



Title of Report:	Net Zero Emissions for all new Council Buildings
Committee Report Submitted To:	Environmental Services Committee
Date of Meeting:	8th March 2022
For Decision or For Information	For decision

Linkage to Council Strategy (2019-23)	
Strategic Theme	Protecting and Enhancing Our Environments & Assets
Outcome	Our natural assets will be carefully managed to generate economic and social returns without compromising their sustainability for future generations.
Lead Officers	Head of Capital Works, Energy and Infrastructure

Budgetary Considerations	
Cost of Proposal	£variable
Included in Current Year Estimates	YES/NO – N/A
Capital/Revenue	To be Determined
Code	N/A
Staffing Costs	N/A

Screening Requirements	Required for new or revised Policies, Plans, Strategies or Service Delivery Proposals.		
Section 75 Screening	Screening Completed:	Yes/No	Date: N/A
	EQIA Required and Completed:	Yes/No	Date: N/A
Rural Needs Assessment (RNA)	Screening Completed	Yes/No	Date: N/A
	RNA Required and Completed:	Yes/No	Date: N/A
Data Protection Impact Assessment (DPIA)	Screening Completed:	Yes/No	Date: N/A
	DPIA Required and Completed:	Yes/No	Date: N/A

1.0 Purpose of Report

This Council report is to provide Members with information and rationale to consider and subsequently make a decision to only build “net zero standard” new buildings. This draft report was brought to and discussed at the quarterly Climate Emergency Forum meeting, 2nd December 2021 and it was agreed to bring this Report to ES Committee for decision.

2.0 Background

In alignment with the UK government’s position, Members declared a climate emergency and agreed to establish a working group to assist and signpost the decarbonisation of Causeway Coast and Glens Borough Council. Members previously agreed the terms of reference (appendix 2) to secure a net zero organisation by 2050.

A: Tuesday 3.9.19 Notice of Motion proposed by Councillor Dallat O’Driscoll, seconded Councillor Beattie - AGREED – to recommend that Council support the Notice of Motion; that Council establish a Working Group, the membership from Environmental Services Committee.”

B: Tuesday 8th June 2020 NOTICE OF MOTION PROPOSED BY COUNCILLOR PEACOCK, SECONDED BY COUNCILLOR BATESON - By declaring a climate emergency, we are telling the public and the world that we recognise the scale of policy change and cooperation needed to deliver radical and consistent climate action. The purpose of the motion is to ensure we as local government representatives are taking our responsibility to tackle climate change seriously, to ensure that we play our part. The Chair put the Notice of Motion to the Committee to vote. Committee voted unanimously in favour. The Chair declared the Notice of Motion carried.”

C: Climate Emergency Forum formed which composes a working group of 16 Members and 7 Officers.

Proposal

To demonstrate the scale and scope of Councils carbon emissions relating to the current and destination positions over time - a Carbon Trajectory Graph 1 below shows the impact on the overall CC&G Carbon Emissions against one worked “new build” example - in this case, the single introduction of a new Leisure Centre, and then the effects of carbon emission reduction trajectory over time for the organisation as a whole.

Carbon Trajectory Graph 1 Results & Conclusions

- The graph demonstrates that by deciding to even build ONE net zero “new build”, has a limited but essential effect and emphasises that many more additional steps will be required.

- The graph further demonstrates that by reducing the carbon emissions for example from three leisure centres with pools - still leaves a colossal quantum of carbon emissions to reduce the total carbon emissions from Council operational activities.
- The decision to implement to only build “net zero” is really only a small step of many that urgently needs to be made, if Council is to secure its agreed objective.

New Build - Net Zero Cost

Uplift on £CAPEX required for a new build Leisure Centre with Pool compared on a like for like basis to delivering it to a Net Zero standard is estimated to be in the order of maximum of plus 18% over one delivered to current Building Control Standards. This includes an additional margin which ensures Council is protected in terms of its decision impact.

Operational Energy Savings for a new Net Zero Standard Leisure Centre with Pool, estimated to be in the order of 50-60% annual savings. Estimated payback as follows;

Capex Cost estimated (7211m²) £25M to Normal Building Control Standards,
Net Zero Standard - additional costs (estimated at 18%) £4.5M

Total CAPEX Cost (Net Zero Standard) = £29.5M

Operational Energy Savings per year (60%) = £126K

Payback Years on Additional CAPEX for Net Zero = £4.5/£0.126M = 36 years max

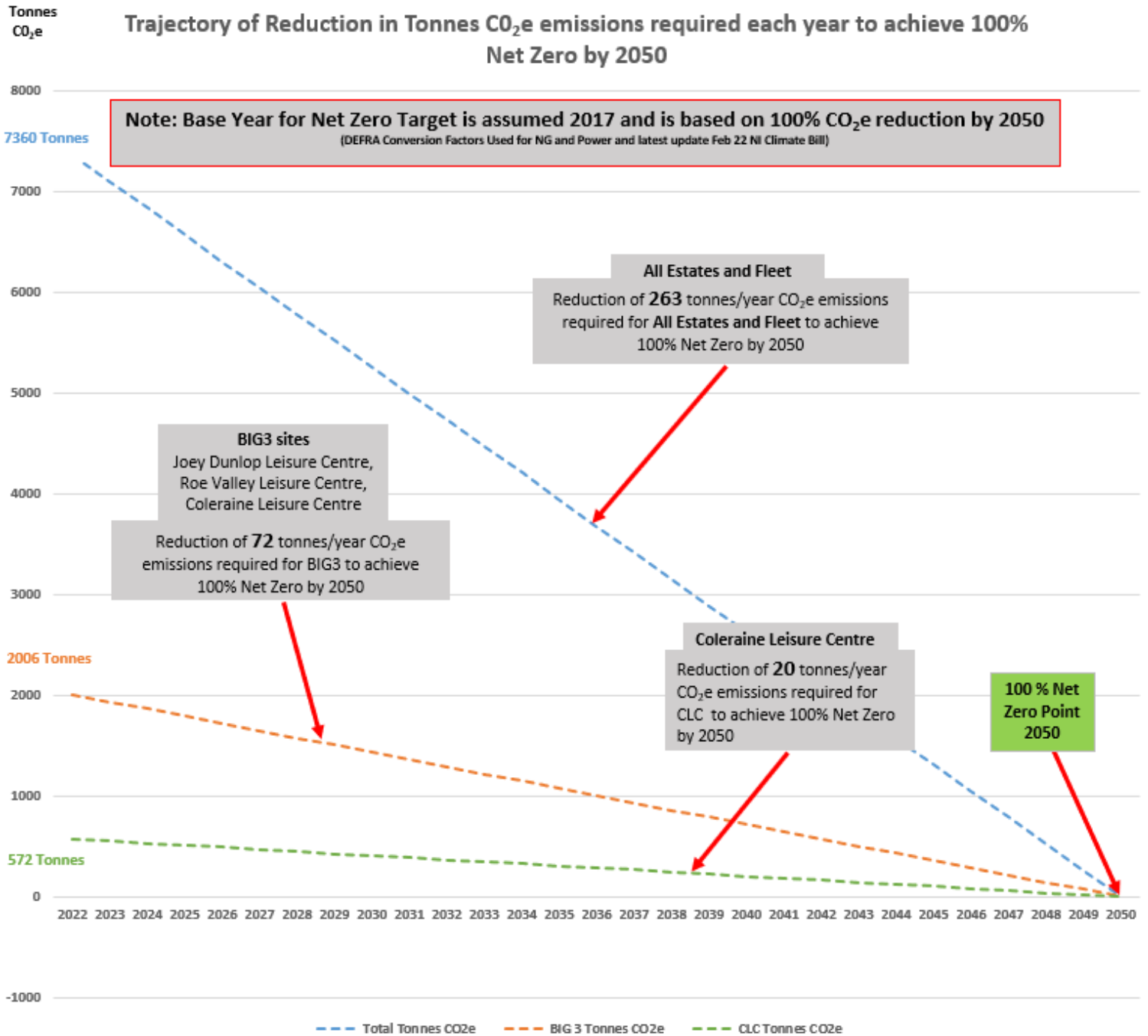
Please note:

- As energy costs increase payback period will decrease
- As Carbon Tax or other Penalty Driven Legislation Increase payback period will decrease

A very important consideration is that the number and volume of new builds that may occur before 2050 are limited and the real opportunity to meet 2050 net zero targets will have to be achieved through decarbonisation of the existing Estate. At least 90% of the current Estates will still be operational and it is within this area that opportunity exists and where the maximum effort should be focused. Thus “new builds” are an ideal, immediate starting position and present “low hanging fruit” opportunities that should not be missed as we commence on our long pathway to decarbonisation with immediate effect.

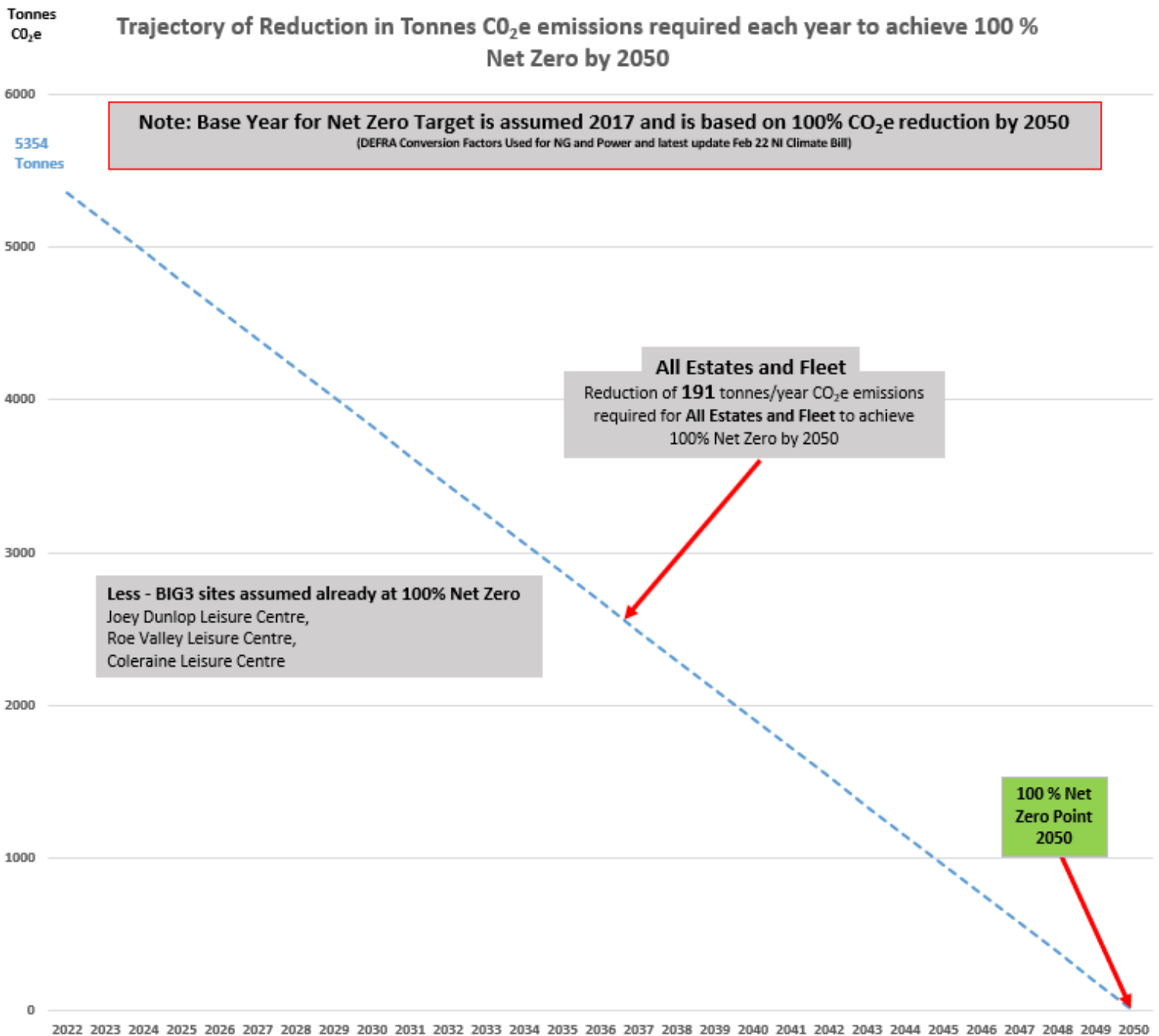
Please see Appendix 1 which quantifies current and estimated target metrics for a Net Zero Leisure centre with pool and associated costs in some more detail.

Graph 1



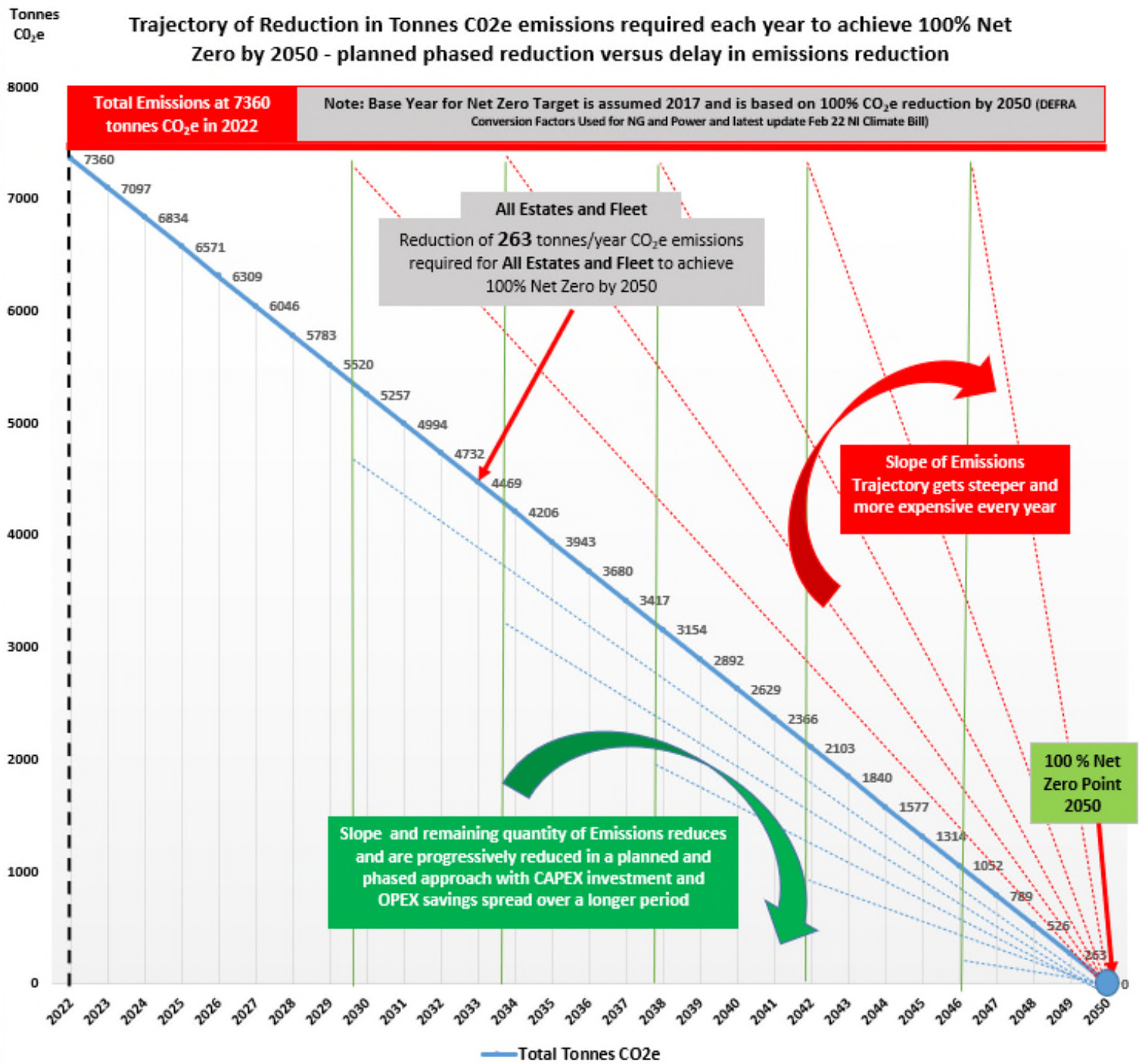
Next, by removing the BIG 3 emissions still leaves 2.6 X their emissions to remove to achieve 100% net zero standard. Please see **Graph 2**.

Graph 2



Please see Graph 3 that illustrates the impact of a phased and planned approach of reducing emissions versus delaying reduction of emissions – impact on spread of investment and reducing opportunity to enjoy operations savings – delay makes the carbon trajectory curve steeper.

Graph 3



Recommendation:

It is recommended that Members make a decision to only build “net zero standard” new buildings.

Appendix 1

Worked Example - New 7211m ² Leisure Centre with pool - Metrics Baseline 2017, Metrics for existing facility to original Building Control Standards and Metrics for a 100% Net Zero Standard			
Description of Metric for comparison 2017 base year against a 2050 net zero year	Units of Metric	Metric for current Leisure Centre (2017 base year values see note 1 based on CLC)	Net Zero 2050 Target Metric Value (see note 1)
Airtightness, xACH50	m ³ /hr/m ² @50Pa (building at negative differential pressure to outside by using a door blower)	>20	<0.2
Operational Carbon,	Tonnes CO ₂ e/Year (from Council Records)	841.52	0.00
Operational Carbon Intensity (note 2)	kgCO ₂ e/m ² /year	116.70	0.00
Thermal Energy Demand,	kWh/m ² /year	322.75	129.10
Thermal Energy Load (Note 3)	W/m ²	37.52	15.01
Primary Energy Demand (note 4)	kWh/m ² /year	109.67	43.87
Primary Energy Renewables Generation onsite,	kWh/m ² /year	7.21	172.97
Overall Annual Energy Cost (Heating, Cooling, Power)	£/kWh/m ² /year	£19.76	<£10.00
Estimated CAPEX for new build 7211m ² (18% uplift)	£/m ²	£3,466.93	£4,090.97
Note estimated values in red above - elemental design required to confirm actual values			
Note 1	Assumed UK Net Zero will be as per NI Climate Bill proposal (@ Feb 22) for a 100% CO ₂ e reduction from a 2017 base line		
Note 2	CLC has 7211 m ² of useful floor area (D.E.C. 21)		
Note 3	Monday 4th Jan 2021 kWh peak monthly gas used over 24 hrs = 6943 kWh		
Note 4	based on Electric Imported from Grid kWh		
Note 5	CLC estimated replacement cost on a like for like basis m ² estimated at £25M and CAPEX uplift for 100% Net Zero Standard + 18% = additional £4.5M		

Appendix 2

Terms of Reference February 2021

Climate Emergency Forum CEF

Strategic Context

Council has declared a climate crisis / emergency and has acknowledged the impact it will have on people and communities in Northern Ireland and required the formation of this Climate Emergency Forum (CEF). In conjunction with providing leadership, the forum will assess, collate, report and recommend strategies to ensure that decarbonisation within **Councils Organisation** is addressed and targeted to support Governments target of zero emission by 2050 as per the 2008 Climate Change Act.

Terms of Reference (TOR)

The CEF shall initially be made up of cross party elected Members, Council officers and external agencies / specialists when necessary. Council already have an Energy Management Strategy (EMS), which contains quantum's of energy consumption by fuel type and already compares this with central government targets as of 2015. Since the time of the EMS adoption, central government targets have changed as a result of the legislation change to the Climate Change Act 2008 which was updated in June 2019 – and thus central government legislative target is now 100% reduction of Co2 emission as opposed to the previous 80% reduction - hence the term “Net Zero”.

Appendix 2 shows the flow of the TOR

The forum actions include;

1. Establish and approve a TOR
2. Establish Council & NI Executive responsibilities
3. Assess resource and cost impacts and agree Co2 CC&GBC emission reduction target and 5 year milestones together with KPI's with timings to track and react to decarbonisation target progress within the following SIX areas
 - Transport
 - Heating
 - Renewables
 - Smart Technology
 - Operational Efficiency
 - Power
4. Agree resource - inclusive of scale and scope to deliver responsibilities.
5. Forward recommendations for Council decision and approval

6. Assess and access funding responsibilities on investments – including green transport (EV & Hydrogen), heating, smart technology and renewables.
7. Consult with NI Executive agencies to assess harmonisation to ensure scope of the CEF is complementary and not in parallel to the Executive agencies responsibilities.
8. Agree a reporting / communicating methodology and update programme to Council secure a decarbonisation political commitment pathway – every 1yr interim updates & 5yr updates
9. Ensure the impending pathway to statutory legislation (published by DAERA) is met or improved upon.
10. To ensure climate change ethos is communicated and integrated in all Council functions and policies.

11. The forum shall revise and update the existing EMS and transform to the Climate Emergency Strategy (CES) from the above actions thereby securing the resource / funding necessary and the political commitment.

12. Chair to secure business support and forward agendas prior meetings as per schedule below. Commencing on the 4th March 2021

Membership

Climate Emergency Forum Chair (ES committee chair)
 All Elected members of the ES committee
 Council Borough Town Teams
 Council Funding Manager
 Council Head of Capital Works, Energy & Infrastructure
 Council Heads of Service when required
 Council Energy Officer
 Council Fleet Manager
 Council Building Control
 Council Planning
 Business Support – Members Services – minutes /schedules / reports / meetings
 External partners (when necessary) –BEIS DAERA, LGCAN, Climate NI, NILGA,
 Specialist/s when required
 Neighbouring Councils – when necessary

Meeting Frequency

Quarterly April, June, Sept & Dec

Date of first meeting

Thursday 1st April 21 at 2 – 4 pm via MS teams

Key

NILGA – NI Local Government Association
 LGCAN – Local Government Climate Action Network
 CC&GBC – Causeway Coast & Glens Borough Council

Appendix 2

