

Background Information Report
by Executive Director (Education & Children's Services)

The purpose of this report is to update on the options for the development of the new combined replacement school for North Muirton and Balhousie Primary Schools. Since the budget for this project was agreed there has been updated Scottish Government guidance for the internal ventilation standards in schools (2018) and ambitious targets have been set for the reduction of carbon emissions as a result of Climate Change ([Emissions Reductions Targets](#)) ([Scotland](#)) [Act 2019](#)).

A direction on the climate change ambitions and specification is required to progress the project to the next stage of design as a result of the approved Interim Climate Emergency Report and Action Plan approved by Full Council in December 2019.

1. BACKGROUND

- 1.1 Perth and Kinross Council approved and budgeted a replacement North Muirton and Balhousie Primary School as part of the Capital Budget in June 2016 with an indicative budget of £16m. The scope of the project is for a 16-class primary school, a nursery with capacity for 82 and a 2 class enhanced additional support needs (ASN) provision.
- 1.2 This project was budgeted based on a feasibility study and Scottish Futures Trust (SFT) space and cost metrics. These included the anticipated accommodation size and relevant building standards at the time of the study.
- 1.3 The climate emergency motion unanimously agreed by Full Council in June 2019 committed the Council to lead by example in accelerating the transformational change required to address the climate emergency. ([link](#)) and the Council's Interim Climate Emergency Report and Action Plan in December 2019 ([link](#)) included an action to Investigate options and costs for Passivhaus construction methods to achieve energy efficiency and quality in areas such as Learning Estate Projects

2. CURRENT SITUATION

Design development and options

- 2.1 Options were developed to respond to the climate emergency Motion and report which range from a building regulations compliant school to a Passivhaus option which meets the lowest energy target of 67kwh/m2/annum set by SFT (for inclusion in the Learning Estate Programme). The recent Infrastructure Commission for Scotland report ([link](#)) prioritised a net zero carbon economy and work is underway to develop a new 'Net Zero Carbon'

standard by the Scottish Government for all public buildings which directs new buildings towards a Passivhaus or equivalent standard.

- 2.2 The standards set by Passivhaus address issues with energy efficiency by adopting a fabric first approach to make the envelope of the building as simple, airtight and insulated as possible with the highest quality standard of construction. This in turn reduces the primary heat energy demand, reduces CO2 emissions and retains heat within the building. This quality assured process equally benefits the quality of the completed building.
- 2.3 The table below summarises a base building standard compliant option to a Passivhaus option. All options include the accommodation required for the primary school, nursery and ASN provision:

	Estimated Capital (£'000) incl PKC internal costs and contingency	Energy (kwh/m2)	Annual energy cost (2020 prices)	Tonnes CO2 – annum in year 1 (2019 conversion factor)*	Notes
Existing Schools	N/A	142 kwh/m2	£49,105	142	Actual energy costs for 2019/20.
Option 1: Base build with all briefed areas	£15,000	118 kwh/m2	£49,103	126	Includes all education accommodation requirements.
Option2: All briefed areas at Passivhaus standard	£16,400	60 kwh/m2	£33,462	71.5	Includes all education accommodation requirements Maximum reductions in carbon from base build.

Fuel Sources

- 2.4 Operational carbon is the direct emission from energy consumed. Ambitions of the Scottish Government's Climate Change Plan require 75% reductions on operational emissions from buildings by 2030 and net zero emissions by 2045. Space heating that relies on fossil fuels (gas, oil, coal etc) will likely not receive building standard consent by 2024. The base option is based on a normal natural gas heating solution, and the Passivhaus option is based on an electric air source heat pump solution, to take advantage of the increasing proportion of zero carbon electricity produced in Scotland, including for this primary school, a possible direct link to Perth's anticipated Smart Energy network. Looking ahead it is considered that an increasing proportion of electricity will be produced from zero/low carbon sources.

Retrofit

- 2.5 Building to current building standards at lowest capital cost (the base option) will result in the Council looking to upgrade / retrofit energy saving measures before 2045. This will be a growing factor across all our estate. With a 50 plus year lifespan at the new combined primary school and the obligations on the Council to move the estate to net zero by 2045 a retrofit programme will be required in the future that has been estimated at £7m at present day costs. This retrofitting energy efficiency measures (such as increased insulation, low energy electric heating) in a school in the future will be both technically difficult and disruptive.

50 year lifecycle costs

Existing emissions are 142 tCO₂ per annum.

Option	Capital cost	50 year cost	50year Energy consumption (kwh)	50 year carbon emissions(tCO ₂)	Annual Yr1 emissions (tCO ₂)
Base option	£15.0m	£45.3m	16.9m	4,447	126
Passivhaus	£16.4m	£42.7m	12.9m	3,575	71.5
Difference	£1.4m	(£2.6m)	(4m)**	(872) (20%)***	54.5 (43%)

*50 year cost: loan charges, life cycle costs, retrofit costs (in Year 16), energy costs (all 2020 rates)

** the reduction in kwh consumed is primarily in space heating

***carbon emissions not pro rata to kwh due to different source energy conversion factors, forecast on 2020 conversion factor on electricity.

The Table above shows that an additional single investment of £1.4m, generates financial savings of £2.6m, and reduces carbon emissions by 20%, which will improve as electricity gets cleaner in the future.

3. FUNDING OPTIONS

- 3.1 Officers are proposing to submit a bid to the Scottish Governments Learning Estate Investment Programme – Phase 2 to include the replacement of Perth High School in the programme. This funding stream is energy performance linked. The bid has minimum energy requirements which only the Passivhaus option will meet. The outcome of the Scottish Government bid should be known by December 2020. If a bid is successful, the Scottish Government will provide revenue funding to the Council over 25 years to the value of 50% of the capital costs. It should be noted that the Council requires to fund the full capital cost of the new school even if the bid is successful.

4. ASSOCIATED RISKS

- 4.1 The project is still over a year away from a confirmed project cost and signing of Financial Close. There is a risk that during the detailed design process

further cost pressure materialises resulting in increased costs, as is the case in all capital projects. The options presented above do not include any COVID-19 impact costs at this time.

- 4.2 There is a risk of failure to achieve carbon reduction objectives, however it is intended that the energy performance of the building will be written into the final construction contract.

5 FINANCIAL IMPLICATIONS

5.1 Capital

The Passivhaus option would result in estimated additional capital costs of £0.4M to the budget.

5.2 Revenue

The Passivhaus option reduces energy consumption by £16,000 per annum, based on existing rates.

6. CONCLUSIONS

- 6.1 The latest projections for the new North Muirton/Balhousie Primary School replacement is based upon delivering low-carbon energy efficient buildings which are anticipated to be compliant with future Scottish Government standards.
- 6.2 The Scottish Government Learning Directorate has written to local authorities requesting an update on how each Council is developing its Learning Estate and whether they have identified any priority projects for investment that are supported by an approved financial and political commitment.
- 6.3 The Learning Estate Investment Programme is predicated upon Councils' meeting the upfront Capital cost of school projects. Projects approved for funding through the programme will then be eligible for Revenue grant funding equivalent to 50% of the Capital cost of the project, payable over a period of 25 years to support maintaining the condition of the buildings concerned.
- 6.4 A prerequisite of securing support through the Investment Programme – Phase 2 is, therefore, the inclusion of funding to deliver the project within the Capital Budget. Subject to approval to proceed with the new North Muirton/Balhousie Primary School replacement project, it is proposed to apply for financial support for this project through Phase 2 of the Learning Estate Investment Programme.
- 6.5 Elected Members are requested to take account of the information contained within this report, and the associated briefing materials, in respect of a decision on the new North Muirton/Balhousie Primary School. Elected members may wish to give direction in relation to the following, whether:

- i) Officers progress the new North Muirton/Balhousie Primary School project on the basis of the design most likely to attract Scottish Government funding being the Passivhaus option at £16.4M;
- ii) Officers submit a bid to the Scottish Government's Learning Estate Improvement Programme – Phase 2 for the project; and
Officers bring back funding solution to Council in 2021 for addressing the Capital Budget shortfall.

Author(s)

Name	Designation	Contact Details
Stephen Crawford		ECSCCommittee@pkc.gov.uk
Greg Boland		01738 475000

Approved

Name	Designation	Date
Stewart MacKenzie		

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Project Summary Sheet

Project Name:	North Muirton/Balhousie Primary School
Asset Type:	Building
New primary school to replace the existing North Muirton and Balhousie primary schools.	

Risk Analysis				
	Stop		Pause	Continue
Strategic	The new primary school project is a key part of the Council’s drive to transform its school estate and will deliver a single school to replace the existing North Muirton and Balhousie primary schools -			There is ongoing community engagement as part of the development of the Perth and Kinross Offer. There is a risk that if we do not pause the project until we understand the Offer, we will miss the opportunity to review the purpose and the scope of the project to ensure that the investment is affordable and best meets the needs of all the community, now and in the future.
	stopping the project would prevent the delivery of the transformed school estate and its associated positive outcomes.		stopping the project would prevent the delivery of the transformed school estate and its associated positive outcomes.	
	There are identified property issues with the existing Balhousie Primary especially around the long-term operation of the heating system. If the heating system was to fail, there would be the requirement to implement the emergency decant plan for pupils at Balhousie -			
	Stopping the project would significantly increase the risk of the existing heating system failing, resulting in the need to decant pupils.		Pausing the project would increase the risk of the existing heating system failing, resulting in the need to decant pupils.	
Legal	No legal risks were identified in stopping or pausing the project.			No specific legal risks identified however as with all projects of this size and complexity, ongoing project risks will continue.
Financial	There has been expenditure on this project -			As we continue to experience the economic impacts of COVID-19 we have no definitive understanding of our revenue income streams particularly in the short to medium term. In this situation, there is a risk that we cannot afford to fund this project.
	The Council has spent approximately £400,000 to date developing the project.		Depending on how long the project was paused for, could result in additional revenue pressure for the Council.	
			Increase in project cost as a result of construction inflation. The impact of	The impact of COVID-19 on the construction sector at this point is unquantifiable. There is a risk that the

Risk Analysis					
	Stop	Pause		Continue	
		COVID-19 on construction inflation remains an unknown, however, the Building Cost Information Servicer current assessment of construction inflation is:		impact results in significant increase in tender prices resulting in us being unable to afford the project.	
		2021	3.9%		
		2022	3.8%		
		2023	4.2%		
		2024	4.3%		
Reputational	The Council has committed to replacing the existing schools on the basis of its condition and suitability -				Given the potential opportunities which might emerge from the ongoing community engagement and the delivery of the Perth and Kinross Offer, there is a risk that in delivering a new primary school with only limited community access there is a perception that additional opportunities for development were missed, leading to reputational damage.
	stopping the project will risk reputational damage for the Council	pausing the project will risk reputational damage for the Council			
	The replacement school will address identified property issues with Balhousie Primary School, which risk impacting on the operation of the existing school				
	stopping the project without addressing the identified property issues will risk reputational damage for the Council	Depending on the timescale, pausing the project may increase the level of risk associated with Balhousie Primary School			
	There has been spend to date on the Project (£400K)				
	Pausing the project will risk adverse publicity to the Council	Pausing the project will risk adverse publicity to the Council			
Economic	There are positive economic impacts anticipated directly from the construction of the new North Muirton/Balhousie Primary School project.				No economic risks were identified with continuing the project.
	if the project is stopped, these will be lost, exacerbating the impact of COVID-19.	if the project is paused these will be delayed, exacerbating the impact of COVID-19.			
Staffing	There are PKC staff funded by the capital plan which includes the North Muirton/Balhousie New Primary School project				There are no staffing risks associated with continuing the project.
	Stopping the project may impact on these posts.	Pausing the project may impact on these posts.			