of the University of Birmingham, as well as other Midlands-based universities through the Energy Research Accelerator (1500 energy researchers). These academic institutions have world-leading expertise in energy systems and heating technologies. Adjacent to the proposed NCDH location is Birmingham Energy Innovation Centre (BEIC) that would host innovation programmes associated with the development of next generation heating technologies in collaboration with p industry partners. Further, TEP's business incubator will host SMEs su ██████████ ortin them to develo their new to market products throu h inte rati n them into the NCDH.

██████████ This environment will create jobs in East Birmingham and attract inward investment. The progra ██████████ the UoB's Energy Institute mmes of typically attract £10-15m per year for its energy transition R&D projects.

4.4 Alignment with the local and national context

In this section, applicants should clearly articulate their alignment with any relevant local and national strategies and objectives concerning investment, infrastructure and levelling up. Applicants should explicitly state how the bid will substantially support the delivery of local and national policy objectives.

4.4.1 Explain how your bid aligns to and supports relevant local strategies (such as Local Plans, local economic strategies or Local Transport Plans) and local objectives for investment, improving infrastructure and levelling up. (500 words)

The current proposal is strongly aligned with strategies both at the city-level local authority and the regional devolved administration.

There are four key BCC strategies with which this proposal is directly aligned:

- i) Net zero plan 2030
- ii) The East Birmingham Inclusive Growth Strategy
- iii) Tyseley Environmental Enterprise District Masterplan
- iv) Three Cities initiative which includes the delivery of heating solutions for 166,000 council owned homes.

Regionally, WMCA has set a target for the West Midlands to be carbon neutral by 2041 - an ambitious taraget that will support the delivery of the Government's national taraget to be carbon

neutral by 2050 while ensuring no one is left behind. Within the next 5 years the plan sets out to support the delivery of the following infrastructure changes:

- Make all homes more energy efficient
- Introduce LED street lighting
- Green roofs on bus shelters
- Electric vehicle charging points across region
- Develop 5G network
- Zero carbon standards for new builds

Beyond this commitment the WMCA launched a Net Zero Pathfinder in 2021 (<https://www.wmca.org.uk/media/4667/net-zero-proposal-v3.pdf>) which includes an ambitious programme to retrofit 50,000 homes by the end of 2022 and 290,000 homes by 2026, along with the Warm Homes Saves Lives campaign against fuel poverty, securing 500 existing jobs and creating 20,000 new jobs. In addition, the WMCA has announced a region-wide programme to build a series of 'Net Zero Neighbourhoods' where homes would be retrofitted with insulation and green heating on a street-by-street basis alongside other low carbon infrastructure such as on-street electric vehicle charging points. The pilot programme, a UK first, aims to tackle climate change, reduce fuel poverty and support the region's ambition to be net zero by 2041.

The need for the NCDH is recognised in the Midlands Engine's Ten Point Plan for Green Growth, published in 2021 (https://www.midlandsendge.org/wp-content/uploads/2021/11/Ten-Point-Plan-for-Green-Growth-in-the-Midlands-Engine_V1-1.pdf). The present Levelling Up Fund application to create a Centre for Decarbonisation of Heat, based in the West Midlands at Tyseley Energy Park, one of the 5 West Midlands Energy Innovation Zones, is strongly aligned with the Combined Authority's programme to support the delivery of energy efficiency through thermal insulation enhancements and low carbon heating solution.

4.4.2 Explain how the bid aligns to and supports the UK Government policy objectives. (500 words)

The Levelling Up White Paper sets out a desire to catalyse growth in four areas and NCDH will have impact across these:

- a. Boost productivity, pay, jobs and living standards by growing the private sector, especially in those places where they are lagging.** By upskilling young people to work as low carbon heating engineers, NCDH will create an anticipated 6,183 job years and thus address the very high levels of unemployment and skills in East Birmingham and wider Midlands.
- b. Spread opportunities and improve public services, especially in those places where they are weakest.** East Birmingham is part of the city which has had lower levels of investment than elsewhere; NCDH will provide new facilities to support the improvement of employment, drive down fuel poverty and improve housing quality.
- c. Restore a sense of community, local pride and belonging, especially in those places where they have been lost.** TEP and TEED are seen as beacons for the City of Birmingham creating a focus for the energy transition of the city and investment in clean growth.
- d. Empower local leaders and communities, especially in those places lacking local agency.** Low carbon heating will be most successfully delivered at a community scale, rather than house-by-house. This provides a vehicle for communities to work together to develop an agreed approach driven by the community, for the community.

By tackling a key theme of socioeconomic deprivation and fuel poverty in an area of the UK which is at the extreme end of the spectrum, NCDH will address the following Levelling-Up Focus Areas: R&D, Skills, Health, Well-being, Pride in Place, Housing and Local Leadership.

Further, the present scheme is fully aligned with the delivery of Net Zero as set out in the UK Government strategies:

- British energy security strategy, 2022
- UK hydrogen strategy, 2021
- Heat and Buildings strategy, 2021
- Energy White Paper: Powering our net zero future, 2020

Heat for buildings causes 23% of Britain's total greenhouse gas emissions and for housing alone causes 17%. Unless 24 million gas boilers are replaced, net zero cannot be reached. District heating networks have been operating for decades and could provide almost a fifth of our home heating economically by 2050. Heat pumps are also well-established and efficient, turning 1 unit of electricity into 3 of heat. Like wind and solar a decade ago, these technologies need to be installed at scale to bring costs down. Hydrogen might also play a part near industrial clusters.

4.4.3 Where applicable explain how the bid complements/ or aligns to and supports existing and / or planned investments in the same locality.

(100 words max per fund)

The present bid builds on investment by the GBSLEP into TEP of around £15m over the last five years. GBSLEP was instrumental for enabling the low-carbon refuelling station for BCC's 20 hydrogen buses, the construction of the Birmingham Energy Innovation Centre and the creation of a business incubator at TEP.

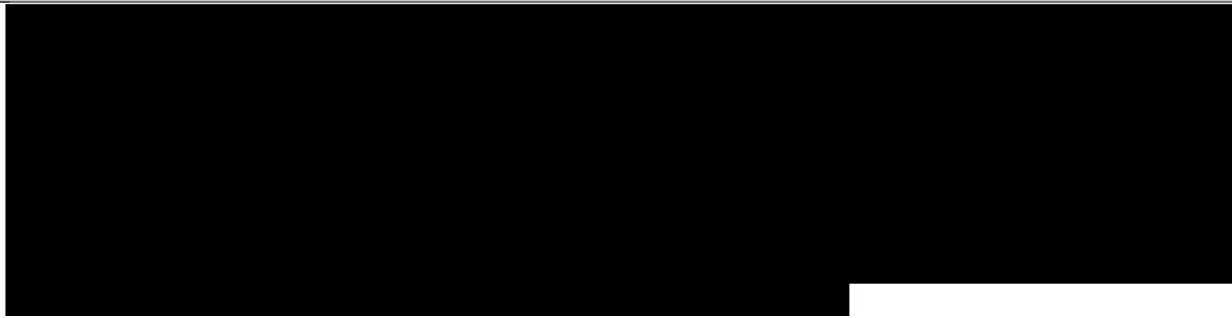
[REDACTED] These interventions are designed to open TEP up to the public.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]



4.4.4 Please explain how the bid aligns to and supports the Government's expectation that all local road projects will deliver or improve cycling and walking infrastructure and include bus priority measures (unless it can be shown that there is little or no need to do so). Cycling elements of proposals should follow the Government's cycling design guidance which sets out the standards required.

(250 words)

Not Applicable

4.4.5 Please tick to confirm which of the following [Levelling Up White Paper](#) Missions (p.120-21) your project contributes to:

X Living Standards

X Research and Development (R&D)

- Transport Infrastructure
- Digital Connectivity
- Education

X Skills

X Health

X Wellbeing

X Pride in Place

X Housing

- Crime
- Local Leadership

And write a short sentence to demonstrate how your bid contributes to the Mission(s):

- *Living standards*: the programme will generate jobs, skills enhancements, home improvements and higher average salaries.
- *Research and development*: the NCDH will provide a pathway for innovation, attracting businesses to co-locate and draw in investment. The university will link its innovation programmes to the centre.
- *Skills*: a critical component is skills enhancement, and this will train young people in a region of high unemployment
- *Health*: There are direct health benefits to improvements in thermal insulation and heating of homes.
Wellbeing: The collective impact of the programme will drive down rates of fuel poverty, increase employment and reinvest in the infrastructure of East Birmingham. This will catalyse other investments.
- *Pride in Place*: TEP is already seen as a beacon of activity associated with the net zero transition for Birmingham. The present programme will ensure that the reach extends

across the East Birmingham region.

- *Housing*: This is the prime focus of this project and the aim is to engender local leadership, such that housing retrofit programmes are community led projects.

Part 5 – Economic Case

All costs and benefits must be compliant or in line with [HMT's Green Book, DfT Transport Analysis Guidance](#) and [DLUHC Appraisal Guidance](#). Please also see [Technical note](#).

5.1 Appropriateness of data sources and evidence

5.1.1 Please provide up to date evidence to demonstrate the scale and area; comparisons should be made between the significance of local problems and issues. (500 words)

Birmingham has the second lowest housing stock median efficiency scores 65 (<https://www.ons.gov.uk/peoplepopulationandcommunity/housing/articles/energyefficiencyofhousesinenglandandwales/2021>). Households in Birmingham are more likely to be living in energy inefficient homes. According to DLUHC's data sets, nearly 70% of dwellings in Birmingham (303,533 homes, 68.4%) have an energy efficiency rating below EPC Band C compared to UK's national average of 60% (<https://www.gov.uk/government/statistical-data-sets/live-tables-on-energy-performance-of-buildings-certificates>). Inefficient housing stock within the Birmingham area has contributed to several economic social and health inequalities.

In Birmingham a fifth of households (96,795 or 21.8% of total households) suffered from fuel poverty in 2020 – the highest level of fuel poverty within the eight core cities, as seen in the Technical Note (Appendix 16). This is partially due to the energy inefficient housing stock, which leads to households having to use more energy to heat their homes. Research has found households whose dwelling efficiency rating is below EPC Band C are likely to pay an additional £687 per year on their energy (<https://www.local.gov.uk/lga-libdem-group/template-press-releases/home-insulation>). Improving the energy efficiency of homes will be key to reducing fuel poverty, as it will lower the energy needs for households and reduce their energy bills; shifting people out of fuel poverty and levelling up.

Fuel poverty and cold homes also increases the risk of a vulnerable person developing a serious illness, including higher risks of heart attack and stroke (<https://www.nice.org.uk/about/nice-communities/social-care/quick-guides/helping-to-prevent-winter-deaths-and-illnesses-associated-with-cold-homes>). In 2019/20, Birmingham had the highest number of excess winter deaths of any metropolitan borough in the England at 280, comparative to the average of 41 (https://lginform.local.gov.uk/reports/lgastandard?mod-metric=11162&mod-period=1&mod-area=E0800025&mod-group=AllMetropolitanBoroughLainCountry_England&mod-type=namedComparisonGroup) Improving the energy efficiency of the housing stock will stop preventable excess winter deaths and reduce pressure on health services. As, the more energy efficient the home the less energy it needs to keep it warm, therefore the less likely that homes will become cold, reducing the risk of serious ill health.

Additionally, from 2026, the installation of gas boilers in new builds will be banned, requiring new builds to be fitted with alternative systems, such as heat pumps. From 2035, a ban is proposed on the sale of new gas boilers across all housing stock. Therefore, labour in the market will have to be trained and upskilled to meet these targets. Currently, there are no courses which train students on heat network maintenance in Birmingham. Without labour skills improvements in district heat networks within Birmingham, labour may be outsourced from elsewhere to deliver, especially if there's still a skills gap when the new regulations come into effect. Additionally, Birmingham has a claimant count of 7.1 this highest of any city in the UK (<https://www.centreforcities.org/data/uk-unemployment-tracker/>). The Heat maintenance apprenticeship training will provide a skilled training programme, not only helping people into employment and levelling up the local area, but also safeguarding their future employment; as gas boilers are phased out.

As described in sections 4.4.1 and 4.4.2, the present bid is fully aligned with national policy and local strategies related to climate change and inclusive growth.

5.1.2 Please demonstrate the quality assurance of data analysis and evidence for explaining the scale and significance of local problems and issues. Please demonstrate how any data, surveys and evidence is robust, up to date and unbiased. (500 words)

The development of the evidence base on scale and significance of local problems benefitted from input from EBCHT's Task and Learn Group and other fora that brought together regional experts and stakeholders. This group provided a forum for discussing the strengths and weaknesses of individual data sources as well as acting as clearing house for sharing data and intelligence amongst members.

Additionally, the project team includes members who have been closely involved in two UoB Policy Commission reports, including the 2020 'Net-Zero: The Road to Low-Carbon Heat' (jointly with CBI) and the 2022 'Pathways for Local Heat Delivery', incorporating inputs from leading experts.

The data used to demonstrate and evidence the market failures in section 5.1.1, above, was largely public available data from national statistical bodies such as the ONS. We have developed supporting the evidence base through a series of analytical and research projects at the University of the Birmingham, as well as drawing on peer reviewed sources. The team that developed our evidence base was multidisciplinary and included policy analysts, economists, social scientists, researchers, engineers and experienced programme deliverers

5.1.3 Please demonstrate that the data and evidence supplied is appropriate to the area of influence of the interventions. (250 words)

The proposed NCDH location in East Birmingham will have significant impacts in the locality and across wider West Midlands. Data has been collected at the lowest geographical level available.

Our economic model has utilised these statistics combined with generalised calculations of the monetised benefits of the interventions. The model has been validated against Green Book methodologies and available research.

5.2 Effectiveness of proposal in addressing problems

In this section applicants should clearly set out how the activity described in the bid will

address the challenges identified.

5.2.1 Please provide analysis and evidence to demonstrate how the proposal will address existing or anticipated future problems. Quantifiable impacts should be forecasted using a suitable model. Theory of Change evidence should be identified and referenced. (750 words)

The Theory of Change in Appendix 10 sets out how the scheme will address existing or anticipated future problems, including:

- The current context and imperatives for setting up NCDH
- Market, information, institutional and coordination and failures that need to be addressed (see also section 4.3.2)
- Project objectives
- Planned project inputs (see also section 4.3.4) and activities
- Project outputs and intermediate outcomes
- Intended impacts that will contribute to the Levelling Up agenda

The context and imperatives for setting up NCDH and the failures to be addressed include:

- **Market failures:** including economies of scale resulting in current cost of producing, fitting and maintenance of low-carbon heating appliances and infrastructure being an obstacle to their mass rollout.
- **Information failure:** including lack of consumer confidence and knowledge about low carbon heating and energy efficiency measures is further barrier to adoption of new and existing technologies.
- **Coordination and institutional failures:** Greater coordination is required between industry, local government, community organisations and training providers in order to increased confidence amongst industry, customers and other stakeholders.

Underpinning the programme theory are specific problems identified through analysis and consultations with stakeholders, and a proposed programme of interventions:

Low acceptance and therefore take up of initiatives to retrofit homes in the region

The NCDH will support engagement and co-design of interventions at the neighbourhood level, including:

- the need for a Centre of Expertise that supports existing and future interventions focused on retrofitting homes to better engage with the communities and neighbourhoods they work they will be working with to increase likelihood of acceptance and take up by households.
- the need for individuals and communities to view mock-ups of homes like their own to understand the implication for their lifestyles. This will not only make options for retrofitting their homes more tangible leading to greater acceptance but could also prevent unintended consequences by allowing individuals and communities to express concerns.

In developing the scheme, five main **objectives** were identified for NCDH to assist in addressing these failures:

1. In cooperation with local communities in West Midlands, deliver phased rollout of heating solutions to 166,000 homes by 2033.
2. Develop and deliver training and upskilling programmes to 300 local residents to underpin the rollout.
3. Support 770 new and safeguarded jobs (6,183 job years) by 2032 to underpin the rollout.
4. Support local businesses through establishment of manufacturing clusters and supply chains.
5. Establish a Centre of Excellence in heat decarbonisation to collect and share lessons learnt from the local and regional rollout at national level.

If successful, the funding will secure the following enablers that are described as **project inputs** in the logic model, both in terms of capital and revenue investments.

- Construction of the NCDH at Tyseley Energy Park, East Birmingham will be co-located with other initiatives and facilities to support energy transition ensuring our preferred option for NCDH provides necessary and complementary facilities for hosting demonstration test and learn events and activities, community engagement and business support spaces.
- Establishment of a training facility to deliver vocational qualifications and apprenticeships
- Local and national government support, industrial partner facilities and in-kind contributions estimated at £2b.

These would enable the delivery of the following programme of **activity**:

- (a) developing community-led retrofit solutions (for 166,000 homes) leading to
- (b) developing optimised installation and operation pathways for the community-led retrofit solutions
- (c) establishing training pathways for local communities to obtain vocational qualifications and apprenticeships underpinning the retrofit solutions.

Within our logic model we set out project outputs and intermediate outcomes that will lead to impacts associated with levelling up including:

- 1.2 acre brownfield site remediated
- 2,121sqm new facility built and equipped at TEP and a supplementary 100sqm facility refurbished and equipped
- A training pathway established and trialled with 300 people trained/upskilled in the first ten years of operation
- 500 community events held, reaching out to 5000 local residents
- 166,000 council-owned houses retrofitted in Birmingham, Coventry and Wolverhampton

Quantifiable and non-quantifiable impacts identified include:

- 31,553 households lifted out of fuel poverty, including 645 removed from risk of excess cold.
- Support 770 new and safeguarded jobs, totalling 6,183 job years by 2032, in the low-carbon heating sector.
- Over 3m tons of CO2e emissions prevented.
- Improved air quality.
- Support retrofit of wider housing stock across West Midlands and nationally
- Establishment of manufacturing clusters and supply chains
- Decrease in cost of low-carbon heat appliances and associated infrastructure

These figures are not net of deadweight.

5.2.2 Please describe the robustness of the analysis and evidence supplied such as the forecasting assumptions, methodology and model outputs. Key factors to be covered include the quality of the analysis, the quality of the evidence and the accuracy and functionality of the models used. (500 words)

This application draws on an ongoing programme of research, extensive evidence reviews and consultations with stakeholders

[REDACTED]

UoB invested in the development of a prototype economic modelling tool to support informed discussions with stakeholders around options for retrofitting homes to meet Net Zero at neighbourhood and community level that was refined further to support the option assessment of in the present economic case. The modelling of options takes into account the nature of the housing stock, local needs, and adoption of technologies including HNs and ASHPs.

[REDACTED]

These projects have informed the development of the present application. [REDACTED]

Please refer to full Technical Note attached in Appendix 16 which provides a more detailed description of the development of the economic model to support this application.

5.3 Analysis of costs and benefits

In this section applicants should describe and explain the costs and benefits in the relevant **Costings and Planning Workbook - Tables A - Economic Benefits and Table A - Economic Costs**. They should provide an explanation of how benefits and costs are analysed and estimated, and how this approach is proportionate for the proposal being submitted.

All costs and benefits must be compliant or in line with [HMT's Green Book](#) (including supplementary guidance), [DLUHC Appraisal Guidance](#), and if appropriate [Transport Analysis Guidance](#).

Package bids need to demonstrate both the overall package costs and benefits, and the disaggregated costs and benefits for each component project. Supplementary tables for component projects should be completed in full.

5.3.1 Please explain how the economic costs of the bid have been calculated, including the whole life costs. (500 words)

Economic costs include the following at nominal prices:

- £14.5m (excl VAT) capital costs for design and build of the NCDH;
- £2.2m (excl VAT) capital costs for equipment for training and demonstration facilities;
- £41.2m revenue costs for the operation of the Centre's programmes and activities; and
- Optimism bias applied to the above as appropriate.

A cost estimate for design and build costs has been provided by quantity surveyors [REDACTED]

A partially detailed and extensive list of equipment and associated cost have been developed in close cooperation between the UoB and the industry partners. [REDACTED]

An estimate of the overheads for the Centre are based on the operating costs [REDACTED]

[REDACTED] An estimate of the revenue costs for running the activities and programmes at NCDH has been provided by the Birmingham Energy Institute. [REDACTED]

All costs estimates are provided in nominal terms and deflated in the economic model using the long-term GDP deflator of 2% provided in the Office for Budget Responsibility's Fiscal Sustainability Report 2020 as advised in HMT's Green Book guidance.

5.3.2 Please describe how the economic benefits have been estimated, including a discussion and evidence to support your assumptions.

(750words)

Benefits are calculated based on NCDH supporting the delivery of 166,000 domestic retrofits.

Full details of the methodology and assumptions used to calculate the impact of these benefits is detailed in the accompanying Technical Note in Appendix 16. The following provides a brief description of the approach in line with Green Book guidance.

Emissions reduction

[REDACTED]

The quantified change in CO₂e emissions is then monetised using carbon values provided by BEIS.

Health savings

There is a health impacts to living in homes that are insufficiently heated and at risk of excess cold, as stated in 5.1.1. [REDACTED]

[REDACTED]

Local authority level data published by BEIS shows that 21.6% (35,856) of households across the three cities lived in fuel poverty in 2020. [REDACTED]

[REDACTED]

Air quality improvements

Air quality damage relating to primary fuel use has been monetised using the Damage Costs approach as outlined in BEIS 'Valuation of energy use and greenhouse gas emissions' guidance. Damage costs are provided in BEIS 'Valuation of energy use supporting data' for electricity and gas.

Discount rate

All monetised benefits have been calculated using 2022 real prices and discounted to present values at an annual rate of 3.5%.

Leveraged investment

NCDH will leverage an estimated £2bn of investment to improve and decarbonise the social housing stock across the WM region. This figure is based on the estimated cost to install air source heat pumps or district heating to the target housing stock, including the cost of building fabric improvements to achieve an acceptable level of thermal performance. [REDACTED]

[REDACTED]

Quantified benefits

Including the monetised benefits outlined above, the following non-monetised benefits have been quantified:

Retrofit job creation/safeguarding

[REDACTED]

Jobs are either classed as new or safeguarded depending on assumptions around the extent of retraining. It's assumed there will be a high degree of retraining.

Fuel poverty

[REDACTED]

Note that households lifted out of the LILEE definition of fuel poverty due to energy efficiency improvements may still remain in relative poverty due to low income.

Deadweight

All benefits have been calculated gross and net of deadweight effects. Deadweight is represented by a slower trajectory of retrofit delivery between 2022 and 2050. Netting off deadweight demonstrates the benefit of earlier retrofit delivery supported by the presence and activities of NCDH.

5.4 Value for money

In this section applications should set out the Value for Money (VfM) of their bid, taking account of monetised and non-monetised impacts and risks and uncertainties.

Prior to completing this section the application should complete the relevant **Costings and Planning Workbook – Table A – VfM**.

5.4.1 Please provide a summary of the overall Value for Money of the proposal. This should include reporting of Benefit Cost Ratios (BCR). (500 words)

If a BCR has been estimated, please provide the BCR of the proposal below. If you only have one BCR, please enter this against the 'initial' BCR. 'Initial' BCR (single bid) 'Adjusted' BCR (single bid).

The net present value (NPV) and benefit-cost ratio (BCR) of the proposed project are presented in the table below.

	Gross of deadweight	Net of deadweight
Net present value	£570m	£126m
Benefit-cost ratio (initial)	11.1	2.5

The counterfactual (deadweight) recognises the legislative and policy imperative to decarbonise domestic heating ahead of 2050. We consider this would take place at a slower trajectory than with the support of NCDH. The figure net of deadweight therefore represents the 'forward additionality' of accelerating retrofit delivery through NCDH. By accelerating retrofit delivery NCDH brings forward the economic, employment, environmental and social benefits of decarbonisation.

We estimate that 3m tonnes of CO2e emissions will be avoided by 2050, which is 593,000 times more than would be the case without NCDH as retrofit delivery is accelerated. This equates to a present value of £117.8m net of deadweight.

We estimate that the improvement in living conditions will remove at least 645 households from the risk of excess cold. The associated (cash releasing) savings to the NHS have been estimated as £9.2m at present value, or £2.4m net of deadweight.

An improvement in air quality due to a reduction in the burning of fossil fuels is estimated to be worth £26.1m at present value, or £6.2m net of deadweight.

NCDH will leverage an estimated £2bn of investment to improve and decarbonise the social housing stock across the West Midlands region (this figure, although monetised, is not included in the BCR calculation).

5.4.2 Please describe the non- monetised impacts the bid will have and provide a summary of how these have been assessed, including the expected scale of these impacts. These will be factored into the overall Value for Money assessment of the bid. (500 words)

There's a range of hard to capture qualitative/non-monetised and monetary benefits. NCDH will enable and accelerate the realisation of the following non-monetised benefits:

Climate change mitigation

Whilst the value of CO2 avoided has been monetised using BEIS appraisal guidance, the wider economic, social and environmental costs of unmitigated climate change haven't. Without the existence of NCDH, it'll be harder and take longer to achieve decarbonisation of domestic heat, in the entire economy. Placing the commitments to the Paris Agreement at risk.

Green skills and job creation/safeguarding

NCDH will support the transition to net zero through upskilling and job creation/safeguarding. It's estimated that 770 low carbon retrofit jobs will be created/safeguarded by 2032 (6,183 job years over the next decade). The Centre will support existing workers transitioning into the net zero economy through reskilling, safeguarding them from future unemployment as fossil fuel solutions are phased out.

Competitive advantage

While international competitiveness could be monetised through export potential and competitiveness— reduced interregional leakage in supply chains, these are difficult to estimate credibly. Costs to decarbonise UKs housing stock is estimated in excess of £10bn per year, equating to £2bn per year to the UK economy (<https://www.smmmt.co.uk>). The project would enhance the probability that this economic uplift would benefit the WM economy. Prorated for the number of people in Birmingham this would correspond to £28m per year.

Health outcomes

As well as costs savings to health services and pollution damage there's also social welfare and productivity impacts, an ECIU report states:

“NOx pollution carries health implications, with every 1µg/m³ rise in NOx... respiratory hospital admissions increase 0.5%, the chronic mortality odds ratio by 2.3% and diabetes by 5%... Meeting guidelines for air pollutants could prevent 17,000 deaths, 3 million working days gained per year and benefits to the economy could be... £1.6 billion per annum.” (<https://ca1-eci.edcdn.com/Gas-boilers-and-NOx-the-hidden-emitter.pdf?v=1603351014>).

Scaling up for 166,000 homes associated with the programme, based on an average of 2.4 people per household, this would correspond to annual impact of:

- 110 lives saved
- 19,000 working days gained
- £10m benefit to the economy

Household savings

It was assumed that benefits to households derived from improved housing conditions rather than bill savings, since these may accrue to landlords rather than tenants.

Pride in Place

1.2 acres of brownfield land will be redeveloped increasing local pride and avoidance of problems relating to crime and blight, driving up property value. Community-led nature of retrofit solutions will enhance a sense of pride in place, as demonstrations build confidence in the market both from consumer and industry perspectives.

Clean-tech / green-energy cluster development

The presence of NCDH at Tyseley Energy Park will contribute to the growing clean-tech and green-energy cluster. Co-location of businesses and UoB, through the Birmingham Energy Institute, at NCDH and the Birmingham Energy Innovation Centre will support innovation and enterprise.

Cost improvements

Training, demonstration capability and supporting the scale up at NCDH will contribute to reductions in installation costs for retrofit interventions, building on the aims of the Heat and Buildings Strategy.

5.4.3 Please provide an assessment of the risks and uncertainties that could affect the overall Value for Money of the bid.

(250 words)

Sensitivity analysis was performed on key variables affecting the BCR. Results are summarised in a chart in the Technical Note (Appendix 16). The biggest impact on BCR is if BEIS' set of 'low' carbon values are used to monetise emissions savings instead of the 'central' scenario, reducing the BCR to 1.3 and NPV to £16m. All other variables tested would not reduce the BCR below 2.0.

Delayed opening. NCDH is opening September 2024, delaying by one year would have a negative impact on BCR and NPV as benefit realisation is delayed. The BCR would drop to 2.4 and NPV to £66.1m.

Take up by households- Research by Nottingham University found consumers were more wary of adopting new energy efficient technologies in homes than other technologies. Savings or benefits need to be sufficient for households to accept disruption whilst homes are retrofitted. To reduce uncertainty, NCDH worked with the Three Cities initiative where LAs and housing associations come together to encourage take up.

Supporting technology improvements for local heat networks removes the need for greater levels of insulation, reducing costs of retrofitting. If the cost of heat pump supply & installation doesn't fall to parity with gas boilers by 2030, it would increase the cost of retrofitting by £480m.

Low take up of training opportunities by residents could lead to a shortfall in qualified installers, reducing pace and delivery of retrofits.

Investment shortfalls in future public and private investment for retrofits would reduce pace of delivery and delay realisation benefits.

5.4.4 We would expect an Appraisal Summary Table, to be completed to enable a full range of impacts to be considered. This should be consistent with the relevant appraisal guidance for the bid.

For package bids, please provide an Appraisal Summary Table for each component project.

For Regeneration or Cultural bids, the Appraisal Summary table should be consistent with the DLUHC appraisal guidance. For Transport bids it should be consistent with the [Transport Analysis Guide](#).

Any additional evidence to support your responses to this section should be referenced within your responses (5.1.1 – 5.4.3) and attached as a single annex.

The long list of options considered is included in Appendix 14 and the Appraisal Summary Table of the shortlist is in Appendix 16.

Part 6 - Deliverability

6.1 Financial

Within this section applicants are required to provide clear and robust details of the financial aspects of the bid, including sources, secured status, and type of match funding, project costs, financial risks and mitigation measures, and how funding is structured - e.g. if you are intending to further disburse the LUF grant bid with partners.

Management and consultancy costs should be clearly shown within the project budget, and any work to be sub-contracted explained within the application form.

Prior to completing this section applicants should complete the relevant **Costings and Planning Workbook - Table B - Funding Profile and Table C - Cost Estimates**

6.1.1 Please confirm the total value of your bid.

£2,615,862

6.1.2 Please confirm the value of the capital grant you are requesting from LUF.

£19,999,260

6.1.3 Please confirm the value of match funding secured. Where match funding is still to be secured please set out details below. If there are any funding gaps please set out your plans for addressing these. (250 words)

The University of Birmingham and Tyseley Energy Park are committed to developing TEP as a flagship energy innovation location. Private and public sector investment worth over £?Om has been attracted since 2017 to develop a range of facilities that create an ecosystem of activity across all vectors of energy transition. In 2022-23 onwards these (capital) investments will include:

£630,000 - GBSLEP funding, creating space for businesses to locate within TEP to support the ongoing business incubation programme, as well as investment into river works and ground levelling which removes the flood risk associated with the construction programme. The latter reduces the cost of the NCDH construction. The business incubator development ensures that innovation is embedded in the present proposal.

£620,017 - ERDF-funded River Cole: Funding from ERDF over the period 2022-23 will be used to redevelop the public realm around the NCDH including river works to improve the River Cole flow and habitat and improvements to the green space around TEP, making it a more inviting location for communities.

£1,035,192 - BEIS-funded Green Hydrogen from Ammonia plant: During the period 2022-2025 a new hydrogen production plant will be developed at TEP, converting ammonia to produce 200 kg of hydrogen per day. This will be made available to the NCDH for hydrogen-based heat projects.

£180,000 - Test and learn: UoB is donating 5 of its properties and investing £180,000 to convert them into living laboratories for developing low-carbon heating solutions. The learning from these will be linked to the NCDH programme.



The total of these confirmed investments is £2,616,602 constituting around 12% of the overall scheme.

6.1.4 If you are intending to make a land contribution(via the use of existing owned land), please provide further details below and confirm who currently owns the land, details of any restrictions and the estimated monetary value.

(250words)



Approximately half of the University-leased plot is currently occupied by the Birmingham Energy Innovation Centre (BEIC), constructed by the UoB in 2020-21 with funding from GBSLEP. The remaining 4,700sqm is earmarked for NCDH, including the building as well as associated service, delivery, utilities, parking, access and landscaped areas.

6.1.5 Please confirm if your budget includes unrecoverable VAT costs and describe what these are, providing further details below. (250 words)

The budget under this scheme does include unrecoverable VAT on construction, refurbishment and equipment costs, with a full breakdown listed in Appendices 8 (Building Cost Plan) and 9 (Equipment Fitout Breakdown).

Considering NCDH is proposed to be a mixed use building, some VAT recovery might be available and will be managed by the University's Finance team when the facilities become operational.

6.1.6 Please describe what benchmarking or research activity you have undertaken to help you determine the costs you have proposed in your budget. Please advise on any assumptions. (750words)

The NCDH building cost plan submitted in the current proposal (Appendix 8) was produced as part of the RIBA 2 stage building design, by the design team appointed by the University of Birmingham from its contractor framework. As part of the team, [redacted] Quantity Surveyors and cost consultants who were involved at both RIBA 0-1 and 111 stages of NCDH development.



RIBA Stage 1 is the Preparation and Brief stage of a project when an outline of the proposed project is developed, and feasibility of the project is assessed. During this stage a high-level cost estimate was produced by taking an approximate measure of the proposed development and applying a market rate to calculate an overall construction cost. At this stage, the design information is still at an early stage of development and the cost estimates include a number of assumptions. Following approval to proceed with the brief / proposal, the project then moved onto RIBA Stage 2.

During RIBA stage 2 the design information has developed to provide a refined cost-~~an~~ level of assurance, and to a more detailed level of briefing. This has allowed ~~to~~ to carry out an elemental cost plan assessment based on current market rates against a ~~ule~~ of quantities. This has been supported by market experience from the wider design team and extends to all areas of the project including the substructure, superstructure, envelope, services and finishes.

Following the costs being reassessed during RIBA 2, the outcome cost was then bench-marked against previous projects to confirm achievability of the rate used. In addition to this, the construction costs have been compared to similar projects which have ~~bee-~~ been tendered but not yet constructed, providing a more up to date level of accuracy. ~~then~~ then assessed any differences and reasons behind them, in order to gauge the accuracy of ~~e~~ costs based on their extensive combined experience.

The cost plan produced is based on the following assumptions:

- Total Gross Internal Area of 2,121sqm
- The base date is Q2 2022
- Start on site March 2023
- Completion by May 2024
- The building is to be raised to the required level utilising excavated material from the site during site preparation and levelling
- Allowances made for items that are yet to be specified, including attenuation, finishes and furniture
- Substructure and drainage costs, based on BEIC
- The works to be procured through a two-stage Design & Build tender
- It is intended that the employer's design team complete the design to circa RIBA PI f W k 2020 k t | 4 h. h -1 f | rt f th | l ' | . t

No allowances were made for the following:



6.1.7 Please provide information on margins and contingencies that have been allowed for and the rationale behind them.

(500 words)

The University of Birmingham's Risk Management Strategy is based on the following principles and guidelines:

1. Risk management guidance ISO 31000:2009; BSI 31100:2011 and OGC's Management of Risk.
2. Covers all project development and delivery lifecycle stages.
3. Determines the risk appetite of users / sponsors for each risk measure (i.e. delivery to a specific date, value for money, reputational damage).
4. Prioritises cost-effective risk response planning.
5. Provides for the timely reporting of risk-related information to principal stakeholders, including the Project Board and University Committees
6. Encourages the contribution from all key stakeholders
7. Encourages performance measurement and continual improvement

These principles are intended to ensure that risks are clearly reflected within the project budget at approval stage. It should also ensure that once a project is on site contingency is only held for construction risks, rather than changes in the brief which then has broader implications for programme and quality.

At each approval stage, it is expected that:

At Gate 0 (Strategic Rationale), costings are not included but a range of benchmark projects or space precedents may be provided to give an indication of the potential scale of the project. Any costs provided should not be used for budget setting or approvals because modelling has shown actual costs can vary by as much as 50- 100% from such initial benchmarks.

At Gate 1 (Project Concept), a maximum project budget will be provisionally held in the capital budget based upon a RIBA Stage 1 cost estimate, project contingency, inflation allowance and VAT. The contingency will incorporate all elements of risk and cost uncertainty (e.g. scope, fit out, site, construction and risk), and will vary according to the size, complexity and nature of the project, as determined by the Cost Consultant in conjunction with the Project Manager and Estates Leadership. This may see initial budgets increase for some projects, and whilst this is expected that this will reduce over time for the majority of projects, it is important that the contingency is retained to mitigate against the impact of significant risks or changes that emerge during design development.

At Gate 2 (Final Approval), costs will be based upon a pre-tender estimate (PTE) or stage 1 tender returns (where a two-stage procurement route is followed); a minimal working contingency; a ringfenced construction risk pot; VAT; and a small allowance for variance against the PTE in the final tender returns.

After contract award, any contingency not required will be released to the portfolio contingency.

This approach has been applied to several recent construction projects by the University, including the Molecular Sciences building, Medical Physics extension, New Engineering Building on the Edgbaston campus, as well as the Birmingham Energy Innovation Centre at TEP. Regular risk register reviews and risk management workshops will continue throughout the design stages as well as the construction period.

The contingency allowances in the current NCDH cost plan include Design Development Risk, Construction Risk and Employer Change Risk:

[REDACTED]

6.1.8 Please set out below what the main financial risks are and how they will be mitigated, including how cost overruns will be dealt with and shared between non-UK Government funding partners. (You should cross refer to the Risk Register).

(750 words)

A costed Risk Register rated for probability, cost and programme impact is supplied in Appendix 18 and key risks are summarised in section 6.3.3. Minimum, most likely and maximum costs are calculated for each risk pre- and post-mitigation.

A key financial risk is inflationary impacts of the global political and economic dynamics ranging from Covid-19 to Brexit to the war in Ukraine. Their effect on market conditions may result in lack of availability or long lead times for construction resources. Mitigation measures would include targeted procurement and soft market testing, as well as attracting the right calibre of bidders through effective promotion of the project and professional approach to procurement process. Inflation rates will be periodically reviewed in reference to internal and industry publications such as BCIS & RICS and via local market data via tender returns received during the period.

A set of financial risks is associated with the scheme's ambition to construct a low carbon building. To reduce the embedded carbon emissions, reused or alternative materials have been proposed for the building construction such as reused steel and timber / CLT. The concerns over their availability, performance and compliance with relevant standards/accreditations will be reviewed by the design team. Mitigation measures will include early engagement with specialist contractors and potentially a different procurement process to secure stock. Failure to reduce carbon embedded in construction materials would increase pressure to offset the emissions, at further cost.

Cost overruns will be dealt with by the UoB and LUF capital funding contingency funds. An open book accounting approach would be operated, with the contractor providing a monthly breakdown of costs with a set of Key Performance Indicators (KPIs) used to assess service delivery and the allocation of any fee entitlements. Payment would be made on the basis of actual outturn costs as set out in the contract documents, with an incentive mechanism for the contractor to minimise costs. Savings and overruns will be shared between the parties. An advantage of this approach relates to the sharing of risk which reduces the occurrence of disputes. All work will be undertaken using a proven JCT contract suite which provides significant flexibility to control the costs as the project develops. This will enable the University to align risks and rewards for delivery of each element of the project, and help to foster meaningful early contractor involvement.

6.1.9 If you are intending to award a share of your LUF grant to a partner via a contract or sub-grant, please advise below.

NB: You must ensure any further disbursement of the grant is done so in accordance with subsidy controls and public procurement rules.

(750 words)

Approximately 97% of the award would be utilised by UoB directly via the procurement described in section 6.2.1, with BCC serving as Accountable Body for the scheme delivery.

The remaining 3% of the award will be disbursed from UoB-- via a funding agreement to create the refurbished and equipped teaching space to **sup CDH** activities.

This teaching facility is to be located at

[REDACTED]

UoB's legal team will draft a funding agreement that specifies- responsibilities and indemnities.

6.1.10 What legal / governance structure do you intend to put in place with any bid partners who have a financial interest in the project?

(750 words)

As described in section 6.3.5, the scheme will be delivered in line with BCC's Corporate Assurance Framework included in Appendix 19 which provides a full outline and process description of the way in which the council gains assurance over its operations.

On UoB's side, project delivery will be embedded in the Estates governance structure. University's Council has overall sign off for major capital programmes; the Strategy, Planning and Resources Committee (SPRC) makes recommendations to Council as proposed and developed through the University Executive Board (UEB). All large-scale capital programmes are managed through Capital Programme Management Group (CPMG). The overall financial management the University operates under is set out in the UoB Manual of Financial Rules.

The Project Capital Delivery board will be responsible for the delivery of the tangible outputs of the project and will discuss and agree major relevant actions required to ensure that NCDH is delivered to budget, timescale, and quality standard. Its specific responsibilities will include:

- Delivery of the capital build and the equipment installations within the NCDH building itself and [REDACTED]
- Review project developments on a quarterly basis, taking decisions on actions as required, and agreeing any risks that should be escalated.
- Deliver timely communications internally and externally, taking responsibility for engaging stakeholders with key decisions taken.

The chair is usually a member of University Executive Board outside the College leading the build (for example, Head of another College or another Pro-Vice Chancellor). Key roles and responsibilities of NCDH Capital Delivery Board are set out below:

[REDACTED]



Beyond the completion of capital works, the delivery of scaled-up retrofits will require close coordination among key partners including local and devolved authorities, industry partners, training providers, housing associations and community representatives themselves. A multi-stakeholder governance structure will be put in place while the construction and fit-out on two sites are being completed and the Consortium Agreement will be put together to guide the realisation of project benefits. This will be supplemented by a working group chaired by a Community Engagement lead which would draw together community groups from across East Birmingham and communities involved in low-carbon heating and energy efficiency projects. This group will influence the operation and priorities of the NCDH.

6.2 Commercial

Within this section, applicants should set out their commercial and procurement strategy for effectively awarding and managing any contracts for goods, works or services to be funded by the grant. The strategy should include all key procurement lifecycle activities, timescales and who will lead on procurement / contractor management.

6.2.1 Please summarise your commercial structure, risk allocation and procurement strategy which sets out the rationale for the strategy selected and other options considered and discounted.

(1500 words)

Procurement principles

All procurement undertaken by the University of Birmingham will be run in accordance with its Procurement and Purchasing Procedures (May 2018). Where possible goods and services will be procured from approved suppliers with Framework Agreements, having been competitively tendered either by the University or by one of the University Purchasing Consortia. Where required a mini-competition process will be undertaken with Approved Suppliers to ensure best value is achieved. If there is no Approved Supplier available for the products or services the University's Procurement and Purchasing Procedures sets out the extent of competition required in order to provide evidence that best value is being secured and that compliance is being achieved with both the Public Contracts Regulations 2015, and the University's Financial Rules.

The University's guiding procurement principles are that:

- In procuring products and services we apply a formal process to select against a set of criteria that include product quality, price, delivery, quality of relationship, and financial stability;
- We use appropriate methods to tender for work depending on the nature of the work required (e.g. single-tender action, competitive tender) and in accordance with European Union guidelines;
- Where appropriate, we will use an objective method for supplier selection, and effort is expended on ensuring a good relationship with excellent communication between supplier and procurer;
- All suppliers are treated fairly and our dealings with suppliers are built on mutual trust and respect;
- Where possible we select suppliers from a supplier database that we have developed and maintain because of the cost savings this approach introduces to the procurement process;
- We will put in place Framework Agreements with preferred suppliers where appropriate to make the procurement process as efficient as possible;
- We ensure that service levels are clearly specified and appropriate when commissioning work with a view to ensuring that we deliver on our promises to our clients;
- Once contracts are placed, our approach to supplier management includes the application of appropriate monitoring, measurement and analysis methods to assure delivery, and we take the necessary steps to improve performance where necessary;
- We review the performance of suppliers against contract requirements (during the course of a project and on completion) and use the results of this analysis to drive continuous improvement and innovation;
- All work we undertake is subject to risk assessments at the bid and inception stages and risk management, including re-assessment, is performed during the lifetime of the contract. In managing contracts, we adopt a risk management approach which is constantly re-evaluating risk and attempting to minimise its impact by mitigation steps or at looking for a different approach with less risk. This helps us to ensure delivery is made to time, quality, and cost.

These policies comply with current management best practice and where appropriate, with the prevailing UK legislation. In addition, where the contractors involved are responsible for delivering services which need to comply with nationally prescribed service standards, we will enshrine these in our supplier agreements and establish additional controls to ensure the services provided adhere to these standards.

UoB's current Build Higher Framework is subdivided into 4 categories:

- Construction, consisting of 3 levels of project cost: £0-£2.5m; £2.5-£10m; and Major Construction Framework (construction value £10m+) which would be approached for NCDH.
- Architectural / Multi-Disciplinary - this framework is already engaged on NCDH via the appointment of [redacted]. Typically, the appointed architects would lead the design team as well as working with them structural / civil engineers, landscape architects and any other relevant disciplines (in NCDH case this includes an accessibility consultant).
- Engineering - [redacted] consultants are on this framework.
- Surveying, including both quantity and building surveyors. [redacted] are providing the role of quantity surveyor on NCDH.

Key appointments required

For NCDH, the University will require a main contractor to design, procure, construct, commission and handover to the University a new building located within Tyseley Energy Park, Birmingham. The scope of works will include:

- Enabling works including site clearance, statutory services diversions etc;
- Design and construction;
- Procurement and installation of equipment;
- External works and landscaping; and
- Other activities which may remain outside the scope of the Main contractor.

Specialist installations are to be undertaken in two stages:

1. Procurement and installation of equipment at the [redacted]

2. Procurement and installation of equipment at NCDH upon completion of the construction works.

[redacted]

Procurement strategy

[redacted]

[redacted]

[REDACTED]

Sustainability strategy

The UoB set out its aspiration to reach Net Carbon Zero in the NCDH construction and operations. When procuring the design team for NCDH, [REDACTED] were appointed as sustainable design consultants. Two sustainability workshops took place at RIBA 1/2 and their outcomes are summarised in the RIBA Stage 2 Design Report in Appendix 7. [REDACTED] are tasked with ongoing review of the design, including energy modelling and operational carbon calculations carried out by the MEP consultant, and embodied carbon calculations from the structural engineer, as well as track embodied and operational carbon emissions of design against project targets. They will also assess impact upon offsetting requirements.

Additionally, [REDACTED] will input into tender documentation at procurement stage. [REDACTED]

[REDACTED] The current preference is to use Air Source Heat Pumps to heat and cool the main building whilst also leaving available space for integration of alternative decarbonised heat solutions such as hydrogen boiler and ground source heat pumps.

Throughout the tender process, value management workshops will be conducted with the tendering contractors to ensure that Net Carbon Zero and sustainability requirements are highlighted. Any value management options which compromise the delivery of project sustainability targets will be weighed against impact on cost and programme. [REDACTED]

[REDACTED]

6.2.2 Who will lead on the procurement and contractor management on this bid and explain what expertise and skills do they have in managing procurements and contracts of this nature? If the procurement is being led by a third party and not the lead applicant, please provide details below.

(500 words)

The Procurement on this scheme will be led by a combination of UoB Estates and Procurement staff with support from the appointed Quantity Surveyor [REDACTED]

Procurement Staff:

[REDACTED]

[REDACTED]

Estates Staff:

[Redacted]

[Redacted]

6.2.3 Are you intending to outsource or sub-contract any other work on this bid to third parties? For example, where you have identified a capability or capacity gaps.

(750 words)

The scope of works related to NCDH will be delivered by the University of Birmingham as a lead party in the present scheme. The University has appointed [Redacted] to lead the design team which includes [Redacted] to develop the RIBA 2 design and cost plan; and will subsequently tender out [Redacted] the construction and equipment procurement contracts as described in section 6.2.1.

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Similar principles will be adhered to in appointing its refurbishment and equipment installation contractors.

Both sets of contractors will be managed through monthly design team meetings and will report to monthly capital project board meetings.

6.2.4 How will you engage with key suppliers to effectively manage their contracts so that they deliver your desired outcomes. What measures will you put in place to mitigate supplier/contractor risks and what controls will you implement to ensure they deliver on quality. (1000 words)

The UoB operates a ten-year Build Higher Framework that will be used to tender the construction works package at RIBA 3 stage. The use of procurement frameworks allows the University to build longer term relationships with key contractors and consultants who provide construction, design and surveying services. Contractors and Consultants on the Build Higher Framework have already agreed to adhere to University's policies on risk and supply chain management, ensuring less risk to the University during project activity.

At the tender stage, the contractors on the appropriate value framework are presented with the working drawings from all design team disciplines, which form the basis of the works specification: architectural, structural & civil, mechanical & electrical, and landscaping. At stage 3, the design process begins to specify materials and processes to be used in construction.

The University has authored several specific design guidance documents that set out preferred methods of construction, materials to be used and processes to be adhered to by our chosen suppliers. These include:

- The Inclusive Design Guide
- UoB Mechanical, Electrical and Public Health Design and Installation Standards
- Soft Landing Specification

The proposed method of tendering to the framework on the NCDH Scheme

his will be of particular importance on this scheme due to the net carbon zero aspiration and requirement to carefully consider materials and suppliers used to mitigate unnecessary embodied carbon.

Throughout the construction period, the University will use its trusted team of Clerks of Works to monitor the quality of the build/install and keep a record of design verification.- software is commonly utilised for this process as a formal way to track snags and to verify the installation and build against the University's design standards. The team has decades of combined experience in confirming materials and processes specified. Visits can range from weekly, to daily, depending on the stage of construction and installation.

Additionally, this rigorous method of quality control helps to minimise the risk to the main works contractor of any recall following handover. The clerk of works team works closely with all relevant teams and contractors to establish a formal record of the quality of the build or installation.

[Redacted text block]

[Redacted text block]

The Build Higher framework agreement was tendered using an OJEU compliant tender process including the use of the Cabinet Office supplier questionnaire which includes a due diligence assessment of suppliers/Contractors. Each subsequent framework-based tender requires prospective Contractors to confirm they still meet the criteria as set out in the framework agreement. Each project is competitively tendered through the framework partners, using the original framework award criteria.

6.3 Management

Prior to completing this section applicants should complete the relevant **Costings and Planning Workbook - Table D - Milestones Delivery**

6.3.1 Please set out how you plan to deliver the bid (this should be a summary of your Delivery Plan). (1000 words)

Project programme

Project programme is outlined in Appendix 7 (RISA Stage 2 Report) and the key milestones/ stage gates include:

Milestone	Completion
NCDH	
Initial consultant appointment for feasibility stage	
RIBA Stage 1 – Feasibility	
Consultant Tender and appointment Stages 2-7	
RIBA Stage 2 – Concept Design	
RIBA Stage 3 – Spatial Co- ordination	
Tender Stage 1	
Planning (end of discharge of conditions)	
RIBA Stage 4 – Technical Design alongside preferred tenderer	
Tender Stage 2 (inc contract signing)	
RIBA 5 – Manufacturing and Construction	
RIBA 6 – Handover and Practical Completion	
Equipment installation and procurement	
RIBA 7 – Building in use/operational	
Training Facility	
Refurbishment design	
Refurbishment completion	
Equipment procurement	
Equipment installation	

The present bid is submitted upon completion of NCDH RIBA Stage 2 design.

The construction period programme will then be amalgamated into the wider project programme and the responsibility for updating will be shared with the Project Manager and main works contractor.

The scope of works associated with creating the training facility will be taking place in parallel and completed in time for the start of academic year 20

Dependencies

The programme dependencies include resource availability, material availability and lead times. One of the advantages of bringing on the preferred tenderer at Stage 4 is that materials and resourcing decisions can be planned earlier in the process, leading to an agreed procurement window to be accommodated in the project programme. Programme contingencies will be utilised in the same way as financial contingencies, with an impact on either to be measured and considered through the project governance board.

A project directory is maintained throughout the live project and routinely updated by the project manager with the assistance of various disciplines. Additionally, a RASI matrix is agreed and implemented with the main works contractor and any external stakeholders at Stage 4. The University maintains a standard template for this.

The project design team is required to tender for the works following the feasibility study at Stage 0/1. As part of the tender process they are required via a method of qualitative scoring to demonstrate they have the required skills, relevant experience and resource capability to deliver the scheme. The same methodology is used during the tender for main works contractor. Scoring is completed with involvement from both the PM team and the University's internal procurement team.

Stakeholder management

NCDH has a wide range of stakeholder partners, making stakeholder engagement key to the success of the longevity of the proposal. The need to understand the future use, maintenance, and flexibility requirements, engagement with the future building occupiers is fundamental. The project stakeholder group includes UoB academics from the Birmingham Energy Institute, with input from Tyseley Energy Park, alongside the industrial energy company stakeholder partners. The project team will closely manage the stakeholder engagement process at each stage. It will review the requirements of the design after each workshop, capturing aspirations of every group and ensuring expectations are managed against design, cost, and programme as well as aspirations around carbon emissions.

Planning consents

Planning consents will be required for the NCDH building. Pre-application discussions already started:

A full planning application is programmed to be submitted based on the RIBA 3 level of design. The planning process is being led by

Land

The land on which the NCDH is to be located is leased by the University by Webster and Horsfall Ltd, the landowners of the Tyseley Energy Park. Webster and Horsfall are represented as one of the key stakeholders and supporters of the scheme.

Reporting

Progress reporting will be employed throughout the various stages of the scheme. Currently at RISA 2/beginning of RISA 3 the Design Team meets weekly to report design progress back to the university and to check progress against the programme. All meetings are minuted and actions recorded by [redacted]. At the end of each Design stage the RIBA stage report is issued for sign off by the academic project sponsor.

The University uses a Common Data Environment (COE) to track all document exchange as well as approvals for drawing iterations etc throughout the design and construction stages.

At RISA 5 the University will employ its formal progress reporting process which includes weekly progress reports from the contractor against the programme which will feed into a monthly dashboard report presented to programme board. Part of the dashboard report will be formed by cashflow reporting, spend profile reporting, spend against contingency and any relevant updates via the change **contr**ormation will be formed and presented by the Quantity Surveying Team **from** – who will also be presenting Cost Plans at each RIBA stage.

6.3.2 Please demonstrate that some bid activity can be delivered in 2022-23.
(250 words)

The NCDH scheme is submitted to the LUF at the point of completed RISA Stage 2 development of RISA 3 will continue in the period while the funding decision is made-

If successful at securing LUF funding, the University is primed to immediately move ahead with Tender stage 1 [redacted]

In parallel, [redacted] will progress with designing the refurbishment works and appointing the works contractor, as well as placing orders with the equipment suppliers.

6.3.3 Risk Management: Applicants are asked to set out a detailed risk assessment.

(500 words)

The strategy, framework and plan for dealing with the management of risk are set out in University of Birmingham's General Risk Assessment Guidance. The University also developed a Managing Risk toolkit, which has been designed to help managers identify and manage risks on a project and understand the process and reason for doing risk management.

The costed project risk register is attached at Appendix 18, setting out who is responsible for the management of risks and the required counter measures. Risks associated with the overall delivery of the scheme programme would be managed according to the overall monitoring responsibilities set out in the University's Manual of Financial Rules.

Key risks in terms of probability include:

- Managing a live site with surrounding buildings
- Lack of materials caused by post-Covid, inflation, Brexit, war in Ukraine, or any other external political / economic processes or events
- An material which needs to be off sited deemed hazardous

- Contractor bankruptcy or insolvency
- Identification of additional site works
- Change of end user or stakeholder brief
- Uncertainty over incoming services infrastructure and network capacity
- Constructor set up
- Performance of alternative materials selected for their low/zero carbon performance

As outlined in section 6.1.10, the Project Board will have overall responsibility for governance and risk associated with the delivery of the Scheme. The Project Executive is responsible for managing and overseeing the Risk Management Strategy and where appropriate agreeing and undertaking actions to mitigate key risks. The Project Manager is responsible for maintaining and updating a Quantified Risk Register and undertaking actions to mitigate the risks that do not require escalation to the Project Executive.

Future risk management activities and updates to the risk register will take place as part of ongoing scheme delivery. The Risk Register will be maintained throughout the project as a live document and reviewed on an ongoing basis. Regular review workshops would revisit the range and extent of risks that could adversely affect project delivery, including the likelihood of each risk occurring and the relative quantifiable impact in terms of cost and programme. The most significant risks will have Risk Management Plans developed. Risks can also be identified at any time outside of these formal lines of communication and would be highlighted to the Project Manager if this occurs.

6.3.4 Please provide details of your core project team and provide evidence of their track record and experience of delivering schemes of this nature. Please explain if you are intending to sub-contract any of this work or if a third party is managing the project and not the organisation applying.

(750 words)

In 2021 the UoB Estates Team completed a 5-year £1b transformational portfolio on and off its Edgbaston Campus and began the development of its 2022-2027 Capital programme.

Recently delivered schemes include the following:

- New Engineering Building
- The Exchange (3 Centenary Square)
- Teaching and Learning Building
- Central Teaching Laboratories
- The Green Heart
- Medical Physics Extension
- UK Rail Research and Innovation Network building
- National Buried Infrastructure Facility
- Birmingham Health Innovation Campus

These achievements have been recognised by a range of awards including the 2000 THE Award for Outstanding Strategy, 2022 West Midlands RICS award for best heritage project for the Exchange building, as well as the 2022 West Midlands RICS award in public sector category for the New Engineering Building.

The project delivery team leading on the building construction is comprised of UoB staff from the College of Engineering and Physical Sciences and the Estates, together with the design team members from the University's Architectural / Multi-disciplinary, Engineering and

Consulting Frameworks. This structure is considered standard for a scheme of this size and complexity.

Due to the size of the design team we do not anticipate any capacity gaps, however it is usual for projects of this size to have multiple members of each University or framework partner team to working on the project at all times in order to facilitate adherence to the programme. The proposed Core Project Team previously collaborated on the BEIC building (see case study below) as well as the Medical Physics extension.

Core Project Team

UoB Staff

[Redacted]

[Redacted]

[Redacted]

[Redacted]

[Redacted]

Design Team from the UoB Framework

[Redacted] (Architects)

[Redacted]

[Redacted]

[Redacted text]

[Redacted] (Structures and Civils)

[Redacted text]

[Redacted text]

[Redacted text]

[Redacted] (Mechanical, Electrical and Plumbing)

[Redacted text]

[Redacted text]

[Redacted] (Cost Consultants)

[Redacted text]

[Redacted text]

The Birmingham Energy Innovation Centre (BEIC) is University's clean energy R&D building adjacent to the proposed NCDH site. Its construction received £7m funding from GBSLEP that was matched by a £1.5m investment from the University, further supplemented by £9m of R&D equipment to be hosted in the first 10 years of operation. The construction took place in May 2020 – June 2021 and was completed to budget and with only 2 months' delay, which is an achievement considering that it took place during the Covid-19 lockdown.

BEIC comprises of 1800sqm of office, meetings and laboratory space, and a multi-occupancy modular hangar. The building is set over two floors and provides a flexible environment for academics and businesses to collaborate. The R&D focus in the 750sqm hangar is on phase change materials for energy storage, battery recycling, alternative fuels and hydrogen powered vehicle development. The analytical laboratory is supplied with a range of gases, power, water and ventilation suitable for a range equipment. The development of future users has also considered with the removal of finishes and the exposure of services to allow for future modification and adaption.

On the first floor, there is an open plan workspace for approximately 38 staff, a shared 8-person office, several small meeting rooms for collaborative working, as well as informal social space. In addition to its R&D function, the building is used as a meeting and engagement space for academic and public sector partners, as well as supplementary space for TEP's SME incubation services. This supplementary function will also extend to the proposed NCDH.

6.3.5 Please set out what governance procedures will be put in place to manage the grant and project.

We will require Chief Financial Officer confirmation that adequate assurance systems will be in place.

(750 words)

The scheme will be delivered in line with BCC's Corporate Assurance Framework included in Appendix 19, which provides a full outline and process description of the way in which the council gains assurance over its operations.

BCC Capital Board

Project delivery will be scrutinised by BCC Capital Board which receives all reports and dashboards for major capital projects, this includes the Levelling Up projects. The Board is led by the Leader (Chair), Portfolio Holder Finance & Resources, Director of Council Management (s151) and supported by senior finance, property and Inclusive Growth officers. Presentation of reports at this board is a pre-requisite to submission of all reports for decision making, including submission of business cases.

BCC Council Constitution

The Constitution describes the structure for Cabinet and Member reporting, Officer decisions & delegations and Overview and Scrutiny. The requirement for robust governance is driven from the BCC Senior Leadership Team (SLT) and cascaded through the council. With regard to the Levelling Up projects there are cross-directorate teams coming together with proven expertise in the delivery of major capital investment. Surrounding these operations is a framework of risk-based audit review by the Internal Audit team, reporting to project managers, directors and in summary to SLT who are held accountable for implementation of recommendations.

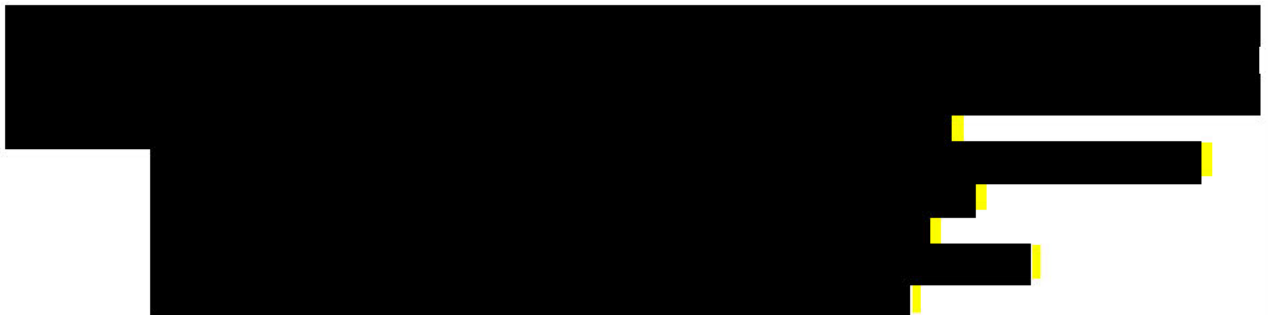
As a consequence of the above frameworks, policies and procedures BCC is able to monitor, measure and scrutinise the delivery of the Levelling Up Funds and that processes are in place to ensure an adequate response if risks or performance are perceived to be unacceptable or not in accordance with the terms of the grant or any future Memorandum of Understanding signed by the Council and the DLUHC in regard to this project.

In the event of a successful bid, delegated approval has been granted to the Strategic Director of Place, Prosperity & Sustainability, and the S151 Officer, with the relevant portfolio holder(s) to approve an Outline Business Cases (OBC's) and Full Business Cases (FBC's), including revised financial appraisals. In addition, all expenditure will comply with BCC financial regulations and standing orders in relation to public procurement regulations and obtaining value for money, recording financial transactions and grant claims which are subject to scrutiny by the Council's internal and external auditors.

All spend will be recorded within BCC's finance and accounting system which is subject to regular internal and external audit. Spend will be monitored through the Project Board and will be in line with the Grant Offer Letter and Mou. BCC also has an anti-fraud and corruption policy in place. All successful LUF projects will be part of the Internal Audit forward plan for 22/23 and for the duration of delivery.

6.3.6 If applicable, please explain how you will cover the operational costs for the day-to-day management of the new asset / facility once it is complete to ensure project benefits are realised. You should also consider any ongoing maintenance and servicing costs.

Please note that these costs are not covered by the LUF grant. (750 words)



The University will also make available space in the adjacent Birmingham Energy Innovation Centre (BEIC) including the office, meeting and industrial R&D space. Any NCDH-based activity for which external funding is sought will use UoB's cost recovery model for direct and indirect costs. Similarly, there is an expectation that there will be an element of cost recovery from the activities in the building, whereby use of space for training and meetings by partner organisations will be on at-cost basis.

A similar model would be applied at the parallel site [redacted]
- [redacted] underwrites operational and staffing costs and seeks cost recovery from its training provision.

The operational budgets and principles will be monitored by the NCDH Programme Board comprising of key stakeholders as described in section 6.3.5.

6.4 Monitoring and Evaluation

Prior to completing this section applicants should complete the relevant **Costings and Planning Workbook - Table E – Monitoring and Evaluation**

6.4.1 Monitoring and Evaluation Plan: Please set out proportionate plans for monitoring and evaluation.

(1000 words)

There are a number of elements that the project will monitor and evaluate. These will be overseen by the Project Board who have responsibility for the project delivery. The first of element is the construction of the NCDH and its fitout with facilities and the delivery of facilities. Oversight will be performed by the Project Board with an official reporting line into the University of Birmingham. This board will monitor progress against the construction milestones and project spend. This will provide part of the project reporting back to the DLUHC.

The Theory of Change identifies a series of ambitious outputs and outcomes. The redevelopment of the 1.2 acre brownfield site, the creation of 2,121 sqm of new build and the establishment of 100sqm of new training facilities will all be achieved at the end of construction and will be confirmed by the Project Board, with reporting lines back into the University Executive Board, UEB.

The delivery phase of the programme commits to

- Training/upskilling of 300 people
- 500 community engagement events involving 5000 residents of Birmingham
- 166,000 council-owned properties retrofitted
- 770 jobs created

The secondary targets are related to the carbon savings created through the retrofit activities, numbers of people lifted out of fuel poverty and GVA / inward investment attracted into the region.

The monitoring and evaluation will be performed over a period of ten years by a team from the University of Birmingham's Energy Institute, BEI. This will be aligned with the work the BEI is presently leading associated with the support of the East Birmingham Community Heat Taskforce and feeds into the East Birmingham Board and then to Birmingham City Council. The reporting will also be connected to the WMCA via Energy Capital to ensure that learning from the project is maximally disseminated across the Local Authority and the Combined Authority. BEI will disseminate learning from NCDH activity through conferences, workshops and meetings, working with other local and combined authorities to ensure that the programmes have a national reach. NCDH activity will also be used for a focus for the broader academic community providing a basis for research programmes and research publications. Close cooperation with policy teams in BEIS and DLUHC will ensure that learning from the centre informs national policy and that policy ideas have a chance to be piloted before wider deployment.

The number of people trained will be tracked by the type of training performed, the numbers on each programme and final destination of trainees in terms of jobs and duration and progression in their careers. The programmes will create an alumni scheme which will facilitate networking for those coming through the training schemes.

The number of community events will be recorded and there will be a sign in/up sheet for those attending community related activities, with a questionnaire for feedback and refinement of engagement. Those who attend events will be followed up to track the number of them that subsequently opted to engage in community retrofit programmes. Those who do will be asked

to participate in a follow-on scheme to understand their experience of the retrofit programme and to help develop case studies of best practice as part of a wider comms programme to boost the understanding and uptake of low carbon heating and thermal insulation programmes.

The NCDH is designed to coordinate the delivery of low-carbon heating solutions across East Birmingham and more widely across the West Midlands. These programmes will bid for national funding to deliver programmes and draw in private sector finance. As part of the project monitoring and evaluation the amount of public and private sector funding will be recorded, the number and type (private, rented or social) of homes retrofitted, the costs of delivery of the retrofit by housing type, EPC rating and sector and the amount of funding which has been invested in supporting infrastructure. This will provide the most detailed analysis of the costs of low carbon retrofit programmes in the UK.

[REDACTED] These will be integrated into developments of the NCDH and will be able to exploit facilities of the adjacent BEIC. The number of businesses supported, the level of investment they receive from sources such as Innovate-UK, Angel and VC investment and the number of jobs created will be tracked. The aim is to attract businesses into East Birmingham and grow those already present. The balance between these will be monitored.

In addition, BEi will record the number and value of the innovation programmes supported through the activities associated with the NCDH which are delivering new products into the low-carbon heating sector, from heat pumps, energy storage through to novel approaches to home insulation.

All of the above data will be recoded annually and published as part of an annual report of the NCDH which will form part of the project reporting and published on the NCDH website.

The secondary targets such as carbon savings, number of people lifted out of fuel poverty, etc, are harder to measure and will need a methodology, to evaluate the impacts. [REDACTED]

[REDACTED] This methodology will be shared with the local and combined authorities, DLUHC and BEIS as part of establishing the NCDH. [REDACTED] W carbon housing retrofit programmes.

Part 7 - Declarations

7.1 Senior Responsible Owner Declaration

Please complete pro forma 7 Senior Responsible Owner Declaration

7.2 Chief Finance Officer Declaration

Please complete pro forma 8 Chief Finance Officer Declaration

7.3 Data Protection

Please note that the Department for Levelling Up, Housing and Communities (DLUHC) is a data controller for all Levelling Up Fund related personal data collected with the relevant forms submitted to DLUHC.

The Department, and its contractors, where relevant, may process the Personal Data that it collects from you as part of your application to the Levelling Up Fund, in accordance with its privacy policies. The Department will use the Personal Data provided to contact you, if needed, as part of the assessment, selection and/or monitoring process.

For the same purposes, the Department may need to share your Personal Data with other government departments (OGDs), their Arm's Length Bodies and contractors, where relevant, and departments in the Devolved Administrations, and by submitting this form you are agreeing to your Personal Data being used in this way.

Any information you provide will be kept securely and destroyed within 7 years of the application process completing.

You can find more information about how the Department deals with your data [here](#).

7.4 Publishing

When authorities submit a bid for funding to the UK Government, as part of the Government's commitment to greater openness in the public sector under the Freedom of Information Act 2000 and the Environmental Information Regulations 2004, if the bid is successful they must also publish a version excluding any commercially sensitive information on their own website within five working days of the announcement of the successful bids by UK Government. UK Government reserves the right to deem the bid as non-compliant if this is not adhered to.

Please tell us the website where this bid will be published:

<https://www.birmingham.gov.uk/levelling-up-fund>

ANNEXES A - C: PROJECT SUMMARIES

These should be completed individually for each component within a **package bid**.

A1. Project Name:
A2. Please provide a short description of this project (100 words maximum)
A3. Please provide a more detailed overview of the project and how this project aligns with the other projects in the package bid, representing a coherent set of interventions. (250 words)
A4. Please provide a short description of the area where the investment will take place. If complex (i.e., containing multiple locations/references) please include a map defining the area with references to any areas where the LUF investment will take place. For transport projects include the route of the proposed scheme, the existing transport infrastructure and other points of particular interest to the bid e.g., development sites, areas of existing employment, constraints etc. (250 words)
AS. Please confirm where the investment is taking place (where the funding is being spent not the applicant location or where the project beneficiaries are located). If the project is at a single location please confirm the postcode and grid reference for the location of the investment. If the project covers multiple locations please provide a GIS file. If this is unavailable please list all the postcodes/coordinates that are relevant to the investment. For all projects please confirm in which constituencies and local authorities the project is

located. Please confirm the % investment in each location.	
AG. Please confirm the total grant requested from LUF for this individual project component (£)	£
A7. Please specify the proportion of funding requested for each of the Fund's three investment themes (%)	Transport investment: Regeneration and town centre investment: Cultural investment:
A8. Value of match funding secured for the component project (£): Where funding is still to be secured please set out details below. If there are any funding gaps please set out your plans for addressing these. (250 words)	£
A9. Value for Money	
Please set out the full range of impacts - both beneficial and adverse - of the project. Where possible, impacts should be described, quantified and also reported in monetary terms. There should be a clear and detailed explanation of how all impacts reported have been identified, considered and analysed. When deciding what are the most significant impacts to consider, applicants should consider what impacts and outcomes the project is intended to achieve, taking into account the strategic case, but should also consider if there are other possible significant positive or negative impacts, to the economy, people, or environment. (500 words)	
A10. It will be generally expected that an overall Benefit Cost Ratio and Value for Money Assessment will be provided at Question 5.5 in the main application. If it is not possible to provide an overall BCR for your package bid, please explain why. (250 words)	
A11. Where available, please provide the initial and adjusted BCR for this project. Initial BCR: Adjusted BCR:	
A12. Does your proposal deliver non-monetised benefits? Please set out what these are and a summary of how these have been assessed. (250 words)	
A13. Does this project include plans for some LUF expenditure in 2022-23?	<input checked="" type="checkbox"/> Yes

	<input type="checkbox"/> No
A14. Could this project be delivered as a standalone project or do it require to be part of the overall bid?	<input type="checkbox"/> Yes <input type="checkbox"/> No
A15. Deliverability: Please demonstrate that the project can be delivered in 2022-23?	<input type="checkbox"/> Yes <input type="checkbox"/> No
Statutory Powers and Consents	
A16. Please list separately each power/ consents etc obtained, details of date acquired, challenge period (if applicable) and date of expiry of powers and conditions attached to them. Any key dates should be referenced in your project plan.	
A17. Please list separately any <u>outstanding</u> statutory powers / consents etc, including the timetable for obtaining them.	

Attachment checklist

Where possible, please zip attachments under the headings provided to reduce the number of attachments being uploaded. Applicants will not be able to submit more than 25 annexes in total. Zipped files will however be accepted. We cannot accept embedded links or file sharing, and information submitted in this way will not be considered.

1: Workbook	
Have you completed the Costings and Planning Workbook? <i>For package projects please complete the Costings and Planning Workbook for package bids</i> <i>If N, your bid will not be assessed as LUF grant spend in 2022/23 needs to be demonstrated via the workbook.</i>	Y181 ND
2: Northern Ireland: Gateway for non-public sector applicants	
For NI non-public sector applicants: Have you attached audited financial statements covering the last three financial years (or audited annual accounts for registered charities)? For joint bids with non-public sector partners, financial statements/accounts will be required from partners and applicants (if applicable). <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For NI non-public sector applicants: Have you provided evidence of experience of delivering two capital projects of similar size and scale in the last five years? For joint bids with non-public sector partners, evidence will be required from partners and applicants (if applicable). <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
3: Evidence of Support - Transport Bids	

For applicants using their transport allowance: Have you attached pro forma 1 from the relevant authority with statutory responsibility for transport? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For large transport bids (£20M - £50M): Have you attached pro forma 1 from the relevant authority with statutory responsibility for transport? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For NI applicants submitting transport projects: Have you attached pro forma 4 from the Northern Ireland Executive and relevant local council with responsibility for transport? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
4: Evidence of Support - Joint Bids	
For Joint Bids in England, Scotland, and/or Wales: Have you attached pro forma 2 evidencing support of participating local authorities organisations? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For Joint Bids in Northern Ireland: Have you attached pro forma 3 evidencing support of participating organisations? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
5: Evidence of MP formal priority support	
For bids in England, Scotland, and/or Wales only: Have you attached pro forma 6: MP formal priority support for this bid?	Y181 ND
6: State Aid/Subsidy	
For all non-public sector applicants delivering in Northern Ireland: Have you attached independent legal advice that is aligned to your response in this section and verifies that the award of funds considered to be UK subsidy control regime compliant? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For public and private sector applicants for delivery in Northern Ireland only: if the direct award of funds from UK Government is considered to be state aid under the four EU state aid rule tests and is funded under an exemption based on the General Block Exemption Regulations (651/2014) , and does not fall within the scope of Regulation 6(5). Have you attached a document to demonstrate incentive effect in line with Regulation 6(2)? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For non-public sector applicants for delivery in Northern Ireland only: Have you attached independent legal advice that is aligned to your response in this section and verifies that the award of funds considered to be State aid compliant? <i>If N, your bid will not be assessed</i>	YD ND Not Applicable
For all public authorities in England, Scotland and Wales only, disbursing funds as a potential subsidy to third parties. Have you attached pro forma 5: statement of compliance relating to subsidy signed by your Chief Finance Officer? <i>If N, your bid will not be assessed</i>	Y ND
7: GIS Files	
Have you attached a GIS file (this is recommended for projects that cover multiple locations)?	YD ND
8: Maps and Drawings	

Have you attached a map defining the area with references to any areas where the LUF investment will take place?	Y181	ND
Have you attached any drawings/plans to support your bid?	Y181	ND
9: Strategic Fit		
Have you attached evidence of stakeholder engagement (E.g. letters of support)?	Y181	ND
Have you provided an Option Assessment Report (OAR)?	Y181	ND
Have you attached a Theory of Change?	Y181	ND
10: Economic Case for Investment		
Have you attached an explanatory note explaining how the BCR has been calculated?	Y181	ND
For transport bids: have you attached an Appraisal Summary Table?	YD	ND Not Applicable
Have you provided additional documents to support the Economic Case (section 5)? <i>For transport bids, applicants should provide specific appraisal output spreadsheets where available. Including: Active Mode Appraisal Toolkit Local Highways Maintenance Appraisal toolkit. Small Scheme Appraisal toolkit or transport user benefit appraisal (TUBA) outputs.</i>	Y181	ND
11: Deliverability		
Have you appended copies of confirmed match funding?	Y	ND
Have you attached evidence in the form of a letter from an independent valuer to verify the true market value of the land?	YD	ND Not Applicable
Have you attached a Delivery Plan?	Y181	ND As part of RIBA 2 report
Have you attached evidence relating to statutory consents / land ownership and / or acquisition?	y	ND
Have you attached an integrated Assurance and Approval Plan?	YD	ND Not applicable
Have you attached a copy of your Risk Register?	Y181	ND
For cultural bids. have you attached a document to set out how you will sustainably manage your asset/facility in the long term?	YD	ND Not Applicable
12: SRO and CFO Bid Declarations		
Have you attached proforma 7: SRO declaration? <i>If N, your bid will not be assessed</i>	y	ND
Have you attached proforma 8: CFO declaration? <i>If N, your bid will not be assessed</i>	y	ND
13: Business Case		
Have you attached an outline or full business case?	YD	N181