



**REPORT TO: ECONOMIC DEVELOPMENT AND INFRASTRUCTURE SERVICES
COMMITTEE ON 15 NOVEMBER 2022**

SUBJECT: ANNUAL REPORT ON ENERGY STRATEGY/ACTIONS

**BY: DEPUTE CHIEF EXECUTIVE (ECONOMY, ENVIRONMENT AND
FINANCE)**

1 REASON FOR REPORT

- 1.1 This report sets out the annual energy and water performance of the Council's non-domestic building portfolio in 2021/22.
- 1.2 This report is submitted to Committee in terms of Section III (F) (33) of the Council's Scheme of Administration relating to the monitoring of the Council's Economic Development and Infrastructure Services.

2 RECOMMENDATION

2.1 It is recommended that Committee:-

- (i) considers and notes the Annual Energy Report for 2021/22 set out in the report;**
- (ii) notes that in 2021/22 the Council's energy consumption in non-domestic operational properties increased by 14.2%, and the energy bill increased by 19.7% (£543,809);**
- (iii) approves the revisions made to the council's Heating Policy at Appendix 2 of a 1°C reduction in the temperature set point from 20°C to 19°C and to take account of revised ventilation requirements; and**
- (iv) approves the interim update of Energy Policy at Appendix 1 to align with the mandatory targets set by the Scottish Government and agrees that officers review the Energy Policy and Strategy in order to align its goals with the Route Map to Net Zero and the Local Heat and Energy Efficiency Strategy (LHEES).**

3 **BACKGROUND**

- 3.1 Annual reports have been presented to Committee since 2006; the last report was submitted for noting to the Economic Development and Infrastructure Services Committee on 19 October 2021 (paragraph 9 of the minute refers). This report is submitted as the Council's Annual Energy Report for 2021/22.
- 3.2 Improving energy efficiency not only minimises costs, but also reduces on-going carbon emissions in the most cost-effective manner.
- 3.3 During the financial year 2021/22 Moray Council's expenditure on utilities (including street lighting) was approximately £3.7M, with associated carbon emissions of 10,022 tonnes CO₂.

4 **PERFORMANCE**

Consumption and Costs

- 4.1 Table 1 provides a summary of the Council's utilities consumption, costs and emissions during 2021/22. Heat refers to kWh from Biomass plant.

Table 1

Annual Report Figures 21-22			
Commodity	Consumption (kWh/m3)	Net Cost (£)	Carbon (tonnes CO ₂)
Heat	2,324,492	£120,070	35
Oil	3,336,476	£195,372	923
Gas	25,784,297	£688,094	4,743
Electricity	11,360,814	£1,816,774	3,490
Street Lighting & Unmetered Elec	2,343,106	£392,373	720
Water (m3)	106,151	£483,453	112
Totals		£3,696,136	10,022

- 4.2 The operation of the Council's non-domestic buildings cost £3,303,763.00 with further expenditure of £392,373 on street lighting and unmetered electricity.

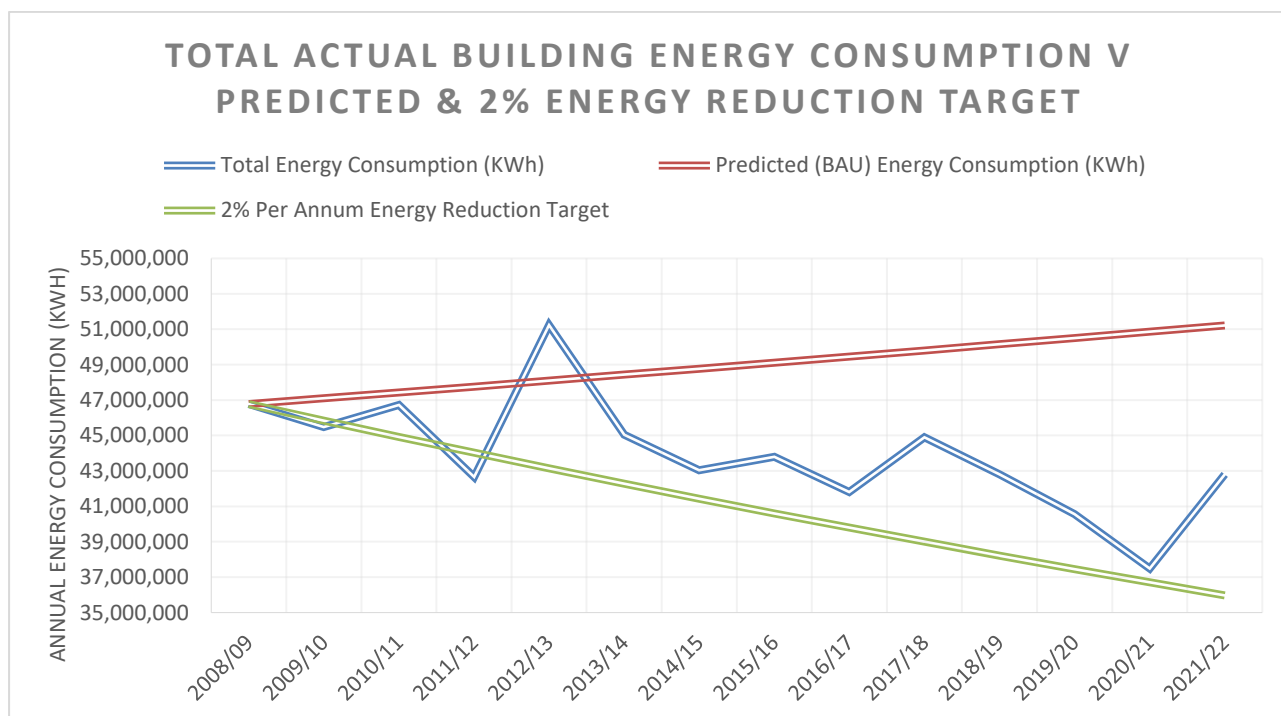
Combined Energy Consumption

- 4.3 Table 2 below provides a comparison of energy consumption between 2020/21 and 2021/22 for individual utilities.

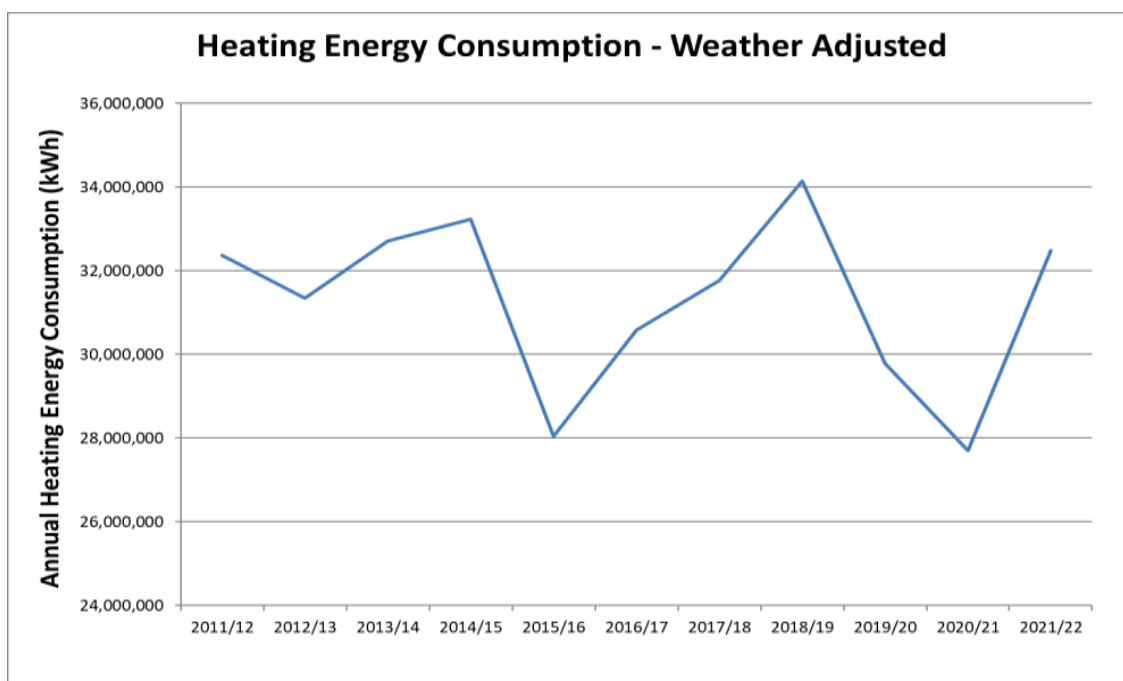
Table 2

Utility	20-21	21-22	Difference	%
Heat (Biomass)	2,258,199	2,324,492	66,293	3%
Oil	2,921,881	3,336,476	414,595	14%
Gas	23,469,901	25,784,297	2,314,396	10%
Electricity	8,837,942	11,360,814	2,522,872	28.5%
Overall Building Total (kWh)	37,487,923	42,806,079	5,318,156	14.2%
Street Lighting & Unmetered Elec	2,439,372	2,343,106	-96,266	-4%
Overall Total (kWh)	39,927,295	45,149,185	5,221,890	13.1%
Water (m3)	103,558	106,151	2,593	2.5%

- 4.4 The combined energy consumption from the Council's buildings, for 2021/22 was 42,806,079 kWh compared with consumption of 37,487,923 kWh for 2020/21, equivalent to a 14.2% increase.
- 4.5 The graph below shows the Council's total energy consumption in its non-domestic buildings against a 2008/09 baseline, compared to the 2% energy consumption reduction target and predicted increases, (based upon Government forecasts of a Business-as-Usual uplift of 0.7% per annum).



- 4.6 Heating-related Energy Consumption
To take account of weather conditions a measure termed "Degree Days" is utilised to incorporate the effect of warmer or colder conditions – permitting a comparison of heating related efficiency.
- 4.7 The graph below shows the Council's weather adjusted heating consumption for the last 11 years.



- 4.8 Heating accounts for a significant proportion of the Council's energy consumption. The weather in 2021/22 was 3% warmer than in 2020/21 and the graph above shows a weather adjusted increase in heating consumption of 14% compared to 2020/21. This can be attributed to effect of lockdowns closing buildings, particularly schools in 2020/21. Followed by the re-opening of buildings in 2021/22 with increased ventilation requirements.
- 4.9 Table 3 summarises the absolute and relative variations in gas consumption for the various property groupings within the Council's property estate.

Table 3

Property Grouping	2020/21 KWh	2021/22 KWh	Difference	% Difference
Community Centres	458,468	469,547	11,079	2.42%
Day Centres	1,034,925	1,037,708	2,783	0.27%
Depots	400,445	415,624	15,179	3.79%
Halls	119,607	162,760	43,153	36.08%
Hostels	2,904	2,576	-329	-11.32%
Industrial Premises	214,339	177,035	-37,304	-17.40%
Libraries	560,627	704,831	144,204	25.72%
Minor Sites	11,669	12,678	1,009	8.65%
Museums/Visitor Centres	83,512	80,006	-3,506	-4.20%
Lady Cathcart Nursery	160,653	181,069	20,416	12.71%
Offices Total	1,503,622	1,524,765	21,142	1.41%
Primary Schools	7,368,873	7,874,244	505,371	6.86%
Residential Homes	915,681	962,611	46,930	5.13%
Secondary Schools	7,331,978	8,789,972	1,457,994	19.89%
Sports Facilities	5,368	5,123	-245	-4.56%
Buckie Swimming Pool*	996,506	1,263,572	267,067	26.80%

*other pools are within schools

4.10 Main points to note in relation to the above table are as follows:-

- The increased consumption can be attributed to buildings reopening post pandemic with enhanced ventilation.
- Schools account for the largest increases in consumption. Lossiemouth High School is omitted from the above figures, as there was incomplete data for the year 2020/21. Milnes High School was omitted as gas is used only as a backup to the Biomass. With these removed the percentage uplift is more representative of the impact that the increased ventilation requirements.

4.11 The impact of Covid 19 on the operation of Council properties continues to affect the energy performance, with the changes in how buildings are occupied and ventilated. This has meant comparisons to typical historic performance are less meaningful. As resources allow, officers continue to investigate properties with largest increases of consumption and mitigation measures to deal with the need for enhanced ventilation.

Water Consumption

4.12 The Council's water consumption for 2021/22 was 106,151m³ compared with consumption of 103,558 m³ for 2020/21, an increase of 2,593 m³, equivalent to a 2.5% increase. A post pandemic return to buildings, especially schools has caused this increase.

Street Lighting

4.13 The management and maintenance of street lighting is undertaken by Direct Services. The associated energy consumption in 2021/22 was 2,343,106 kWh, 4% lower than the 2020/21 consumption of 2,439,372 kWh. It is expected that the LED replacement programme will be fully completed during 21/22. There are approximately 600 lanterns outstanding with 17,182 changed to date. Electricity consumption has dropped by 67% compared to that being used prior to the project's inception.

Carbon

4.14 Carbon dioxide emissions provides a single common denominator between disparate activities such as electricity, transport and waste recycling. Table 4 details the carbon emissions associated with energy and water consumptions attributable to Moray Council building related operations (figures are in tonnes of CO₂).

Table 4

Utility	20-21	21-22	Difference	%
Heat	34	35	1	3%
Oil	808	895	87	11%
Gas	4,318	4,723	405	9%
Electricity	2,715	2,626	-89	-3%
Street Lighting & Unmetered Elec	749	542	-208	-28%
Water	109	112	3	3%
Overall Total CO₂e	8,733	8,931	198	2%

4.15 Carbon emissions from the Council's non-domestic buildings and street lighting in 2021/22 were 2% higher than in 2020/21. Contributory factors which would have affected the above performance include:

- Changes in building operations due to Covid 19 with an associated significant increase in energy use to heat buildings.
- More street lighting provided from LED technology reduced carbon emissions.
- A reduction in the UK Government carbon conversion factor for electricity makes the increase of carbon emissions less than the increase in the Council's consumption.

5 UTILITY MANAGEMENT

Utility Expenditure

5.1 In 2021/22 the Council's total utility bill amounted to £3,696,136 an increase of £543,809 (17%) compared to 2020/21 - with buildings constituting the largest element at £3,303,763. The cost of street lighting continued to fall as a result of LED replacements. Table 5 below gives a breakdown of costs.

Table 5

Net Cost				
Utility	20-21	21-22	Difference	%
Heat	£111,777	£120,070	£8,293	7%
Oil	£114,841	£195,372	£80,531	70%
Gas	£640,192	£688,094	£47,902	7%
Electricity	£1,416,174	£1,816,774	£400,600	28%
Water	£476,970	£483,453	£6,483	1%
Overall Total - Buildings Only (£)	£2,759,954	£3,303,763	£543,809	19.7%
Street Lighting & Unmetered Elec	£399,085	£392,373	-£6,712	-1.7%
Overall Total (£)	£3,159,039	£3,696,136	£537,097	17.0%

5.2 Scottish Procurement

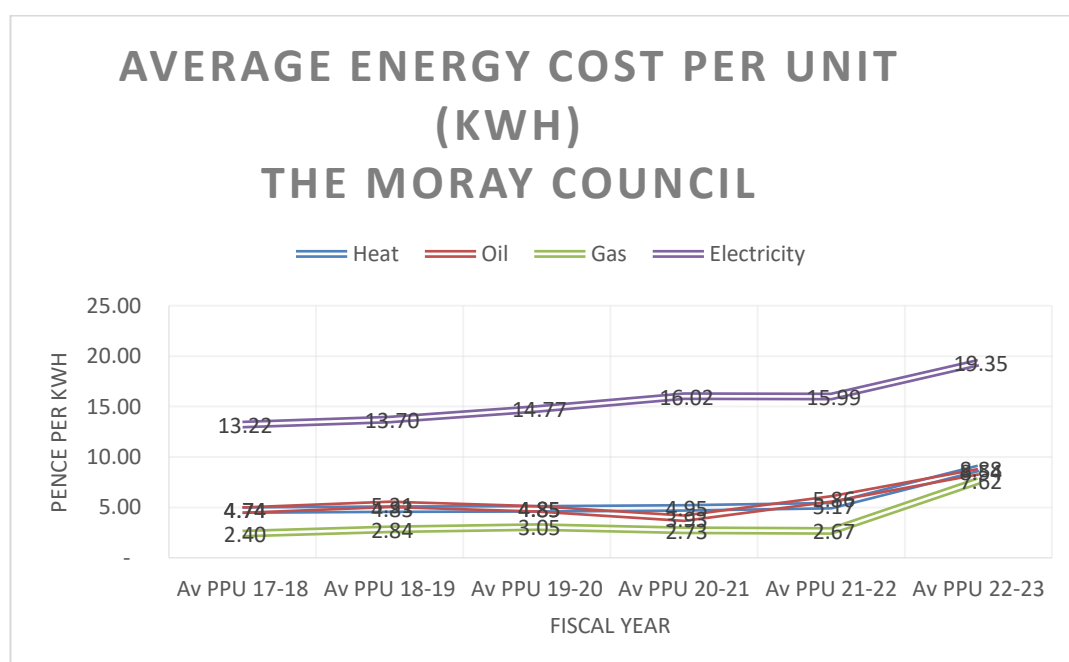
The Scottish Government have a national framework in place with Total Energies Gas & Power for the supply of natural gas, EDF Energy Customers Ltd for electricity and Business Stream Ltd for water. These frameworks have been in place since 2018, 2019 and 2020 respectively, and are used by 98% of Scottish public sector organisations.

5.3 Scottish Procurement (SP) have a Risk Management Committee (RMC) who oversee policy, procedures and the purchasing strategy. Gas and electricity is purchased up to 2.5 years in advance, this has provided a high level of protection by purchasing over a long period of time. SP give the council a fixed wholesale price of gas and electricity for the fiscal year. Therefore the impact of the high cost of energy on the council has been partially mitigated. SP's due diligence means that there are no security of supply concerns for Natural Gas or Electricity. Our suppliers are stable and not exposed to the financial pressures which have seen smaller energy firms collapse.

- 5.4 **The wholesale cost of gas and electricity for Moray Council was fixed for the fiscal year 2022/23 in March 2022. Gas was set at 5.2618/kWh and Electricity at 8.043 p/kWh.** This does not include the non-energy charges that are included in the invoices the Council pays. As a guide to the savings made by the trading strategy overseen by the RMC - a customer looking to secure a fixed price from April 2022 for 12 months would have been quoted circa 11p/kWh for gas and 33p/kWh for electricity.

Inflation

- 5.5 With inflation forecast to rise to as high as 10% this year a number of non-energy costs will be impacted. The tariffs that we pay as part of electricity invoices that are indexed to inflation are; charges that pay for renewable subsidies, the capacity market that balances the grid, and for use of the distribution and transmission network. This increase will particularly be seen from April 2023.
- 5.6 Despite the protection offered by SP to the council there has been a substantial rise in energy price, when compared to previous years. Gas and electricity standing charges vary across the Council's sites depending on the size and type of the supply. Electricity consumption charges also vary depending on the site and what time of day the electricity is used. One way to quantify the price is to calculate a pence per unit (PPU) cost.



Future Budget Guidance

- 5.7 Projections have been made to estimate the financial outturn to year end 2022/23.

Table 6

	21-22	22-23	Increase	%
Electricity (Total)	£2,209,147	£2,643,778	£434,631	20%
Gas	£688,094	£1,783,450	£1,095,356	159%
Biomass & Oil	£315,442	£447,234	£131,792	42%
Overall Total	£3,212,683	£4,874,462	£1,661,779	52%

- 5.8 The above figures are based on Sigma Accruals reports that apply this year's price rates to last year's consumption figures. The actual outturn may vary greatly as

consumption changes according to building use, weather conditions and non-energy costs are applied to invoices.

- 5.9 Scottish Procurement periodic updates on price forecasts for the electricity and gas contracts. The most recent, Contract notice #52 was released in July 2022. It predicts the cost increase set out below.

Table 7

		2023-24	2024-25
Variance to 22-23	Gas	+8%	+18%
	Electricity	+ 53%	+79%

- 5.10 Biomass Contract – The previous contract with AMP Clean Energy covered the 4-year period 1 September 2017 to 31 August 2021 and the option to extend had been exercised with a termination date of 31 August 2022. A procurement exercise was carried out throughout July and August 2022. AMP Clean Energy were again the successful bidder. The Call-Off Contract will cover the period from 01/09/2022 to 31/10/2025 with the option to extend for 2 further periods of 12 months. (Subject to an annual review at the financial year end in April, incorporating price negotiations and KPI performance.)

Renewable Energy Generation Revenue

- 5.11 The council currently operates 2 biomass heating systems, at Speyside and Milne's High Schools and a solar thermal system at Forres Swimming Pool.
- 5.12 For the 2021/22 period the Council received combined Renewable Heat Incentive (RHI) payments of £102,513.

Table 8

Total RHI Income	20-21	21-22	Difference	%
Milnes HS	£52,999	£52,127	-£872	-2%
Speyside HS	£56,990	£49,473	-£7,517	-13%
Forres Pool	£1,995	£912	-£1,082	-54%
Total RHI Income	£111,983	£102,512	-£9,471	-8%

- 5.13 The reduction in payments for Forres Pool relate to a malfunction in the system, then delays in repair due to supply chain issues in getting a replacement pump. This has now been rectified.
- 5.14 The council operates a single site which benefits from the Feed In Tariff (FIT) scheme. This is the Solar PV array on Elgin High School.

Total FIT Income	20-21	21-22	Difference	%
Elgin HS	£1,739	£1,938	£199	11%

Invoice Processing

- 5.15 All utility invoices go directly to the Energy Team for verification and validation prior to centralised authorisation and payment. The vast majority of utility invoices are received electronically and uploaded directly onto the Council's monitoring and targeting system – TEAM Sigma. The software automatically performs validation checks on the data received, highlighting any abnormalities for the Energy Team to investigate.

- 5.16 During 2021-22 the active management, checking and validation of utility consumptions and invoices identified over £66,300 of erroneous charges which were resolved by the Energy Team.

6 POLICY AND STRATEGY

Scottish Government

- 6.1 In December 2020 the Scottish Government issued an update to the 2018 Climate Change Plan. The update committed to reducing emissions by 75% by 2030 (compared with 1990) and to net zero by 2045.
- 6.2 In October 2021 the Scottish Government published The Heat in Buildings Strategy. This sets a requirement for all local authorities to produce a Local Heat and Energy Efficiency Strategy (LHEES) by the end of 2023. At time of writing the Council is recruiting a LHEES officer to assist in producing this strategy.

Moray Council Energy Policy and Strategy

- 6.3 On 10 March 2021 (paragraph 13 of minute refers) the council adopted the Climate Change Strategy which set a goal of the Council being carbon neutral by 2030. On 6 April 2022 (paragraph 18 of minute refers), the Council approved the Route Map to Net Zero. This creates a framework for our actions aimed at reducing carbon emissions to net zero by 2030.
- 6.4 The Council's Energy Policy and Strategy (EPS) was first produced in 2005 and subsequent revisions have been agreed by this Committee and made available publicly via the Council's Energy Internet website.
- 6.5 The EPS is now out-dated and has been updated to reflect the policy changes in the Scottish Government's policy. **Appendix I** contains an interim update to the EPS. It is recommended that Committee approves the updated strategy.
- 6.6 It is also recommended that committee agrees that officers work to further update the EPS in order to align its goals, strategy and delivery plan with the Route Map to net Zero and the LHEES. It would be intended to report to Committee next year to consider the proposals for a further revised EPS. This work will not be to the detriment of the on-going monitoring and managing the council's energy consumption. Alongside energy efficiency measures that reduce consumption which can be actioned in the short term.

Heating Policy

- 6.7 On 19 October 2021, this Committee agreed that officers review the Council's Heating Policy, with a view to reporting a revised Heating Policy in 2022 (paragraph 9 of the minute refers). The greatest savings to be made are by reducing the temperature set point. Therefore the heating policy (Appendix II) has been amended changing the temperature set point from 20°C to 19°C. By reducing the set point from 20°C to 19°C there are potential savings to be made of in the region of £200,000 across the Council's non-domestic building stock, based on 2021/22 consumption and the 2022/23 unit rate for gas. Wording has also been updated to reflect current ventilation requirements. The revised policy is produced as **Appendix 2**.

7. **ENERGY INITIATIVES**

Energy Projects

- 7.1 In 2021/22 there was no spend on minor Energy Efficiency Projects. There is £15,000 for minor energy efficiency projects in 2022/23. The energy team are currently working with maintenance to identify LED lighting replacement projects that will be implemented over the coming months. All of these projects will have a payback period of less than two years.
- 7.2 There was £193,000 spent on LED lighting projects, replacing older inefficient lighting with LED. These have been funded as spend-to-save projects.

Future Energy Initiatives

- 7.3 To achieve the target within the Climate Change Strategy of net zero carbon emissions by 2030 it is essential to incorporate energy efficiency/carbon management as a prime consideration into all on-going work. This should be done in conjunction with the rationalisation of the council's offices, depots and stores as well as the delivery strategy that will be set out in the LHEES.
- 7.4 The energy team continue to work with the Maintenance and climate change teams to identify and implement minor capital energy efficiency projects. Projects currently implemented or in planning with a view to being completed in the short term include; engagement with schools during climate week to raise awareness of behaviours on energy usage, engagement with all staff however initially focused on office based staff to raise awareness of personal actions on our energy usage, LED light replacements and Solar PV installations, medium term projects including assessment and evaluation of heating systems with option to install heat pumps or bio mass boilers as appropriate. Long term projects may include heat networks, community energy generation and alternative fuel sources.
- 7.5 Moray Council has recently received a letter from the Scottish Government regarding the Scottish Procurement Framework encouraging all users to reduce energy consumption to "create some headroom for new organisations such as Charities and GP practices to join the framework". Within this letter a number of capital projects are suggested all of which are currently under consideration or action by the Council.

8. **SUMMARY OF IMPLICATIONS**

(a) Corporate Plan and 10 Year Plan (Local Outcomes Improvement Plan) (LOIP)

The Energy Policy and Strategy along with actions to minimise the Council's energy use support the aim of the Corporate Plan of a financially stable Council.

The Council's Corporate Plan 2019 – 2024 identifies the environment as a key principle in the delivery of the Council's priorities.

"Environment – look after the world we live in to protect it for the future"

and for Moray Council to be

“A resource efficient, carbon neutral council that works with partners to mitigate the worst effects of Climate Change, to create a resilient, fair and more sustainable future for everyone within Moray”.

On 10 March 2021 (paragraph 13 of minute refers) the council adopted the Climate Change Strategy, the strategy set a goal of the Council being carbon neutral by 2030. On 6 April 2022 (paragraph 18 of minute refers), the Route Map to Net Zero was approved. This creates a framework for our actions aimed at reducing carbon emissions to net zero by 2030.

(b) Policy and Legal

In October 2021 the Scottish Government published The Heat in Buildings Strategy. This sets a requirement for all local authorities to produce a Local Heat and Energy Efficiency Strategy (LHEES) by the end of 2023.

(c) Financial Implications

In 2021/22 the Council's total utility bill amounted to £3,696,136, an increase of £543,809 (17%) compared to 2020/21.

Unit electricity costs have increased by 20% and gas costs have increased by 157% from 2021/22 to 2022/23. With 2022/23 actual spend to end of August and current cost is applied to energy consumption of 2021/22, the projected annual costs of electricity and gas in 2022/23 will be £2,643,778 and £1,783,450 and respectively.

During 2021-2 the active management, checking and validation of utility consumptions and invoices identified over £66,300 of erroneous charges.

£15,000 has been allocated for energy efficiency projects in the Council's 2022/23 capital plan, officers will also continue to take forward spend to save proposals.

(d) Risk Implications

Budget guidance issued in June 2021 by Scottish Procurement indicates that in 2023-24 electricity unit costs are forecast to increase by 53% and gas unit costs by 8%, whilst in 2024-25 electricity will increase by 79% and gas by 79% - compared to 2022-23. However, energy markets remain volatile, there is a significant risk that future prices may change dramatically.

(e) Staffing Implications

The workload associated with transforming the Council's property portfolio to net zero carbon is expected to increase year on year.

(f) Property

The property implications are as set out in this report.

(g) Equalities

There are no equalities implications.

(h) Climate Change and Biodiversity Impacts

Updating the EPS to reflect the Council's goals to achieve net zero and the developing LHEES strategy will assist in setting out strategic cohesion in achieving reductions in climate emissions.

(i) Consultations

The Head of Housing and Property, the Chief Financial Officer, the Head of Economic Growth and Development Services, the Design and Construction Manager, the Principal Climate Change Officer the Legal Services Manager, the Equal Opportunities Officer and Lissa Rowan, Committee Services Officer have been consulted and any comments incorporated in this report as appropriate.

9. CONCLUSION

- 9.1 The Council's utility consumptions rose by 14.2% and utility costs rose by 17% in 2021/22. . It should be noted that this increase can be attributed to an increase in the use of our buildings along with a requirement for increased ventilation. Primarily the reoccupation of schools following the relaxation of Covid 19 restrictions.**
- 9.2 There is still potential for reductions in energy consumption through a programme of energy projects, Energy Management Systems and staff awareness/behaviour changes in the short term as outline within this report. . These are necessary to minimise the Council's carbon emissions and energy costs. The energy team continue to progress these actions to reduce consumption and costs.**
- 9.3 The rationalisation of the council's corporate building stock and the way in which we use buildings post pandemic continues to evolve. The long term energy reduction strategy needs to align its goals and actions with this rationalisation and the council's Route Map to Net Zero.**

Author of Report:	Iain Highet, Energy Officer
Background Papers:	As referred to in this report.
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