Meridian Water

Environmental Sustainability Strategy

Appendix B
Implementation Programme

This shows the implementation programme following the Environmental Sustainability Strategy. The intention is that this programme is dynamic and is updated with each project.

Note:

Implementation – achieving the vision

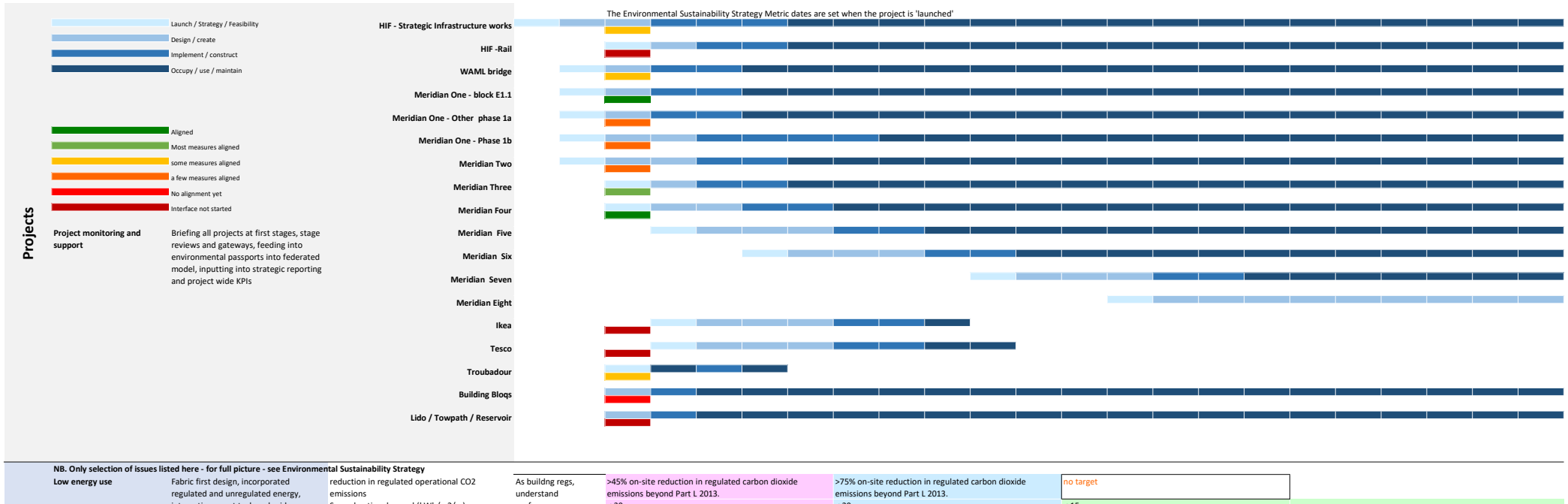
This follows on from Appendix A of the strategy that focusses on the vision, objectives and requirements.

Appendix B and C of the strategy focusses on the implementation and process to achieve Appendix A. This is in progress, but here we set out the steps needed, and the format of the implementation programme.

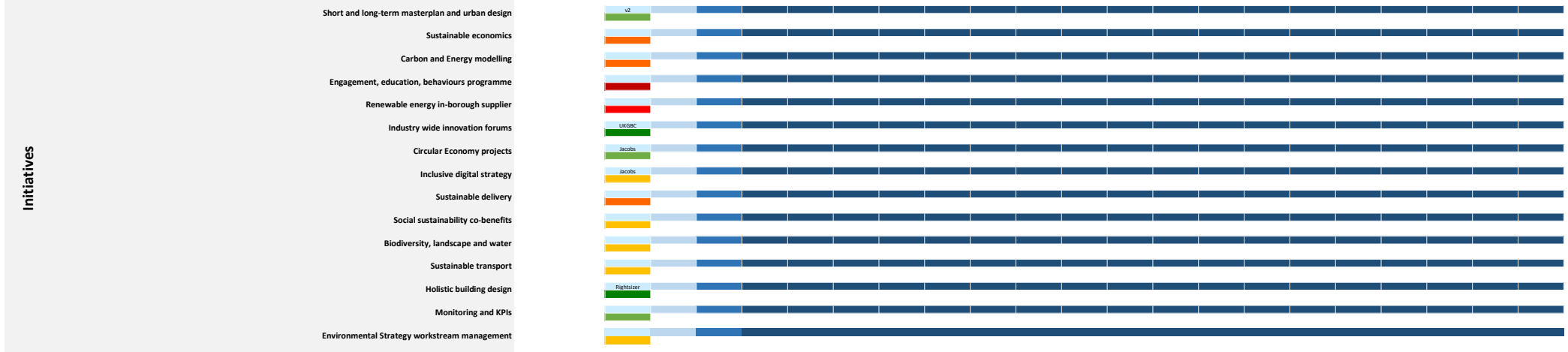
Meridian Water draft at 17th September 2020

Environmental sustainability implementation programme and summary - template only

Vision	Objective	Category	2020	2025	2030	2035	2040



	NB. Only selection of issues listed here - for full picture - see Environmental Sustainability Strategy						
	Low energy use	Fabric first design, incorporated regulated and unregulated energy, integrating smart tech and grid	reduction in regulated operational CO2 emissions	As buildng regs, understand	>45% on-site reduction in regulated carbon dioxide emissions beyond Part L 2013.	>75% on-site reduction in regulated carbon dioxide emissions beyond Part L 2013.	no target
			Space heating demand (kWh/m2/yr)	performance	< 30	< 20	< 15
			Regulated loads (non - resi)		Annual Energy Use Intensity (EUI) 55 kWh/m2/yr for schools and 72 kWh/m2/yr for office buildings		
			total operational energy (kWh/m2/yr)	Ofgem standard (get data?)	no target	no target	<70 kWh/m2/yr operational regulated and unregulated energy
Carbon positive					Integrate smart and efficient appliances, systems and services to respond to needs of the renewable grid		
	Low carbon energy supply	Flexible low carbon heat sources, onsite renewable energy, with smart	Heat network	Tie in with low carbon	55°C heating system temperatures within the buildings including radiators (<55°C) and under floor heating (35-40°C).		
			Fossil fuel connections	As planning req	Zero new connections to gas grid or use of fossil fuel boilers		
			Renewable electrical network	As planning req	30% minimum roof area for PVs to residential blocks other buildings?		
	Low embodied carbon	Reduce whole life embodied carbon by using natrual materials and adopting circular design principles	Embodied carbon of resi buildings	Understand and communicate embodied carbon of	**<600kgCO2e/m2**	**<450kgCO2e/m2**	**<300kgCO2e/m2**
			Embodied carbon of non-resi buildings		**<800kgCO2e/m2**	**<650kgCO2e/m2**	**<500kgCO2e/m2**
			Embodied carbon of concrete		**<0.05 kgCO2e/kg**	<0.02 kgCO2e/kg	Ultra low carbon concrete
			Embodied carbon of structural steel		**<0.6 kgCO2e/kg**	<0.5 kgCO2e/kg	<0.3 kgCO2e/kg
	Whole life carbon	Reducing whole life carbon	RICS whole life carbon assessment (A-C)	Tie in with low carbon	<300 kgCO2e/m2 residential buildings, <500 kgCO2e/m2 non-residential buildings		
	High impact carbon offset	Local PV energy offset scheme	Operational and embodied emissions.	OPA requirements	Offset regulated emissions (?how?) Develop offsetting approach that complies with DNLP including setting a tariff and identifying projects	Offset regulated emissions (?how?) Offset to be applied to unregulated and embodied carbon as regulated operational energy should be zero	Offset all emissions. Offsetting eliminated as the majority of carbon emissions eliminated through onsite measures
	Low carbon, shared and active transport	Minimise transport related emissions through design, logistics, public transport, sharing platforms and electric vehicles	Urban design implications		Prioritise active, shared and public transport modes and create safer, more accessible streets with dense walking and cycling network. Healthy streets score >9		
			Network provision		Develop cycle super highways and pedestrian routes beyond MW boundary		
			Logistics		Low carbon vehicles for deliveries, waste collection. Water assets used. Introduce MW ultra-low emissions zone (ULEZ)		
			Transport mode implications	As planning req.	Public transport prioritised, shared bike and EV car provision, Mobility as a Service (MaaS). All residents within 500m of a bus stop. 20mph max across site		
			Parking implications		0.25 ratio of parking spaces per home. 20% private parking spaces have charging, 100% has infrastructure for charging.		
			Architectural implications		Provision of home working, co-work and shared workshops. Whole user journey convient for active travel (cycle storage, showers, repair shops etc)		
			Transport carbon emissions		<60% CO2 emission reduction - reduction from transport and traffic volume compared to LBE baseline.		
			Transport mode shift		**Graduation of metrics needed?**	Graduation of metrics needed?	Walk & Cycle. All 1, 80% of 5+ mile journeys
	Positive carbon consumption	Enabling residents to lead low carbon lifestyles	Sustainable businesses on site		Local food production, restaurants with vegan and vegetarian options, local food production.		
	Climate resilience		Campaigns and community		Launch public engagement campagns - carbon engagement and reward schemes - encourage local consumption, production and positive behaviour change		
Environment Positive	**Resilient, high quality**	Provide a desirable internal and external environment that is resilient to climate change	High performance urban form		Microclimate and daylight / sunlight modelled to inform urban layout, street widths, heights and massing		
			Daylight and sunlight		>90% all dwellings dual aspect, no single aspect north or 3-bed dwellings		
			Natural ventilation		All buildings designed for natural ventilation and to meet overheating standards		
			Public realm comfort	As planning req.	Standards for public space access to daylight, sunlight and low wind comfort conditions		
			Open space access to daylight and sunlight		Achieve excellent daylight and sunlight levels, control windspead and mitigate urban heat island effect		
	Continuous green and blue	Create spaces for nature, play,	Open space		Minimum of **30%** open space, within **100m** of everyone's doorstep. Green flag status for all green spaces. Multi functional with improved access to Lee Valley		
			Semi-private amenity space		Roof gardens and courtyards should be well designed with adequate sunlight access		
			Play space		Provide well distributed inclusive play space within 400m of all homes with good sunlight. Schools to have outdoor classrooms, wildlife areas.		
			Food		Provide enough community growing space, allotments and micro growing sites with enough sunlight.		
			Urban greening		Maximise incorporation of elements such as landacape, green roofs/walls, rain gardens and green space and work with the community on training and upkeep		
	Radical increase in biodiversity	**Nature restoration to support a net gain in biodiversity**	Increase Biodiversity net gain (BNG)		**10%**	**20%**	**50%**
			Biodiversity management		Commission a Preliminary Ecological Appraisal to establish baseline condition. Protect and enhance areas of biodiversity and clean up water systems.		
	Water sensitive design	Demonstrate resilience to flooding and minimise water use	Flooding		100% buildings protected against 1:100+35% climate change flooding. 1:1000 year extreme event flooding to be considered for all buildings		
			SUDS		Integrate the sustainable drainage and flood control strategies with enhancement of the waterways, landscape and biodiversity		
			Portable water use	As buildng regs	<110 l/p/day resi, <16 non-resi	<95 l/p/day resi, <13 non-resi	<75 l/p/day resi, <10 non-resi
			Maximise water recycling		integrate rainwater and grey water recycling.		
	Low Pollution	Minimise air, noise, light and water pollution as part of creating a high-quality environment	Air quality		Achieve air quality positive and WHO air quality targets		
			Noise		Mitigate acoustic issues with urban form, provide tranquil quiet external areas.		
			Light pollution		Minimise glare and light pollution, identify dark sky areas for wildlife		
			Water quality		Control pollution to the water environment and improve water quality		
Zero waste and circular	**Use fewer resources**	Avoid waste, use less, use natural, secondary, ethical and sustainable	Increasing proportion of circular materials		**>20%**	**>25%**	**>30%**
			Regenerative or secondary construction		**>25%** of construction materials	**>30%** of construction materials	**>40%** of construction materials
			Regenerative or secondary construction		100% of virgin material inputs sustainably sourced - other progression		
	Use Local resources	Local manufacture and supply	Increase local materials and capabilities		**30%** of all construction materials locally made	**45%** of all construction materials locally made	**60%** of all construction materials locally made
	Designing out waste	Minimaise waste throughout construction and operation	minimise waste m2/£100k of project value		**<50 for infrastruture, <17 for resi, <8 for commerical**	**<40 for infrastruture, <13 for resi, <6 for commerical**	**<30 for infrastruture, <9 for resi, <4 for commerical**
			maximise % of non-haz material reuse		**>95%**	**>97%**	**>98%**
			Reduce household waste		**<350kg/capita** of household waste	**<265kg/capita** of household waste	**<180kg/capita** of household waste
	Value waste	Treat waste as a resource, creating new systems and business to support the circular economy	Increasing recycling collection		100% of homes connected to 3-stream in-home waste collection (organics, mixed dry recyclables, residual)		
			Increasing percentage recycled		**<350kg/capita** of household waste	**<265kg/capita** of household waste	**<180kg/capita** of household waste
			Reducing WtE and landfill		**100%** of all organic waste composted or AD	**<15%** of total waste sent to WtE, **<15%** to landfill	**<10%** of total waste sent to WtE, **<5%** to landfill
	Increase resource utilisation	Extend the life and utilisation of resources.	Materials passports for disassembly		**>80%** components have materials passports	**>90%** components have materials passports	**100%** components have materials passports
			Tools for the sharing economy		Develop 'Products as a service' (PaaS) offer - Design and promote the sharing of equipment, spaces, car ownership etc.		
	Circular economy hub	An evolving business stategy	Kickstarting a new sector - outline in dev	Skills centre	New innovation hub, repair café, library of things and local co-working spaces		



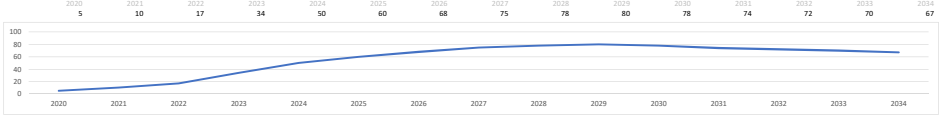
Context assumptions	**Regulation assumption**	Regulatory minimum from late 2020 as per currently proposed (i.e. published Draft New London Plan (DNLP), Building Regulation Part L/F update proposals, emerging Enfield Local Plan).	Further uplifts in 2025 and 2030 as per published proposals by regulators (e.g. Part L uplift to Future Homes Standard in 2025) e.g. line with pathway towards zero carbon in **2040.**	Complete decarbonisation of the borough by 2040
	Heat Network assumption	Energetic Heat Network to 100% of MW new homes, Gas CHP to 2025	EfW CHP from 2025.	
	Industry assumption	Industry responds to challenges resulting from regulatory evolution		
	Cost assumption	Costs normlise in line with new regulation		

Overall outcomes

High level KPIs

Total Cumulative Carbon emissions (indicative - not real data or forecast)

Graph is indicative only for this template



Additional input	**Innovation and pilot projects**	Pilot projects	Each project does a pilot project of 10% to 2025 level.	Each project does a pilot project of 10% to 2030 level.	Each project does a pilot project of 10% to 2035 level.