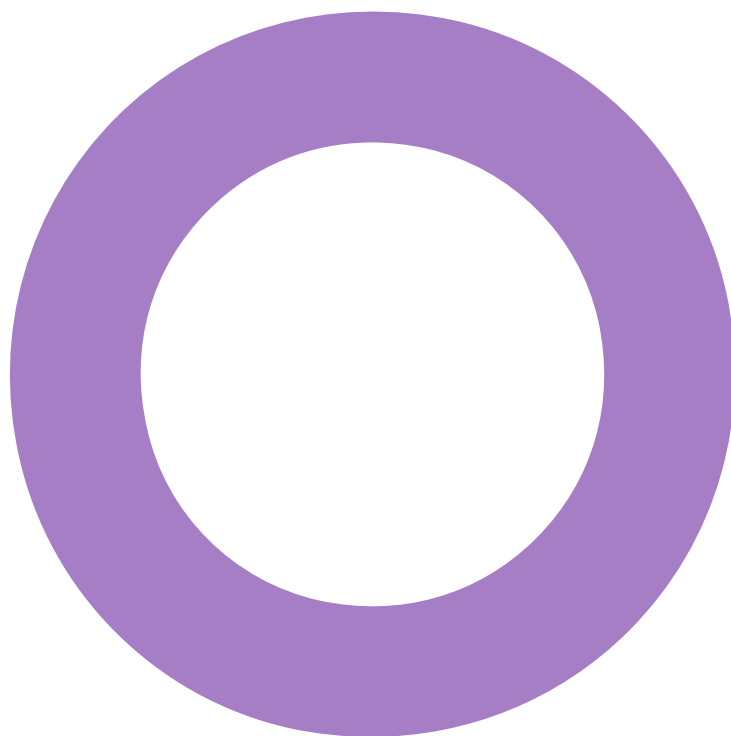


**Rhydycar West.  
Merthyr Tydfil.  
Marvel Limited.**

**SUSTAINABILITY**  
SUSTAINABILITY STRATEGY

REVISION 01 – 21 DECEMBER 2022



Audit sheet.

| Rev. | Date       | Description of change / purpose of issue | Prepared | Reviewed    | Authorised |
|------|------------|------------------------------------------|----------|-------------|------------|
| 00   | 07/12/2021 | Draft issue for comment                  | S. Kamal | A. Gallotta | T. Brown   |
| 01   | 21/12/2022 | For submission                           | G. Jones | G. Jones    |            |
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This document has been prepared for Kier only and solely for the purposes expressly defined herein. We owe no duty of care to any third parties in respect of its content. Therefore, unless expressly agreed by us in signed writing, we hereby exclude all liability to third parties, including liability for negligence, save only for liabilities that cannot be so excluded by operation of applicable law. The consequences of climate change and the effects of future changes in climatic conditions cannot be accurately predicted. This report has been based solely on the specific design assumptions and criteria stated herein.

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## Forward.

### Starting with sustainability.

No longer simply ticking boxes, today sustainability is about making real-term impacts. Increasingly, it has become the starting point – and the heart – of ambitious projects. On each and every project, we take an exciting journey together with clients and project teams to help shape a more sustainable world.

### A sustainability framework.

Within the built environment, considering five defined factors and their value is key to a connected approach: the people, the building, the social network, the natural environment, and the economic aspects. These form the basis of our sustainability framework which is tailored to the needs of each project.

### Stakeholder engagement.

Working with the project team we actively engage with the planning authorities, local community groups and the general public throughout the planning process. We collaborate with the client and project team as well as key stakeholders to create informed innovative strategies. Each strategy responds to the five elements of our framework, and we make sure we articulate it in an accessible and engaging way no matter the complexity.

### Ahead of the industry.

Our team is actively shaping the future of sustainable practices. We conduct in-depth research, author industry guidance, build close links with sector-wide organisations, and sit on influential committees. The result is an unrivalled ability to provide informed, strategic advice that stays ahead of industry changes and is pivotal to our successful input to planning.

### Purpose of this report

This Sustainability Strategy has been prepared on behalf of **Marvel Limited** (hereafter referred to as the 'Applicant') in support of the planning application for the proposed development of Rhydycar West (hereafter referred to as the 'Proposed Development').

The Applicant is preparing proposals for the development of new leisure facilities including an indoor ski facility, hotels, lodges, and an indoor bike park on a site near Merthyr Tydfil, South Wales.

## Executive Summary.

This document presents the Sustainability Strategy for the Proposed Development which has been informed by both national and local policy requirements and sustainable design and development guidance and frameworks, including, but not limited to:

- Building Regulations Part L2A
- Planning Policy Wales
- Well-being of Future Generations (Wales) Act 2015
- Merthyr Tydfil Local Development Plan 2016-2031
- Supplementary Planning Guidance Note 4 – Sustainable Design
- Supplementary Planning Guidance Note 5 – Nature and Development

The Merthyr Tydfil Local Development Plan was adopted in January 2020, superseding the previously adopted 2016 Development Plan and represents the local planning policies currently applied by the Council to inform planning applications and to enforce planning control. The Development Plan sets out the strategy to promote high quality, sustainable, and inclusive design and support measures which mitigate the predicted effects of climate change.

A number of Supplementary Planning Guidance (SPG) notes have been produced to provide further specific guidance on a number of policy and topic areas. The Sustainable Design SPG expands upon the sustainable design and development policies outlined in the Local Development Plan while the Nature and Development SPG outlines detailed guidance on ecology and biodiversity. Key themes covered in these SPGs include:

- Reducing Energy Demand
- Low and Zero Carbon Technologies
- Water Conservation and Sustainable Drainage
- Ecological Conversation

To capture the multi-faceted sustainability benefits and values that the Proposed Development can bring to the site, local community, surrounding businesses, and future building users, five defined factors – the people, the building, the social network, the natural environment, and the economic aspects – inform our proposed sustainability framework. These are summarised below:

### Physical capital – “Building the future”

The Proposed Development will offer an innovative approach to achieving energy efficiency, by kick starting innovation through a baseline that is future proofed for emerging technologies and policies. Combustion free services will be utilised to not only meet good practice standards but exceed these and deliver best practice. Furthermore, there will be a focus on designing in infrastructure to enable a sustainable and active development to be created.

### Social capital – “Creating local connections”

The Proposed Development seeks to encourage the access to outside space by providing a range of spaces for workers and visitors to interact with nature in a safe and secure manner. There will also be opportunities created for the local community to engage with the development.

### Economic capital – “Creating new opportunities”

The Proposed Development offers a significant employment opportunity for the local community both during construction and while in operation. The Proposed Development will also advocate for exemplary standards, conditions, and opportunities throughout the construction process.

### Human capital – “Healthy People”

The Proposed Development’s user mental and physical health and wellbeing are at the centre of design and specification to ensure a comfortable indoor environment is created and make the Proposed Development a place where people want to work and visit – both now and in future climates.

### Natural capital – “Positive impact”

The Proposed Development aims to mitigate negative impacts on biodiversity as much as possible and smart design and conscientious operation measures will ensure the amount of waste produced both in construction and operation is kept to a minimum. The incorporation of biophilic design elements and sustainable drainage systems will ensure the site is future-proofed against a changing climate.

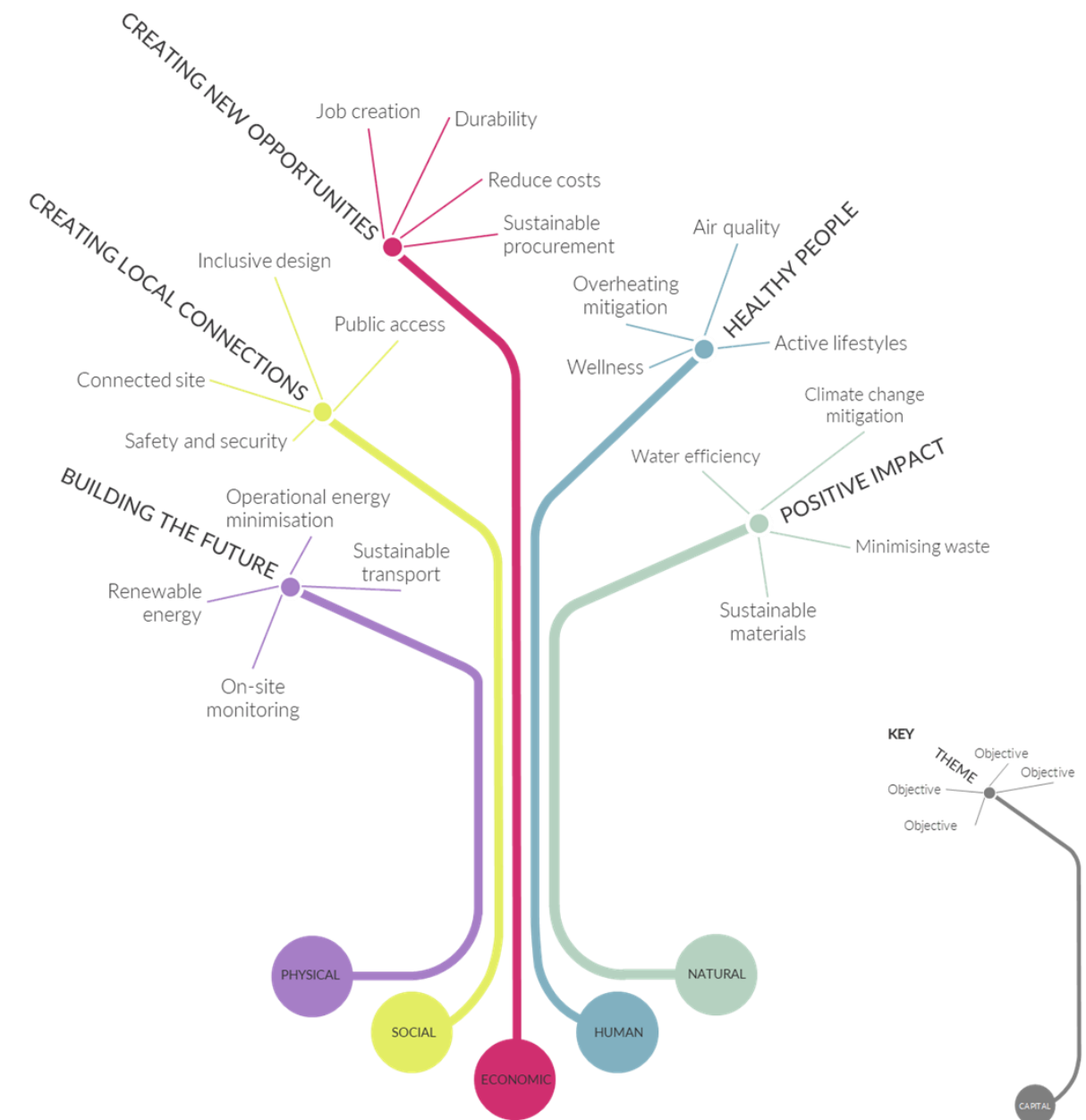


Figure 1: Approach to sustainability for Rhydyrcar West.

## 1. Introduction.

### 1.1 Purpose of this report.

This document has been prepared on behalf of **the Applicant** in support of the planning application with all matters reserved for subsequent approval, for the development of new leisure facilities, hereafter referred to as the 'Proposed Development', on a site near Merthyr Tydfil, South Wales.

The Sustainability Strategy summarises the pertinent regulatory and planning policies applicable to the Proposed Development and sets out how the Proposed Development addresses the relevant policy requirements.

This report outlines the proposed approach to sustainability. Refer to:

- Appendix A: for a detailed review of the relevant planning policy requirements.

### 1.2 Description of the development.

The Applicant is preparing proposals for the development of Rhydycar West, a new leisure facility comprising of an indoor ski facility, waterpark, two hotels, lodges, and an indoor bike park, located near Merthyr Tydfil, South Wales.

A sketch of the proposed site plan can be seen below in Figure 2.

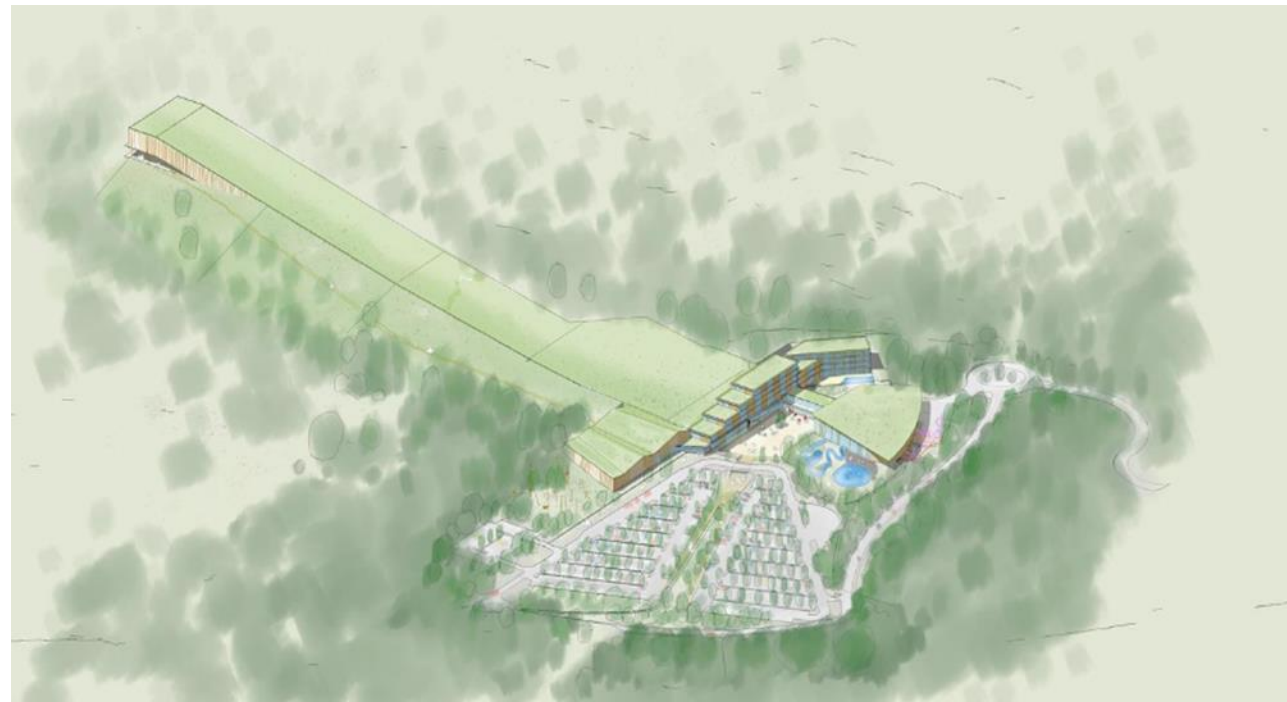


Figure 2: Rhydycar West Masterplan Site Proposed Sketch

## 2. Overview of Policies and Drivers.

A review of the pertinent policy and sustainability drivers related to the development has been undertaken and the key findings are outlined below. National and local policies have been reviewed.

### 2.1 Relevant national and local policies.

#### Merthyr Tydfil Local Development Plan 2016-2031

The Local Development Plan represents the local planning policies currently applied by the Council to inform the determination of planning applications in the borough and enforce planning control. It was adopted by the council in January 2020, superseding the previously adopted 2016 Development Plan. Amongst other things, the Local Development Plan sets out the strategy to promote high quality, sustainable and inclusive design and support measures which mitigate the predicted effects of climate change.

In addition to the Local Development Plan, there are a number of Supplementary Planning Guidance (SPG) notes that have been issued by the Council. Of particular relevance are SPGs 4 and 5, which cover Sustainable Design and Nature and Development respectively.

#### Building Regulations Part L

The Proposed Development is being assessed against the Building Regulations Part L2A 2014: for use in Wales. Part L has five key criteria which must be satisfied as follows:

- **Criterion 1** - Achieving the Target Emission Rate (TER) and Target Primary Energy Consumption (TPEC).
- **Criterion 2** - Limits on design flexibility.
- **Criterion 3** - Limiting the effects of solar gains in summer.
- **Criterion 4** - Building performance consistent with the Building Emission Rate (BER).
- **Criterion 5** - Provision for energy efficient operation of the building.

An update to Part L is due in summer 2022, with Part L2021 being adopted as an interim uplift of standards until the full adoption of the Future Homes Standard and the Future Buildings Standard in 2025.

#### Well-being of Future Generations (Wales) Act 2015

The Act, which received Royal Assent on the 29th April 2015, requires public bodies to consider the long term; to work more effectively with people, communities and each other; to look at problem prevention and to take a more joined-up approach. It gives a legally binding common purpose – seven well-being goals – for national and local government as well as local health boards and other public bodies. These seven goals are:

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A Wales of vibrant culture and thriving Welsh language
- A globally-responsible Wales.

#### Planning Policy Wales

Planning Policy Wales (PPW) sets out the planning policies for the Welsh Government. PPW together with a series of Technical Advice Notes, Welsh Government Circulars, and policy clarification letters provide the national planning policy framework for Wales.

The purpose of the PPW is to ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Socio-economic Duty.

#### Future Wales – The National Plan 2040

Future Wales – The National Plan 2040 sets the direction for development in Wales and contains a strategy for addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.

Future Wales supports:

- Places which are decarbonised and climate-resilient
- Delivering renewable and low carbon energy
- Sustainable travel
- Strengthening ecosystems and biodiversity
- Healthier places
- Vibrant rural areas
- Sustainable development choices
- Green infrastructure
- Thriving Welsh language

### 3. Approach to Sustainability.

The following strategy addresses a wide range of sustainability subject areas and covers various headline sustainability categories. The strategy confirms the applicable policies and measures of sustainability that will be implemented at the Proposed Development.

The design of the Proposed Development is based on sustainable design and construction principles as informed by planning requirements and industry best practice. It is on this basis that we are utilising a sustainability framework based on five defined factors; i.e., the people, the buildings, the social network, the natural environment, and the economic aspects as illustrated in Figure 4 to capture the multi-faceted sustainability benefits and values that the proposed development could bring to the:

- Application Site,
- Local community,
- Surrounding businesses, and
- Future building users.

The original idea for the five capitals was introduced by Forum for the Future and it was designed to assist organisations to develop a vision of what sustainability looks like for their operations, products, and services. We have embraced this approach as it promotes a holistic, interdisciplinary approach to sustainability which is aligned with our understanding of sustainable development. Our strategy is based on the concept of realising real term social, economic, and environmental benefits to all stakeholders and investors and thereby generating value and wealth in the communities we create.

#### The Delivery Framework

Working with all key stakeholders, an overall vision for the development has been defined. Workshops have been held in collaboration with the client and project team to help create a charter including innovative initiatives and key objectives to be delivered as a result of the project. As illustrated in Figure 3 and Figure 4 the strategy responds to the five elements of our defined framework; and is intended that the agreed objectives are tracked and monitored throughout project delivery and operational phases.

#### Environmental Assessment

In line with local policy drivers and the Applicant’s sustainability aspirations, a BREEAM New Construction pre-assessment has been produced, highlighting how the office spaces of the Proposed Development intend to achieve BREEAM ‘Excellent’. Please refer to Appendix B for summary pre-assessment report with a schedule of the targeted credits and anticipated performance score.

#### Health and Wellbeing Assessment

The Proposed Development seeks to deliver a healthy indoor and outdoor environment in order to promote physical and mental health.

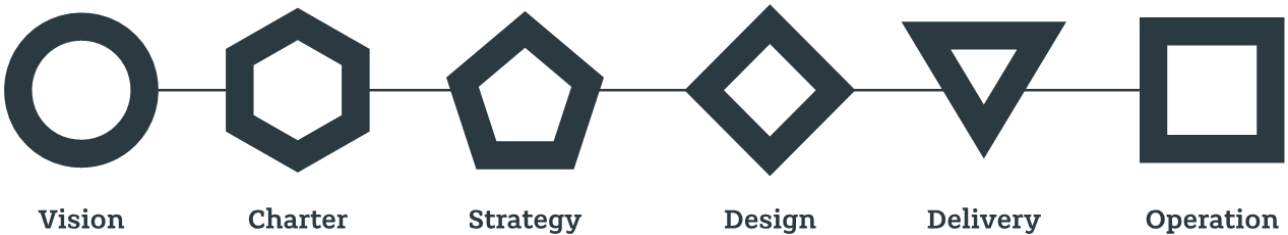


Figure 3: Sustainability strategy – Delivery phase (inception to completion).

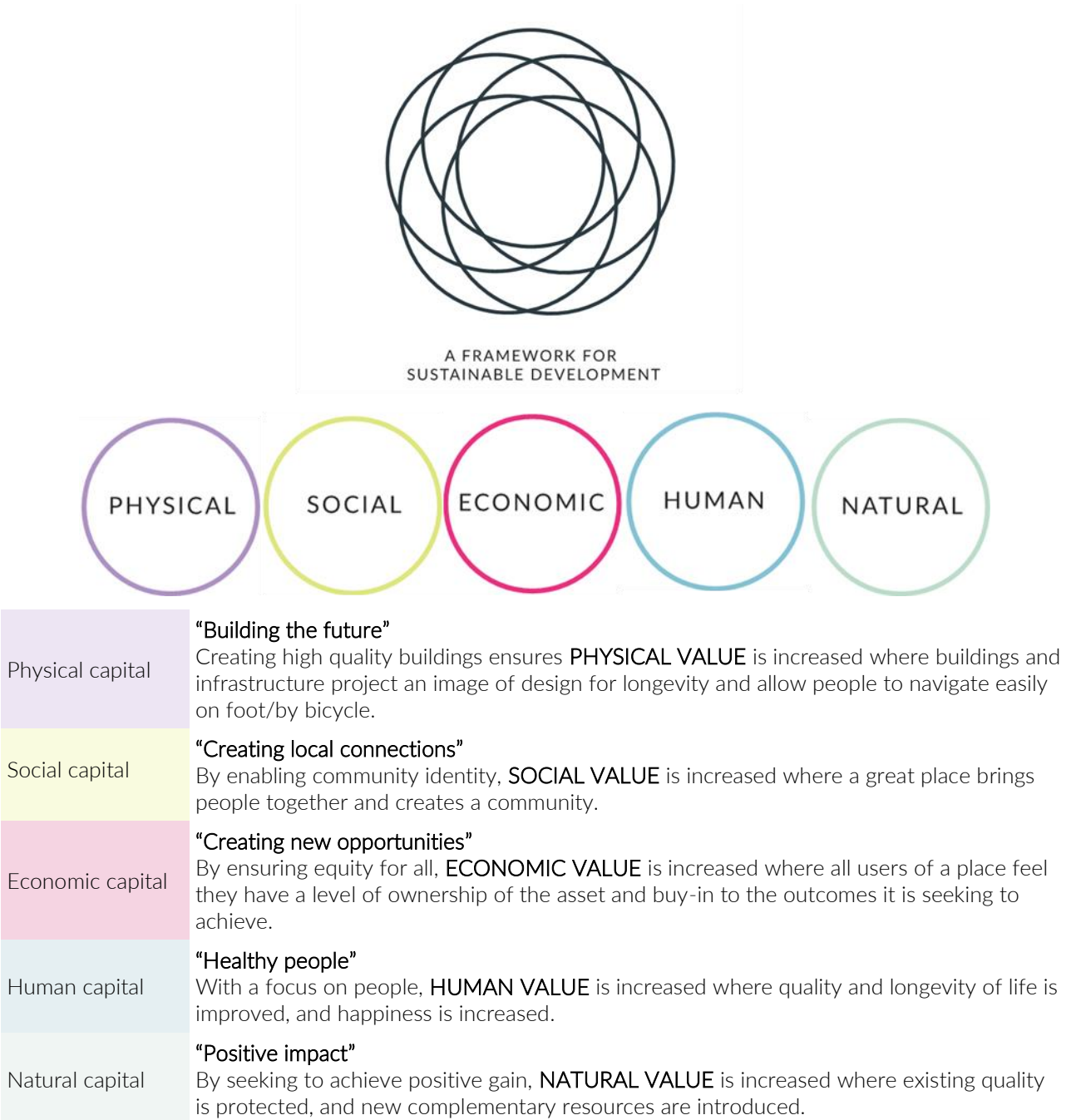


Figure 4: Proposed framework for sustainability – Creating value.

## 4. Sustainability Strategy.

The design of the Proposed Development is based on high sustainability aspirations and is compliant with industry best practice. In addition, it also attempts to push the boundaries of conventional construction by deploying innovative methods and approaches during design and construction. The strategy for the Proposed Development addresses key sustainability challenges and opportunities, responds to the requirements of the applicable policies, and implements the Applicant's aspirations.

It embraces the Five Capitals framework, responding to the challenges of climate, biodiversity and health and wellbeing, UN sustainable development goals and Applicant vision, aiming to create long term value and generate a flow of environmental, social, and economic benefits. Each Capital has been contextualised to the specific needs, challenges and opportunities arising from the Proposed Development, resulting in five themes as follows:

- Physical capital – Building the future
- Social capital – Creating local connections
- Economic capital – Creating new opportunities
- Human capital – Healthy people
- Natural capital – Having a positive impact

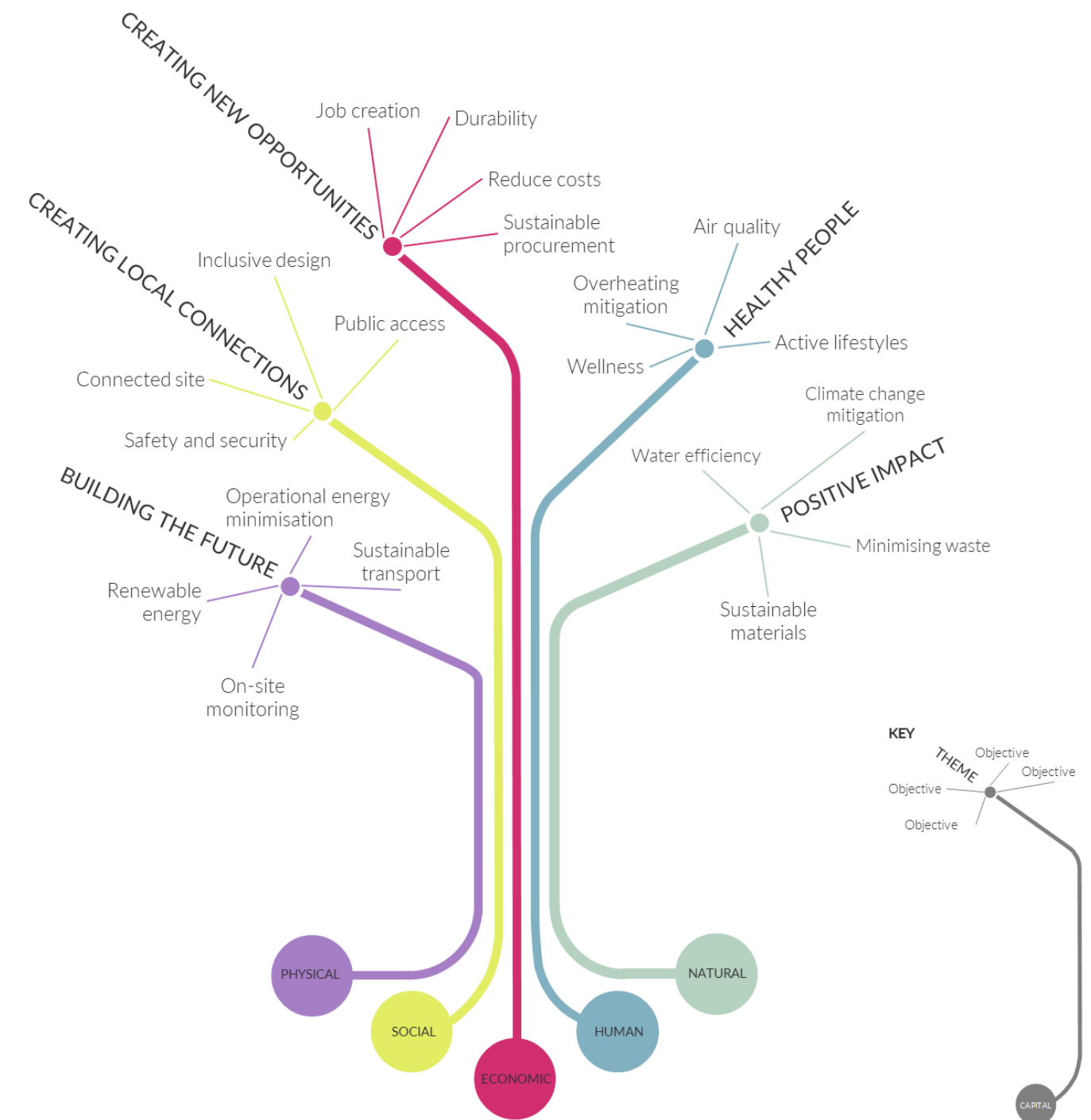
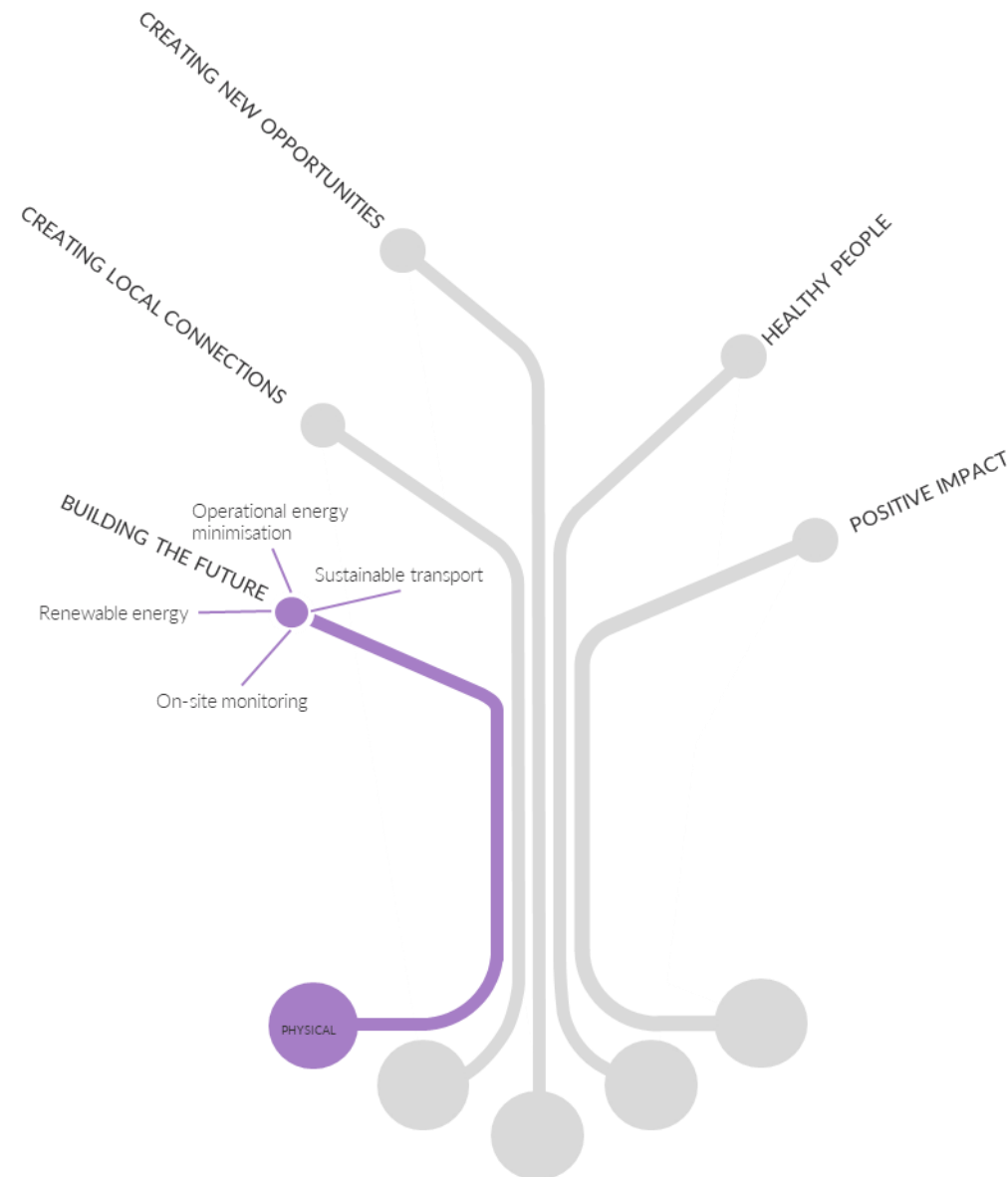


Figure 5: Illustration of the sustainability strategy highlighting key themes and areas.

#### 4.1 Physical capital – “Building the future”.



##### On-site monitoring

Effective energy metering will be enabled by the provision of suitable infrastructure within the buildings services systems. This will enable energy usage of the systems to be monitored, and the system performance optimised. Electrical and thermal meters will be provided on the main systems, providing data on plant energy consumption throughout the year.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and the Sustainable Design SPG Section 4 and 5.*

##### Renewable energy

The use of renewable energy and innovative technologies, such as the installation of PV panels will be maximised in the Proposed Development. Utilising a range of renewable energy solutions will facilitate a significant reduction in CO<sub>2</sub> emissions, which not only mitigates the impact on climate change but also feeds into the wider net carbon zero strategy. Selection of 100% zero carbon electricity tariffs will be promoted.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and EcW8 and the Sustainable Design SPG Section 5.*

##### Sustainable travel

The Proposed Development will be developed to enable and encourage sustainable modes of transport to and from the site. Infrastructure such as secure cycle storage and dedicated pedestrian footpaths will be designed in to ensure the uptake of active and healthy modes of travel.

A proportion of car parking spaces will have electric vehicle charging points in anticipation of the uptake of electric personal vehicle ownership in the future.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW12 and the Sustainable Design SPG Section 6.*

##### Considerations towards Net Zero Carbon

Considering the continued decarbonisation projected for the UK electricity grid, the discrepancy between building regulations and reality is set only to worsen. With an update planned to Part L, it is important for developers and designers to design not only for compliance, but for future decarbonisation.

This drives us towards electrical servicing strategies. With the carbon factor for electricity being significantly lower than natural gas and the gap set to widen, an electric servicing strategy offers reduced carbon emissions both now and, in the future, particularly if using an efficient heating system such as a heat pump.

Electric strategies also provide the only feasible route to net zero emissions. With the carbon factor for electricity set to reduce to below 100 gCO<sub>2</sub>/kWh by 2035, through demand reduction and renewable generation, it will be possible to completely offset the operational emissions of a future building.

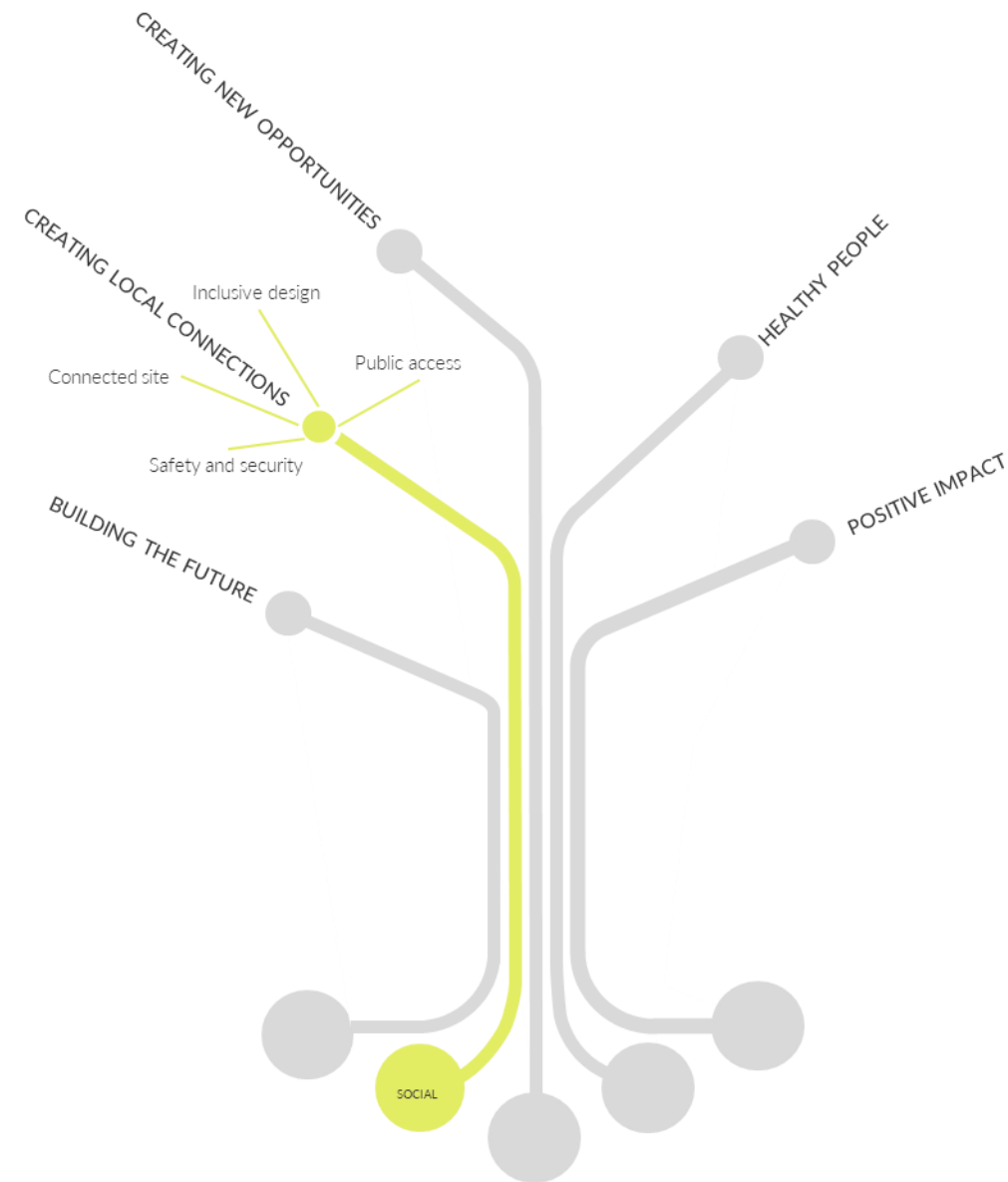
*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and EcW8 and the Sustainable Design SPG Section 5.*

##### Energy Efficiency

The Proposed Development seeks to achieve energy efficiency, through the design of a good fabric performance. To achieve this, the u-value of key fabric elements will be looked at closely and improved as far as possible. In addition, the air permeability of the building will be kept to a minimum through careful design of the different junctions. This, together with careful design and specification of systems will ensure lower energy consumption related to heating, cooling and ventilation and therefore reduce the carbon emissions of the building.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and the Sustainable Design SPG Section 4.*

## 4.2 Social capital – “Creating local connections”.



### Connected site

The Proposed Development seeks to not only enhance the connectivity to the existing site, but also to the wider community and natural area. Footpaths and bicycle paths will be incorporated to ensure access to nature and outside space.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW12 and the Sustainable Design SPG Section 6.*

### Safety and security

Safety and security will be at the heart of the design in order to create spaces that take into account security needs to ensure occupants safety and wellbeing. Safe access to the site for pedestrians and cyclists will be ensured through the provision of dedicated and safe cycle paths and footpaths on and around the site. These will provide suitable links from the site entrance or the car parks to the building entrances. Pedestrian drop off areas will be designed off, or adjoining to, the access road and will provide direct access to other footpaths. Finally, special attention will be paid to ensuring that vehicle delivery access does not cross or share pedestrian and cyclist paths or outside amenity areas accessible to building users and general public.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11.*

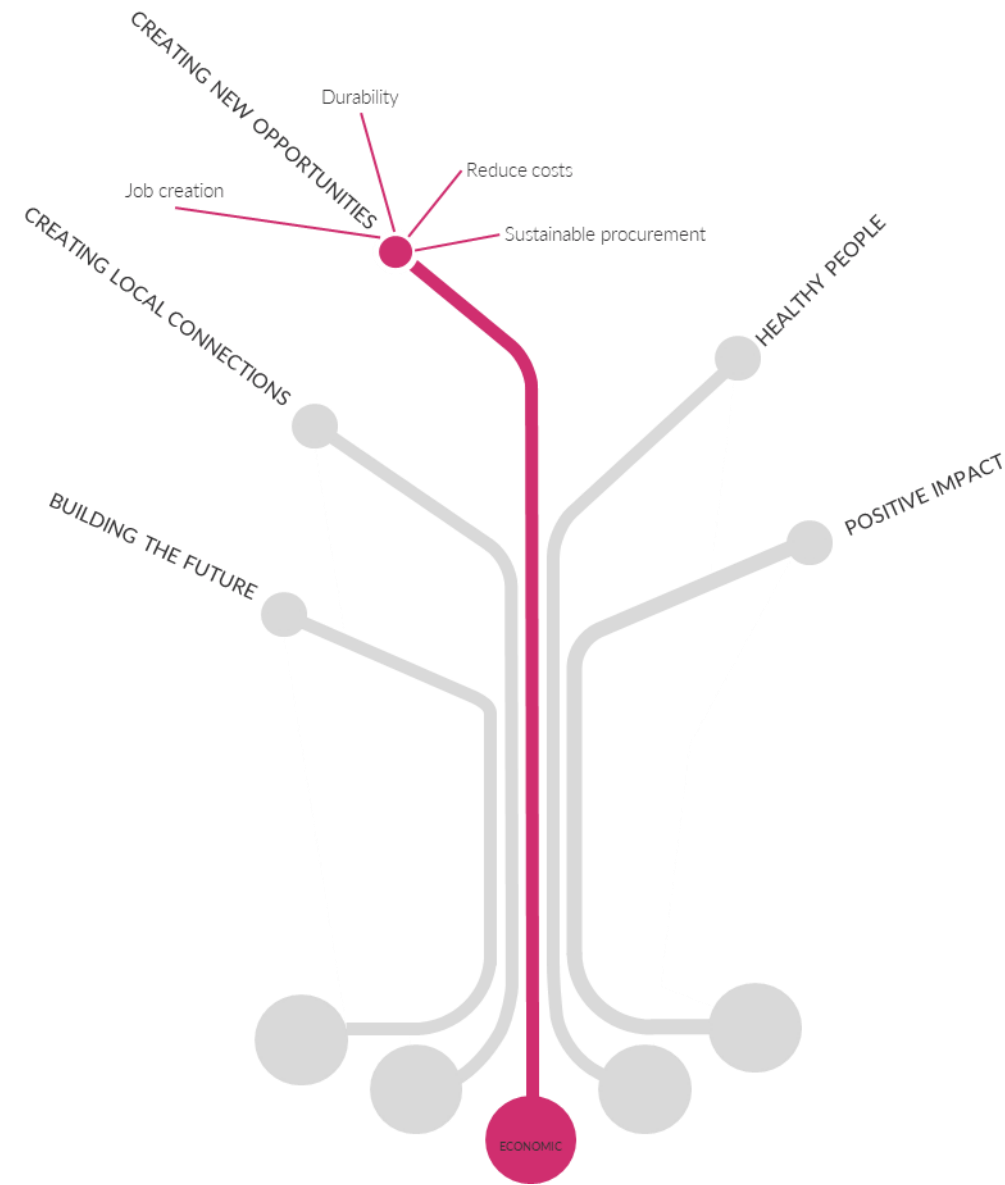
### Inclusive design

The Proposed Development seeks to enable community identity and social cohesion through placemaking. This includes design decisions enabling the integration of people with different needs and abilities such as wheelchair and pushchair access, highly visible doors, and automatic doors. Moreover, the project introduces flexible spaces that provide a human scale layout. The transformation of the existing site into a modern complex is designed to bring life into the space for the benefit of its immediate users and the surrounding area.

The scheme will add value to the local community, its activities and economic outputs by taking a holistic view on the short- and long-term needs of occupants and the wider community.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and SW12.*

### 4.3 Economic capital – “Creating new opportunities”.



#### Creation of jobs

The Proposed Development is expected to enable sustainable growth for the local area and the surrounding region, through the creation of new full-time equivalent jobs during construction and other opportunities for harnessing local talent.

Moreover, the Proposed Development is expected to act as a significant employer, with the creation of jobs when in operation, which includes opportunities at all levels including apprentices and placements.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy EcW7.*

#### Durability

The design of the Proposed Development will aim at optimising the use of materials during all stages of the project which will result in reducing environmental impacts. The Proposed Development will incorporate durable materials with suitable protections, preventing damage and limiting degradation due to environmental factors such as climate change. This in turn will mean there will be less of a need for long term maintenance and replacement, leading to lower running costs and maximised material optimisation.

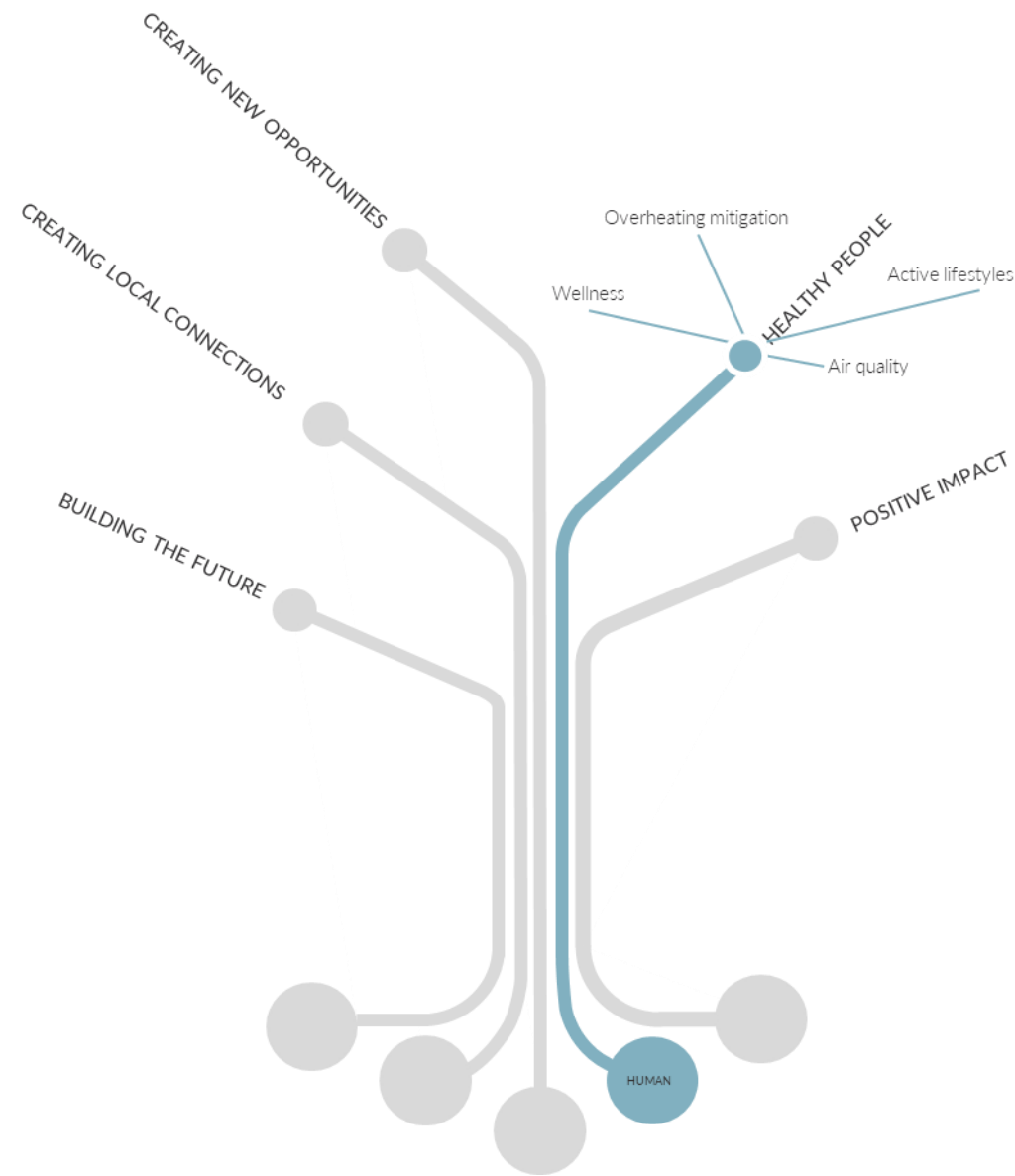
*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11.*

#### Local procurement

To deliver whole life value and promote economic sustainability, the use of local workforce and local suppliers during construction and operation will be encouraged. More specifically, the Proposed Development will prioritise local suppliers, where possible. Apart from the obvious benefit of supporting local business, local procurement offers a wide range of other potential advantages including greater control over the supply chain, higher levels of flexibility and predictability, lower environmental footprint, and reduced supply chain cost.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11.*

#### 4.4 Human capital – “Healthy people”.



##### Active design

The natural environment will be incorporated into the design of the Proposed Development, both internally and externally, and building users will have safe access to green spaces through the innovative design of paths and accessways. This will promote walking and cycling around the site while enjoying the local community and open spaces which benefits health and wellbeing. Sufficient cycle storage will be provided on site as well as cyclists facilities such as lockers, showers, changing rooms, etc, for all users in order to encourage activity, which is known to be beneficial for both physical and mental health.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW10 and SW12 and the Sustainable Design SPG Section 6.*

##### Human-Centric Design

Human capital incorporates a wide range of considerations relating to health, knowledge, skills, intellectual outputs, motivation and capacity for relationships of the individual. The Proposed Development aims to create a positive and healthy place that actively promotes the wellbeing and productivity of its building users.

Excellent levels of thermal comfort will be achieved by designing and testing key areas at risk of overheating and levels of daylight will be designed with the building’s users’ visual comfort in mind.

The Proposed Development will achieve the appropriate acoustic performance standards and testing requirements criteria for the acoustic principles of sound insulation, indoor ambient noise level and reverberation times. A noise impact assessment will be undertaken to ensure a comfortable environment for building users allowing for productivity and wellbeing.

Acceptable access to daylight will be ensured through design, and the risk of glare will be designed out through the implementation of a glare control strategy. Areas identified as presenting a risk of glare, that could be a potential burden for building users, will have mitigation steps taken where necessary and appropriate.

A healthy environment will also be provided through good indoor air quality. This will be achieved by specifying low VOC level products for interior finishes such as paints and coatings, flooring materials, ceiling, walls and acoustic and thermal insulation materials, adhesives and sealants, wood-based products, etc. The formaldehyde and VOCs concentration in indoor air will also be measured post construction in order to ensure that maximum levels specified by the World Health Organization guidelines for indoor air quality: Selected pollutants, 2010 are not exceeded.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11.*

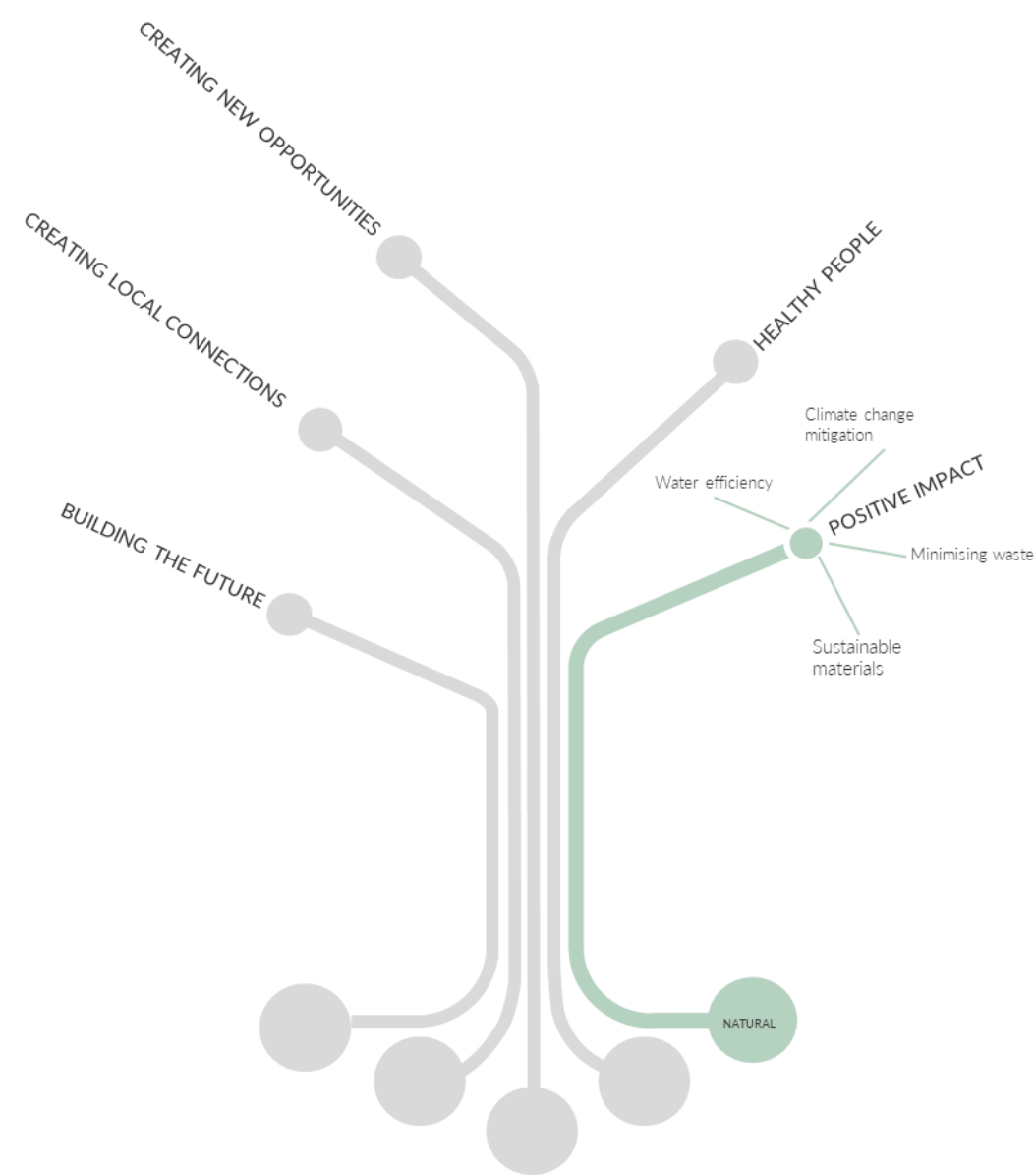
##### User wellness

The Proposed Development will seek to provide a positive user experience through continuous monitoring of the building performance and the building users experience will be enhanced through the provision of controls, allowing them to adapt their environment to their needs.

Additionally, mental health awareness, support, and access to mental health first aiders will be provided to all employees of the Proposed Development.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11.*

4.5 Natural capital – “Positive impact”.



**Waste prevention and mitigation**

Sustainable design and construction practices will be implemented to reduce the impact the construction process has on the environment, and to minimise the amount of waste produced.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and EcW10 and the Sustainable Design SPG Section 9.*

**Biodiversity**

The Proposed Development will aim to create a distinctive space which integrates the built and natural environment, seamlessly bridging the gap between people and nature. Negative impacts on biodiversity will be mitigated as much as possible during the construction process whereby a biodiversity net gain will be proposed as additional target, and aspects of nature and biophilia will be incorporated internally within the buildings.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy EnW1, EnW2, EnW3 and EnW4, the Sustainable Design SPG Section 10, and the Nature and Development SPG.*

**Sustainable materials**

The use of reused and recycled materials and sustainable procurement practices will be promoted during the construction process. This not only helps to reduce material demand but also reduces the amount of waste produced. The Circular Economy principles will be also considered during both the design and construction stages and the applicant commits to undertaking studies to determine potential benefits.

The diversion of waste from landfill will be encouraged through the construction process and the use of sustainably and responsibly sourced timber products will be encouraged.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy SW11 and EcW10 and the Sustainable Design SPG Section 8 and 9.*

**Water efficiency**

Reducing the consumption of water, both in use and during construction will be a key focus of the design. Rainwater/greywater harvesting and recycling will be implemented across the Proposed Development and the consumption of water will be reduced through the specification of sanitaryware.

A Flood Risk Assessment of the site will be carried out to better inform planning decisions. Additionally, the use of permeable paving in parking areas is being considered, to be confirmed based on the findings from the drainage report.

*This is in line with Merthyr Tydfil County Borough Council Local Development Plan Policy EnW1 and EnW4 and the Sustainable Design SPG Section 7 and 10.*

5. Conclusion.

This report presents the Sustainability Strategy for the Proposed Development which has been informed by national and local policy requirements, the Applicant’s vision and sustainable design and development guidance and frameworks including, but not limited to:

- Building Regulations Part L2A
- Planning Policy Wales
- Well-being of Future Generations (Wales) Act 2015
- Merthyr Tydfil Local Development Plan 2016-2031
- Supplementary Planning Guidance Note 4 – Sustainable Design
- Supplementary Planning Guidance Note 5 – Nature and Development

To capture the multi-faceted sustainability benefits and values that the proposed development can bring to the site, local community, surrounding businesses, and future building users, five defined factors – the people, the building, the social network, the natural environment, and the economic aspects – inform our proposed sustainability framework. These are summarised below:

|                  |                                                                                                                                                                                                                                                                                                             |
|------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Physical capital | <ul style="list-style-type: none"><li>– Implement fabric first approach and maximising the use of renewable energy.</li><li>– Enhancement of walking and cycling facilities around the site.</li></ul>                                                                                                      |
| Social capital   | <ul style="list-style-type: none"><li>– Designs which encourage access to outside space and nature.</li><li>– Create opportunities for the local community to engage with the development</li><li>– Create spaces that take into account security needs to ensure occupants safety and wellbeing.</li></ul> |
| Economic capital | <ul style="list-style-type: none"><li>– An employment opportunity providing jobs for local people and companies.</li><li>– Promote and enhance exemplary standards, conditions, and opportunities.</li><li>– Create jobs and opportunities for local people during the construction stage.</li></ul>        |
| Human capital    | <ul style="list-style-type: none"><li>– Create a healthy environment for people to visit and work.</li><li>– Design in infrastructure to enable active and healthy lifestyles.</li><li>– Support mental health and wellbeing of employees on site.</li></ul>                                                |
| Natural capital  | <ul style="list-style-type: none"><li>– Minimising waste during construction and operation.</li><li>– Mitigate negative impacts on biodiversity and the natural environment.</li><li>– Utilise design to future proof against the impacts of climate change.</li></ul>                                      |

## Appendix A – Policy Context.

### National Policy

This section covers nationwide policy for the UK and specifically Wales. Both the UK and Welsh Governments have declared a climate emergency.

### Building Regulations Part L.

The building is being assessed against the Building Regulations Part L2A 2014: for use in Wales. Part L has five key criteria which must be satisfied as follows:

- **Criterion 1** - Achieving the Target Emission Rate (TER) and Target Primary Energy Consumption (TPEC).
- **Criterion 2** - Limits on design flexibility.
- **Criterion 3** - Limiting the effects of solar gains in summer.
- **Criterion 4** - Building performance consistent with the Building Emission Rate (BER).
- **Criterion 5** - Provision for energy efficient operation of the building.

Criterion 1 of the Building Regulations Part L 2014: for use in Wales requires that the building as designed is not anticipated to generate CO<sub>2</sub> emissions in excess of that set by a Target Emission Rate (TER) calculated in accordance with the approved the National Calculation Methodology (NCM) 2013 for non-dwellings. Furthermore, the Proposed Building BPEC (Building Primary Energy Consumption) needs to be lower than the TPEC (Target Primary Energy Consumption).

Criterion 2 places upper limits on the efficiency of controlled fittings and services.

Criterion 3 requires that zones in commercial buildings are not subject to excessive solar gains. This is demonstrated using the National Calculation Methodology (NCM) 2013.

### Proposed changes to Part L.

Part L2021 is due to be adopted in June 2022 as an interim uplift of standards en route to the adoption of the Future Homes Standard and Future Buildings Standard.

A transitional period will be available for 12 months from this date that will allow continued use of Part L2013 but will require commencement works and submission of initial building notice by June 2022 for this to be enabled. For the purpose of this issue, commencement works include:

- Drainage works
- Excavation / trench foundations
- Digging out and prep for raft foundations
- Piling, boring or piles or pile driving.

Unlike previous transitional periods associated with changes to Part L, for June 2022-June 2023, this only applied on a building level rather than site level.

The Future Homes Standard and Future Building Standard will then be adopted in 2025.

### Well- Being of Future Generations (Wales) Act 2015

The Act, which received Royal Assent on the 29th April 2015, requires public bodies to consider the long term; to work more effectively with people, communities and each other; to look at problem prevention and to take a more joined-up approach. It gives a legally binding common purpose – seven well-being goals – for national and local government as well as local health boards and other public bodies. These seven goals are:

- A prosperous Wales
- A resilient Wales
- A healthier Wales
- A more equal Wales
- A Wales of cohesive communities
- A Wales of vibrant culture and thriving Welsh language

- A globally- responsible wales.

It is through this act that Wales is set to make its contribution to the achievement of the 17 United Nations Sustainable Development Goals.

### Planning Policy Wales.

Planning Policy Wales (PPW) sets out the planning policies for the Welsh Government. The PPW together with a series of Technical Advice Notes, Welsh Government Circulars, and policy clarification letters provide the national planning policy framework for Wales.

The purpose of the PPW is to “ensure that the planning system contributes towards the delivery of sustainable development and improves the social, economic, environmental and cultural well-being of Wales, as required by the Planning (Wales) Act 2015, the Well-being of Future Generations (Wales) Act 2015 and other key legislation and resultant duties such as the Socio-economic Duty.”

Relevant key information to note:

Everyone engaged with the planning system in Wales should make placemaking decisions which create sustainable places and improve wellbeing. Goals are:

- a. To create places which are “attractive, sociable, accessible, active, secure, welcoming, healthy and friendly.” With the aim to bring people together and improve well-being for all.
  - b. To choose locations which encourage sustainable and active travel
  - c. To respect the local landscape and culture
- Planned developments should factor in making a sustainable contribution to the local area and play their role in tackling the climate emergency, to achieve this, plans should:
- d. Enhance biodiversity, minimise pollution, minimise emissions and protect the local environment
  - e. Use renewable and low carbon energy sources and reduce energy demand wherever possible
  - f. Maintain and advance green infrastructure
  - g. Sustainably manage the use of local resources including water, take design decisions to reduce waste, reuse and recycle waste wherever possible

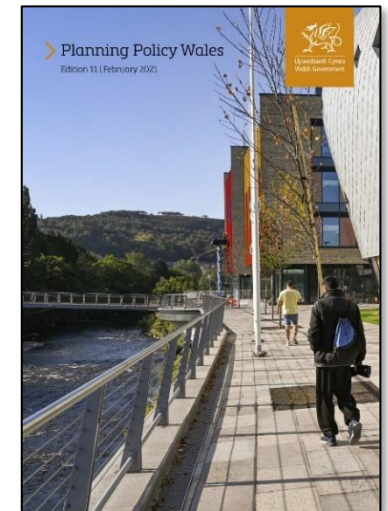


Figure 6: Planning Policy Wales

Plans should also be resilient to the effects of climate change and future challenges such as:

- h. Flooding, land contamination and instability, coastal change

### Future Wales – The National Plan 2040.

Future Wales – The National Plan 2040 sets the direction for development in Wales and contains a strategy for “addressing key national priorities through the planning system, including sustaining and developing a vibrant economy, achieving decarbonisation and climate-resilience, developing strong ecosystems and improving the health and well-being of our communities.”

Future Wales supports:

- Places which are decarbonised and climate-resilient
- Delivering renewable and low carbon energy
- Sustainable travel
- Strengthening ecosystems and biodiversity
- Healthier places
- Vibrant rural areas
- Sustainable development choices
- Green infrastructure
- Thriving Welsh language



Figure 7: Future Wales - The National Plan 2040

### Local Policy

#### Merthyr Tydfil Local Development Plan 2016 - 2031

The Local development plan represents the local planning policies currently applied by the Council to inform the determination of planning applications in the Borough and enforce planning control. It was adopted by the council in January 2020, superseding the previously adopted 2016 Development Plan.

This section summarises the local and national planning policy relating to energy and sustainability. The following documents have been reviewed:

- Merthyr Tydfil Local Development Plan 2006-2021 (adopted in 2011)
- The Environment (Wales) Act, 2016
- Planning Policy Wales (Edition 11)
- Well-being of Future Generations (Wales) Act, 2015
- Welsh Government Part L2A

Table 1: Policy Context Review

| Sustainability Theme                                                                                                         | Policy Document                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                                                                                                                                                                                 |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |
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|                                                                                                                              | Merthyr Tydfil Local Development Plan                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | The Environment (Wales) Act, 2016, Planning Policy Wales (Edition 10), Well-being of Future Generations (Wales) Act, 2015                                                                                                                                                                                                       | Welsh Government Part L2A                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |
| <div>Building Performance</div> <div></div> | <p><b>Policy BW7: Sustainable design and placemaking</b><br/>The Council requires all new development to:</p> <ul style="list-style-type: none"><li>- minimise the demand for energy and, where appropriate, utilise renewable energy resource</li><li>- adopt energy conservation/ efficiency measures</li></ul> <p><b>Policy TB7: Renewable Energy</b><br/>Development proposals that meet national and local renewable energy targets will be viewed favourably if:</p> <ul style="list-style-type: none"><li>- They do not have an acceptable impact on biodiversity and landscape including the setting of the Brecon Beacons National Park</li><li>- For wind turbines, their capacity does not exceed 25 MW on urban and industrial brownfield, and 5MW elsewhere</li><li>- They do not have an unacceptable impact on the amenity of residential areas</li></ul> | <p><b>The Environment (Wales) Act, 2016</b><br/>The Act received Royal Assent on 21st March 2016, providing new legislation to manage the natural resources of Wales proactively and sustainably. The Act also tasks Welsh Ministers with setting targets to reduce greenhouse emissions and the setting of carbon budgets.</p> | <p><b>Section 3 – Criterion 1</b></p> <p><b>Regulation 26</b><br/>CO<sub>2</sub> emissions rates (Building Primary Energy Consumption (BPEC) and Building CO<sub>2</sub> Emissions Rate (BER)) for new buildings are not to exceed targets (TBEC and TER) set out in regulation 25. These are both to be calculated and expressed in accordance to regulation 24.</p> <p><b>Regulation 25A</b><br/>Before construction, technical, environmental and economic feasibility of high-efficiency alternative systems must be considered, including:</p> <ul style="list-style-type: none"><li>- Decentralised energy supply based on renewables</li><li>- Cogeneration</li><li>- District or block heating and cooling</li><li>- Heat pumps</li></ul> <p>The person carrying out the work must submit notice to the local authority which detail and document these considerations to allow for official verification and inspection.</p> <p><b>Section 4 – Criterion 2 Limits on design flexibility</b><br/>Reasonable provisions should be made for the conservation of fuel and power in buildings by:</p> <ul style="list-style-type: none"><li>- Limiting heat gains and loses<ul style="list-style-type: none"><li>- Through thermal elements and building fabric</li><li>- From pipes, ducts and vessels used for heating, cooling and hot water services</li></ul></li><li>- Providing fixed building services which<ul style="list-style-type: none"><li>- Are energy efficient</li><li>- Have effective controls to enable achievement of reasonable standards</li><li>- energy meters should be installed so that occupier can assign at least 90% of estimated annual energy consumption to a fuel.</li><li>- Are commissioned by testing and adjusting for only necessary fuel and power consumptions</li></ul></li></ul> |

|                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
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|                                                                                                               |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           | <p>Approved software tools should be used to produce list of specifications and highlight the features of the design critical to achieving compliance, alongside BPEC/TPEC and BER/TER figures.</p> <p><b>SECTION 5 – Criterion 3</b><br/>Reasonable provisions should be made to limit overheating in new buildings from solar and other heat gains.</p> <p><b>Section 6 – Criterion 4</b><br/>In order to keep construction consistent with the BPEC and BER, it should be demonstrated with evidence that:</p> <ul style="list-style-type: none"><li>– Thermal bypasses are limited</li><li>– Insulation is reasonably continuous over the whole building</li><li>– Air permeability is within reasonable limits. To be in compliance, air permeability should be no worse than <b>10m<sup>3</sup>/(h.m<sup>2</sup>)</b> at 50 Pa.</li></ul> <p>All non-domestic building should be pressure tested unless the building is less than 500 <b>m<sup>2</sup></b> total useful floor area, a factory-made modular building, large extensions or large complex building.</p> |
| <p>Water &amp; Drainage</p>  | <p><b>Policy BW7: Sustainable design and placemaking</b><br/>The Council requires all new development to:</p> <ul style="list-style-type: none"><li>– adopt water conservation/efficiency measures</li></ul> <p><b>Policy BW8: Development and the water environment</b><br/>Proposal for development will only be permitted where:</p> <ul style="list-style-type: none"><li>– they do not have adverse effects on the quality and/or quantity of water surfaces or groundwater resources</li><li>– adequate water and sewerage systems exist or are reasonably accessible or capable of being provided prior to the development becoming operational</li><li>– Sustainable drainage systems (SuDS) are used for the disposal of surface water. Alternative methods only considered if SuDS proven inappropriate for practical or environmental reasons</li></ul> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Flood Risk</p>          | <p><b>Policy BW8: Development and the water environment</b><br/>Proposal for development will only be permitted where:</p> <ul style="list-style-type: none"><li>– identified river floodplains are avoided</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |
| <p>Waste</p>               | <p><b>Policy BW7: Sustainable design and placemaking</b><br/>The Council requires all new development to:</p> <ul style="list-style-type: none"><li>– Incorporate facilities for the segregation, recovery and recycling of waste</li></ul>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <p><b>Planning Policy Wales (Edition 11)</b><br/>There have been several updated, amended or wholly new Technical Advice Notes (TANs) affiliated with PPW, including:</p> <ul style="list-style-type: none"><li>– TAN 21: Waste (February 2017)</li></ul> <p>The new and/or updated TANs, in addition to the updated PPW, will require substantial consideration throughout the revision process, in order to ensure that any revised LDP is compliant with national planning policy.</p> |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |

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| <div>Materials</div> <div></div>                | <div><b>Policy BW7: Sustainable design and placemaking</b></div> <div>The council requires all new developments to incorporate resource efficient/ adaptable buildings and layouts using sustainable design and construction techniques</div>                                                                                                                                                                                                                                                                                                                                    | <div><b>The Environment (Wales) Act, 2016</b></div> <div>The Act received Royal Assent on 21st March 2016, providing new legislation to manage the natural resources of Wales proactively and sustainably... It further introduces new powers to increase the amount of materials for recycling, as well as improving the quality of materials to be recycled.</div>                                                                                                                                                                                                                                                                                                   |  |
| <div>Biodiversity</div> <div></div>             | <div><b>Policy BW5: Natural Heritage</b></div> <div>In order to protect and support the enhancement of the County Borough's natural heritage, development proposals will only be permitted where they maintain, enhance and do not harm:<ul style="list-style-type: none"><li>– Landscape character of the countryside</li><li>– National and local nature conservation designations</li><li>– Trees, woodlands and hedgerows that have natural heritage value</li><li>– Other biodiversity interests such protected and priority species ad ecological networks</li></ul></div> | <div><b>The Environment (Wales) Act, 2016</b></div> <div>The Act received Royal Assent on 21st March 2016, providing new legislation to manage the natural resources of Wales proactively and sustainably. The Act includes a new biodiversity duty that aims to aid the reversal of decline and secure the long-term resilience and future of biodiversity in Wales.</div> <div><b>Well-being of Future Generations (Wales) Act, 2015</b></div> <div>Under the act developments must support a resilient Wales described as a nation which maintains and enhances a biodiverse natural environment with healthy functioning eco systems.</div>                        |  |
| <div>Transport</div> <div></div>              | <div><b>Policy BW12: Development proposals and transport</b></div> <div>Where appropriate the Council will expect all development proposals to demonstrate how they will:<ul style="list-style-type: none"><li>– Help reduce the need to travel</li><li>– Encourage use of transport other than the private car</li><li>– Avoid increasing traffic to unacceptable levels</li><li>– Avoid causing or exacerbating highway safety problems</li></ul></div>                                                                                                                        | <div><b>Planning Policy Wales</b></div> <div>The sustainable transport hierarchy must be used for new developments. This prioritises walking, cycling and public transport ahead of the private car.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                             |  |
| <div>Health &amp; Wellbeing</div> <div></div> | <div><b>Policy BW7: Sustainable design and place making</b></div> <div>The council require new developments to contribute to the provision useable open and outdoor play space, ensuring its accessibility and connectivity to other green infrastructure, footpaths and cycleways</div>                                                                                                                                                                                                                                                                                         | <div><b>Well-being of Future Generations (Wales) Act, 2015</b></div> <div>Under the Act, Local Authorities are required to publish a 'Well-being Statement' when preparing their well-being objectives in order to explain how said objectives will accomplish their goals, and how the sustainable development principle has been applied. Each year, an 'Annual Report' must also be produced to highlight the progress made in achieving the stated objectives.</div> <div>It will be appropriate moving forward to consider how a revised LDP and its policies will respond to each of the 'Well-being Goals' and the Council's own 'Well-being Objectives'.</div> |  |
| <div>Pollution</div> <div></div>              |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | <div>See The Environment (Wales) Act, 2016 excerpt included in the building performance row of this column.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      |  |

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| Community<br> | <p><b>Policy BW7: Sustainable design and place making</b></p> <p>The council will require all new developments to:</p> <ul style="list-style-type: none"><li>– Foster inclusive design to ensure the development allows access to for the widest range of people possible</li><li>– Provide a safe environment by addressing issues if security and crime prevention in the design of building as well as surrounding space and routes</li><li>– Not result in unacceptable impact on local amenity in terms of visual impact, loss of light or privacy, disturbance and traffic movement.</li></ul> | <p><b>Planning Policy Wales (Edition 11)</b></p> <p>As part of cultural considerations for development, it will be considered how far the proposal supports the conditions that allow for the use of the Welsh language</p> <p>Some relevant points in Well-being of Future Generations (Wales) Act, 2015, shown in the Health &amp; Well-being row of this column.</p> |  |
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