17 Material Assets (Built Services)

17.1 Introduction

17.1.1 This chapter presents the Principal Assessment of the likely significant effects of the Proposed Order on Material Assets (Built Services). The Principal Assessment compares the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa) operational conditions in accordance with the project-wide assessment framework described in Chapter 5: Methodology.

17.1.2 As detailed in Chapter 4: Proposed Order of the EIAR, the Proposed Order seeks to amend the existing planning restriction of 32 mppa to 40 mppa and does not involve new physical infrastructure. However, increased passenger throughput has the potential to increase demand for the utility resources and services required to support the operation of Dublin Airport. Accordingly, a proportionate assessment has been undertaken to identify and assess the likely significant effects of the 2029 Proposed Operation on Material Assets (Built Services).

17.1.3 This chapter has been prepared in accordance with the Environmental Protection Agency's Guidance[1] (hereafter referred to as the EPA Guidance). The EPA Guidance identifies Material Assets as comprising waste management, roads and traffic, and built services (including gas, electricity and water).

17.1.4 This chapter addresses Material Assets (Built Services), including electricity, natural gas, water supply and wastewater infrastructure, together with telecommunications, fibre networks and lighting. Material Assets relating to waste management are assessed separately in Chapter 16: Material Assets (Waste), while roads and traffic are assessed in Chapter 6: Material Assets (Traffic and Transport). Effects relating to the water environment, including surface water drainage, groundwater quality and hydrology, are assessed separately in Chapter 11: Water. Wastewater is considered specifically in relation to the provision and capacity of foul drainage and wastewater treatment infrastructure. The Proposed Order does not include any changes to the fabric or structure of Dublin Airport and direct impacts to buildings are therefore scoped out of this assessment.

17.1.5 This chapter was prepared by Daniel O'Kelly (BSc, MSc, FISEP, CEnv), a Technical Director in AECOM's Environment and Energy team with 25 years' experience in leading Environmental Impact Assessment (EIA) for large-scale infrastructure schemes.

17.2 Legislation, Policy and Guidance

17.2.1 This chapter has been prepared in accordance with the general legislation, policy and guidance relevant to the preparation of the EIAR, as set out in Chapter 5: Methodology. In addition to the Dublin Airport (Passenger Capacity) Act 2026, the legislation, policy and guidance of particular relevance to Material Assets (Built Services) are summarised below.

EPA Guidelines on the Information to be Contained in Environmental Impact Assessment Reports

17.2.2 The Environmental Protection Agency (EPA) Guidelines on the Information to be Contained in Environmental Impact Assessment Reports (2022)[1] identify material assets as an environmental factor to be considered within EIA and identify built services, including electricity, telecommunications, gas, water supply infrastructure and sewerage, as relevant aspects of the receiving environment. The EPA Guidelines provide the overarching framework applied in this chapter for describing the receiving environment, identifying potential impacts and determining the significance of environmental effects.

Water and Wastewater Services

17.2.3 The Water Services Acts 2007 to 2017 provide the statutory framework for the provision and management of public water services in Ireland. National water services policy[2] and Uisce Éireann's

[1] EPA, Guidelines on the information to be contained in Environmental Impact Assessment Reports, 2022, Guidelines on the information to be contained in Environmental Impact Assessment Reports (EIAR) (epa.ie)
[2] Department of Housing, Local Government and Heritage (2024), Water Services Policy Statement 2024–2030.

strategic planning framework[3] seek to provide safe, secure and sustainable water services while accommodating future demand. For the purposes of this chapter, these matters are relevant specifically to the availability and consumption of water as a built service. Effects on the water environment, including water quality and hydrology, are considered separately in Chapter 11: Water.

Energy

17.2.4 National energy policy promotes the efficient use of energy, the decarbonisation of energy supply and the maintenance of secure and resilient energy systems. The Climate Action Plan 2025[4] sets out the Government's pathway towards meeting national climate and energy objectives, including increased renewable energy deployment and energy efficiency, while Energy Security in Ireland to 2030[5] sets out the Government's strategy for maintaining secure energy supplies during the transition to a carbon-neutral energy system. These objectives provide relevant context for the consideration of electricity and natural gas consumption associated with the operation of Dublin Airport. Energy consumption is considered in this chapter specifically in relation to Material Assets (Built Services), while greenhouse gas emissions and climate-related matters are assessed separately in Chapter 13: Climate.

Application to the Assessment

17.2.5 The legislation, policy and guidance identified above do not prescribe quantitative thresholds for determining the significance of effects on Material Assets (Built Services). Accordingly, significance has been determined using professional judgement, applied in accordance with the methodology set out in Section 17.3. That judgement considers whether the forecast additional demand or discharge associated with the Proposed Order has the potential to materially affect the availability, capacity, resilience or operation of the relevant built services infrastructure. In reaching that judgement, account is taken of the magnitude of the forecast change, the existing capacity and operational characteristics of the infrastructure serving Dublin Airport, any identified local or regional constraints, historic trends in resource use and wastewater discharge and, where relevant, the scale of additional demand in the context of national resource consumption. These factors are considered together, rather than by applying any single quantitative threshold, to provide a proportionate and evidence-based determination of significance.

17.3 Assessment Methodology

17.3.1 As described in Chapter 5: Methodology, the assessment has been undertaken in accordance with the EPA Guidance[1] and the project-wide assessment framework. The assessment comprises:

- establishment of the baseline conditions, including the existing built services infrastructure and patterns of resource consumption and wastewater discharge at Dublin Airport;
- identification of the potential changes in demand for built services arising from the Proposed Order;
- assessment of the magnitude and significance of potential effects associated with those changes;
- consideration of relevant existing environmental design and management measures;
- identification of any additional mitigation measures required; and
- assessment of residual effects.

17.3.2 The assessment focuses on the potential effects associated with changes in demand for electricity, natural gas and water, and changes in wastewater discharge, arising from the increase in passenger throughput facilitated by the Proposed Order. Fibre networks and lighting are also considered as part of the existing built services environment but as described in Section 17.4, no material changes to these services are anticipated as a result of the Proposed Order and they are therefore not considered further in the quantitative assessment.

17.3.3 The assessment considers the incremental change attributable to the Proposed Order, rather than the total resource consumption and wastewater discharge associated with Dublin Airport. For the Principal Assessment, this comprises the difference in predicted utility demand and wastewater discharge between the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa). This

[3] Uisce Éireann (2025), Water Services Strategic Plan 2050
[4] Department of Climate, Energy and the Environment, Climate Action Plan 2025, 2025.
[5] Department of the Environment, Climate and Communications, Energy Security in Ireland to 2030, 2023.

approach is consistent with the project-wide assessment framework and enables the effects specifically attributable to the Proposed Order to be identified.

Assessment of Significance

17.3.4 Referring to text set out in 17.2.5, significance of effects has been determined using professional judgement, considering whether the forecast change attributable to the Proposed Order has the potential to materially affect the availability, capacity, resilience or operation of the relevant built services infrastructure. In reaching that judgement, account is taken of the magnitude of the forecast change and the context within which it would occur, including the existing characteristics and capacity of the infrastructure, identified local or regional constraints, historic operational trends and, where relevant, the scale of additional demand in the context of wider resource availability.

17.3.5 In determining significance, consideration has been given, as relevant to each built service, to:

- the predicted incremental changes attributable to the Proposed Order;
- the scale of the potential changes in demand for built services between the 2029 Permitted Operation and the 2029 Proposed Operation;
- the nature, capacity and resilience of the existing infrastructure serving Dublin Airport, based on available information;
- historic trends in resource consumption and wastewater discharge, including the relationship between passenger throughput and demand for built services; and
- for electricity, natural gas and water, the scale of the additional resource demand in the context of national consumption.

17.3.6 For electricity, natural gas and water, national consumption data have also been used to provide broader context for the scale of the incremental resource demand attributable to the Proposed Order. A comparison with 1% of annual national consumption is presented as a contextual indicator of scale. It is not a prescribed significance threshold and is not determinative of the conclusions of the assessment. The significance conclusions are based on the scale of the incremental change in the context of Dublin Airport operations, available information on the infrastructure serving the airport, and evidence of historic resource consumption and operational performance.

17.3.7 A national consumption comparison is not applied to wastewater, as wastewater discharge is more appropriately assessed in relation to the foul drainage and wastewater treatment infrastructure through which it is conveyed and managed. The assessment of wastewater therefore considers historic discharge from Dublin Airport, the predicted incremental change associated with the Proposed Order, and available information regarding the existing sewerage and wastewater treatment infrastructure serving the airport. Effects associated with wastewater discharge on the water environment are considered separately in Chapter 11: Water.

Application of the Assessment Framework

17.3.8 In accordance with the project-wide assessment framework set out in Chapter 5: Methodology, the assessment comprises a Principal Assessment supported by three Supporting Assessments (refer to Section 17.3.10). The Principal Assessment provides the basis for determining the likely significant effects of the Proposed Order, while the Supporting Assessments provide additional context to assist interpretation of the Principal Assessment.

17.3.9 By comparing the 2029 Permitted Operation (32 mppa) with the 2029 Proposed Operation (40 mppa) scenarios within the same assessment year, and holding other future baseline assumptions constant, the assessment identifies the incremental change in demand for built services attributable to the Proposed Order. The Principal Assessment forms the basis for determining significance, identifying any requirement for additional mitigation and assessing residual effects.

17.3.10 The following Supporting Assessments have also been undertaken:

- Supporting Assessment 1: 2023 Baseline Operation (32.0 mppa) compared with the 2029 Proposed Operation (40.0 mppa);
- Supporting Assessment 2: 2025 Current Operation (36.4 mppa) compared with the 2029 Proposed Operation (40.0 mppa); and

- Supporting Assessment 3: 2025 Current Operation (36.4 mppa) compared with the 2029 Permitted Operation (32.0 mppa).

17.3.11 Supporting Assessment 1 provides context on the overall change between the 2023 Baseline Operation and the 2029 Proposed Operation. In particular, it enables consideration of longer-term changes in demand for built services alongside the increase in passenger throughput over this period.

17.3.12 Supporting Assessment 2 provides context on the scale of change between the 2025 Current Operation and the 2029 Proposed Operation. This assessment assists in understanding the additional change in utility demand associated with operation at 40 mppa relative to current conditions.

17.3.13 Supporting Assessment 3 provides context on the change between the 2025 Current Operation (36.4 mppa) and the 2029 Permitted Operation (32.0 mppa). It assists in understanding the implications of the 2029 Permitted Operation.

17.3.14 The Supporting Assessments are contextual and do not provide the basis for determining the likely significant effects of the Proposed Order. Their findings are considered alongside the Principal Assessment where they assist in understanding historic and current patterns of demand for built services and the relationship between passenger throughput and operational demand.

Limitations and Assumptions

17.3.15 For consistency across the EIAR, electricity and natural gas consumption data used in this assessment have been aligned, where relevant, with the energy consumption data presented in Chapter 13: Climate. Relevant assumptions and limitations associated with those data are therefore also applicable to this assessment.

17.3.16 The assessment is based on operational and infrastructure information provided by daa, supplemented where relevant by published information from the relevant utility providers and other identified sources. The available information is considered sufficient to assess the likely significant effects of the Proposed Order on Material Assets (Built Services). Detailed engineering capacity modelling of individual components of the electricity, natural gas, water supply and wastewater networks has not been undertaken specifically for the Proposed Order, as the purpose of this assessment is to identify whether the incremental change attributable to the Proposed Order has the potential to result in a significant environmental effect, rather than to establish the detailed engineering capacity of individual network components.

17.3.17 On the basis of the available information and the nature of the Proposed Order, the identified limitations are not considered to affect the conclusions of the assessment.

17.4 Current Receiving Environment

17.4.1 The existing built services serving the Dublin airport campus and relevant patterns of resource consumption and wastewater discharge are described below.

Electricity

17.4.2 Dublin Airport is served by an established campus-wide electricity and energy infrastructure network supporting the terminal buildings, airfield systems, baggage handling, lighting, ICT and other operational facilities. The Dublin Airport Energy Centre (refer to Figure 2-3) forms part of this infrastructure and incorporates gas-fired Combined Heat and Power (CHP) plant, providing on-site electricity generation as well as heat for use within airport buildings. The Energy Centre therefore supplements electricity imported from the external network and contributes to the efficient and resilient supply of energy to airport operations.

17.4.3 Dublin Airport is supplied via the Dardistown substation, with dual electricity supplies to the Airport from the Finglas and Clonshaugh Electricity Supply Board (ESB) stations. Electricity received through this infrastructure is distributed across the airport campus through the existing internal network.

17.4.4 Information provided by daa indicates Dublin Airport has a Maximum Import Capacity (MIC) of approximately 17 MW. Current peak electrical demand is approximately 10.5 MW, approximately 6.5 MW below the existing MIC. The existing MIC therefore provides substantial headroom above current peak demand and is relevant to the assessment of the incremental electrical demand associated with the Proposed Order.

17.4.5 Dublin Airport also incorporates on-site renewable electricity generation. In 2018, daa, in partnership with ESB, installed 268 solar panels on the airport's reservoir system, which provide more than half of the reservoir's annual energy requirements. Further renewable electricity generation and energy-efficiency measures form part of daa's wider approach to energy management and decarbonisation, as set out in daa's ESG Strategy 2024–2030.[6]

Natural Gas

17.4.6 Dublin Airport is supplied by a 19-bar gas main from the Cloghran Above Ground Installation, located on Swords Road, which feeds a 315 mm diameter 4-bar ring main within the airport. The airport gas distribution network includes three major Above Ground Installations (AGIs) and one local District Regulating Installation (DRI). Natural gas consumption across the airport campus is recorded through 26 individual gas accounts.

17.4.7 Gas Networks Ireland (GNI)'s Network Development Plan 2024[7] assesses the capability of the national transmission and distribution network to meet forecast demand over a ten-year period and identifies network constraints requiring reinforcement. The Plan does not identify a specific capacity constraint affecting the gas network serving Dublin Airport. At national network level, GNI identifies adequate interconnector pipeline capacity to meet projected demand over the Plan horizon, with further compressor-station capacity enhancements being progressed.

17.4.8 Natural gas is used across the Dublin Airport Site principally for heating and hot water generation within airport buildings and as fuel for the Combined Heat and Power (CHP) plant within the Energy Centre.

Water Supply

17.4.9 The Dublin Airport Site is supplied with potable water from Uisce Éireann's public water supply network, principally from the Ballycoolin source via the Forrest Little Main. Water received from the public network is distributed through the airport's internal water supply infrastructure to the terminal buildings and other operational facilities across the Dublin Airport Site.

17.4.10 At a regional level, Uisce Éireann identifies the Greater Dublin Area as having a constrained water supply-demand balance and limited resilience. Uisce Éireann is progressing the Water Supply Project – Eastern and Midlands Region[8] to provide a new strategic water source and address identified supply deficits and resilience requirements. The assessment therefore does not assume that unrestricted spare capacity is available within the wider regional water supply network and considers the additional demand associated with the Proposed Order in the context of both the existing supply arrangements serving the Dublin Airport Site and the wider regional supply position.

17.4.11 Information provided by daa indicates that the water supply infrastructure serving the Dublin Airport Site includes a primary reservoir with a storage capacity of approximately 14,000 m³. The reservoir provides storage equivalent to more than four days of water demand at maximum demand conditions and supports potable, non-potable and fire-water requirements across the Dublin Airport Site.

Wastewater

17.4.12 The Dublin Airport Site is served by an established foul drainage network which collects wastewater from the terminal buildings and other operational facilities. Foul wastewater from the Dublin Airport Site is discharged to the public sewerage network and conveyed via the North Fringe Sewer for treatment at the Ringsend Wastewater Treatment Plant (WwTP).

17.4.13 The foul drainage system also receives certain operational flows that are not directly related to passenger throughput. As described in Chapter 11: Water, contaminated surface water runoff, including runoff associated with aircraft de-icing activities, is captured through the airport's pollution-control infrastructure and, where required, diverted to the foul sewer. Consequently, annual foul discharge from the Dublin Airport Site is influenced by operational and meteorological factors as well as passenger throughput.

17.4.14 The Dublin Airport Site incorporates pollution-control infrastructure associated with the South Apron, North Apron and North Runway drainage systems. Information provided by daa indicates that the

[6] daa, ESG Strategy 2024–2030
[7] Gas Networks Ireland (2025), Network Development Plan 2024
[8] Uisce Éireann (2025), Water Supply Project – Eastern and Midlands Region: Project Summary Report.

pollution-control infrastructure associated with the South Apron, North Apron and North Runway drainage systems provides approximately 25,300 m³ of combined polluted-water storage. Discharges of trade effluent to the foul sewer are managed under a Trade Effluent Discharge Licence (TEDL) with Uisce Éireann.

17.4.15 Wastewater from the North Fringe Sewer catchment is ultimately treated at Ringsend WwTP. Uisce Éireann has undertaken a major programme of upgrading at Ringsend, which had an original design capacity of approximately 1.64 million population equivalent (PE)[9]. Upgrade works have increased treatment capacity, with infrastructure providing capacity for approximately 2.1 million PE[10] completed by the end of 2023 and the wider upgrade programme designed to provide an ultimate installed capacity of approximately 2.4 million PE.

17.4.16 Uisce Éireann is also progressing the Greater Dublin Drainage Project[11], which is intended to provide additional wastewater treatment and network capacity for north Dublin, including the Dublin Airport area, and to relieve pressure on the existing North Fringe Sewer and Ringsend WwTP. The project includes a new wastewater treatment plant at Clonshaugh with an initial treatment capacity of approximately 500,000 PE. The project is currently programmed for completion after the 2029 assessment year and has therefore not been relied upon as available infrastructure for the assessment of the Proposed Order.

Uisce Éireann Submission on Water and Wastewater

17.4.17 It is noted that Uisce Éireann, in their submission[12] to An Coimisiún Pleanála (ACP) Scoping Opinion consultation process, referenced a Statutory Response made in December 2024 by Uisce Éireann to the Infrastructure Application planning application (Fingal County Council reference F23A/0781). In 2024, Uisce Éireann completed a feasibility review in relation to that application and issued a Confirmation of Feasibility to daa regarding water infrastructure and wastewater infrastructure. It is noted also that daa has engaged with Uisce Éireann regarding the provision of water and wastewater services related to the Proposed Order. Correspondence between daa and Uisce Éireann is presented in Appendix 17-1.

Fibre Networks and Lighting

17.4.18 Dublin Airport is served by an extensive fibre communications network, supporting operational, security, passenger-processing and commercial systems across the Dublin Airport Site.

17.4.19 Lighting infrastructure is provided throughout the Dublin Airport Site, including terminal, apron, airfield, road and car park lighting. These systems form part of the established operational infrastructure of the airport.

17.4.20 The Proposed Order does not require new terminal buildings, additional runway infrastructure or other physical development that would materially alter the existing fibre or lighting networks. Any changes to these systems associated with ongoing airport operations would be accommodated through the existing infrastructure and normal asset-management processes. Fibre networks and lighting are therefore not considered further in the quantitative assessment.

Utility Consumption and Wastewater Discharge Trends

17.4.21 Energy utilities demand and wastewater discharge at the Dublin Airport Site is influenced by a number of inter-connected factors, the key factors for the purpose of this assessment being as follows:

- The continued operation of the airport estate, including buildings, plant, operational systems and other fixed infrastructure;
- Efficiency measures which have been implemented over the years, particularly energy efficiency measures and water reduction measures which have reduced overall and per capita consumption rates for energy, gas and potable water supply;
- De-icing operations, and the associated volume of wastewater discharge, which although influenced by aircraft movements linked to passenger throughput are also influenced by meteorological conditions; and

[9] Uisce Éireann, Ringsend Wastewater Treatment Plant Upgrade Project – Information Booklet.
[10] Uisce Éireann (2024), Annual Report and Financial Statements 2024.
[11] Uisce Éireann (2025), Greater Dublin Drainage Project EIAR Addendum – Chapter 3A: The Need for the Proposed Project.
[12] Uisce Éireann letter submission dated 28 September 2026 to ACP, Uisce Éireann letter Ref: PN26000047949

- Increasing passenger throughput.

Resource demand and wastewater discharge data for the period 2023-2025, provided by daa, are set out in Table 17-1. Between 2023 and 2025, passenger throughput increased from approximately 33.5 mppa to 36.4 mppa.

Table 17-1: Resource Demand and Wastewater Discharge Data 2023 – 2025 period for Dublin Airport Site

Built service	2023	2024	2025	Lowest value within period 2023 to 2025
Electricity (GWh)	44.32	45.61	37.75	37.75
Gas (GWh)	35.64	29.88	29.32	29.32
Potable Water (m^3)	371,915	355,182	394,686	355,182
Foul Water Discharge (m^3)	818,121	641,058	740,015	641,508

17.4.22 In addition to data provided in Table 17-1 information provided by daa's utilities team demonstrates a longer-term trend of decoupling between passenger throughput and aspects of utility demand. Between 2014 and 2025 for example, passenger throughput increased from approximately 21.7 mppa to 36.4 mppa. Over the same time period, potable water intensity reduced from approximately 26.23 litres per passenger to 10.8 litres per passenger and annual natural gas consumption reduced from approximately 50.193 GWh to 29.32 GWh. This demonstrates that substantial historic passenger growth has been accommodated without a corresponding increase in these aspects of utility demand, reflecting operational efficiency, asset optimisation and the operation of an ISO 50001-certified Energy Management System. ISO 50001 is an international standard that provides a structured framework for organisations to monitor, manage and continually improve energy performance.

17.4.23 The historic data therefore demonstrate that the relationship between passenger throughput and demand for built services is not directly proportional. Demand is influenced by the fixed operational requirements of the airport estate, operational efficiency, asset optimisation and the management of utility systems. Wastewater discharge includes passenger-related sanitary flows but is also influenced by other operational and meteorological factors and total annual foul discharge therefore does not vary directly with passenger throughput. Historically, the existing foul drainage has also previously accommodated discharges of similar or larger magnitude than in 2025.

17.4.24 The scale and established operation of the existing built services infrastructure, available infrastructure capacity and historic trends in resource consumption and wastewater discharge provide important context for assessing the incremental change associated with the Proposed Order. These factors are therefore considered alongside the forecast incremental demand for electricity, natural gas and water, and the forecast change in wastewater discharge, in Section 17.6 (assessment of likely significant effects).

17.4.25 This assessment does not therefore assume that a change in passenger throughput would necessarily result in a corresponding reduction in demand for built services. Historic data demonstrates that increases in passenger throughput have not resulted in a proportional increase in utility demand or usage.

Current Design and Management Measures

17.4.26 Dublin Airport operates under an ISO 50001-certified Energy Management System, which provides a structured framework for monitoring energy performance, identifying opportunities for improved efficiency and supporting continuous improvement in energy use across the Dublin Airport Site.

17.4.27 Existing energy management measures include energy-efficiency initiatives, optimisation of building systems and plant, and the use of on-site renewable and CHP generation. These measures form part of the established operation and management of the Dublin Airport Site and contribute to the historic reduction in energy intensity described above.

17.4.28 Water consumption across the Dublin Airport Site is monitored as part of the management of the existing water supply infrastructure. The primary reservoir provides storage supporting potable, non-potable and

fire-water requirements, while ongoing management of the water network includes measures to manage consumption and maintain the efficient operation of the existing supply infrastructure.

17.4.29 Existing wastewater management measures include the operation of pollution-control systems serving the South Apron, North Apron and North Runway. These systems enable contaminated surface water runoff to be captured and stored prior to controlled discharge to the foul sewer. Discharges of trade effluent to the foul sewer are managed under the existing Trade Effluent Discharge Licence with Uisce Éireann. Further details of the management of contaminated surface water are provided in Chapter 11: Water.

17.4.30 These measures form part of the existing operational management of built services at the Dublin Airport Site and are therefore incorporated into the current receiving environment. They are not relied upon as additional mitigation for the Proposed Order but provide relevant context for the assessment of future demand for built services in Section 17.6.

17.5 Future Receiving Environment

17.5.1 The Future Receiving Environment represents the anticipated condition of Material Assets (Built Services) in 2029 under the Permitted Operation, in the absence of the Proposed Order. As described in Chapter 5: Methodology, this provides the future baseline against which the 2029 Proposed Operation is assessed in the Principal Assessment. The Future Receiving Environment takes account of the existing built services infrastructure described in Section 17.4 together with relevant published information regarding anticipated utility-system capacity and constraints over the assessment period.

Electricity

17.5.2 For electricity, the existing connection arrangements and Maximum Import Capacity serving the Dublin Airport Site are assumed to remain available in 2029. At a wider network level, EirGrid[13] identifies the Greater Dublin Area as the principal load centre on the Irish transmission system and identifies transmission capacity constraints affecting the movement of power into and around Dublin. National resource-adequacy forecasts indicate an improving capacity position, with EirGrid's base assessment meeting the Reliability Standard from 2029, although constraints remain under more challenging security-of-supply assumptions. The assessment therefore does not assume unconstrained spare capacity within the wider Dublin electricity network and considers the Proposed Order principally in the context of the existing airport connection and available MIC.

Gas

17.5.3 Gas Networks Ireland's Network Development Plan 2024[14] assesses projected demand and network requirements over a ten-year period. The Plan does not identify a specific capacity constraint affecting the gas network serving the Dublin Airport Site or the Dublin region, although investment is identified at national-system level to maintain security and adequacy of supply. The existing gas connection serving the Dublin Airport Site is therefore assumed to remain available in 2029, without reliance on additional local network reinforcement.

Water

17.5.4 Uisce Éireann's 2026 Water Supply Capacity Register[15] identifies the Greater Dublin Area Water Resource Zone serving Fingal as having potential capacity available to support projected growth to 2035, subject to improvements in level of service. Uisce Éireann identifies existing supply constraints within the Greater Dublin Area and notes that leakage reduction and/or capital investment will be required as demand increases. The Future Receiving Environment therefore does not assume unrestricted spare water-supply capacity but takes account of the continued operation of the existing public supply to the Dublin Airport Site and the airport's existing on-site water storage infrastructure.

Wastewater

[13] EirGrid and SONI (2026), All-Island Resource Adequacy Assessment 2026–2035
[14] Gas Networks Ireland (2024), Network Development Plan 2024
[15] Uisce Éireann (2026), Water Supply Capacity Register – Fingal, published April 2026.

17.5.5 Uisce Éireann's 2026 Wastewater Treatment Capacity Register[16] identifies spare treatment capacity at Ringsend WwTP at the date of publication. However, strategic wastewater planning identifies increasing treatment requirements across the Ringsend catchment and indicates that required treatment capacity may exceed the proposed ultimate installed capacity of 2.4 million PE between 2025 and 2031 depending on the rate of growth realised[17]. The capacity register does not provide information on sewer-network capacity. The Future Receiving Environment therefore recognises the availability of treatment capacity at Ringsend while also taking account of the wider strategic constraints affecting the catchment and does not rely on additional wastewater infrastructure becoming operational by 2029.

17.6 Assessment of Likely Significant Effects

17.6.1 The Principal Assessment considers the incremental change in demand for electricity, natural gas and water, and the change in wastewater discharge, between the 2029 Permitted Operation (32 mppa) and the 2029 Proposed Operation (40 mppa). In accordance with the methodology set out in Section 17.3, significance is determined principally having regard to the magnitude of the incremental change relative to demand at the Dublin Airport Site, the capacity and resilience of the infrastructure serving the Site, including any identified local or regional supply constraints, and historic trends in resource consumption and wastewater discharge. For electricity, natural gas and water, national consumption data provide supplementary context on the scale of the incremental resource demand but are not determinative of significance. No fixed quantitative threshold is applied. Significance is determined using professional judgement by considering whether the forecast incremental change has the potential to materially affect the availability, capacity, resilience or operation of the relevant built service. In reaching that judgement, the scale of the incremental change is considered alongside the characteristics and available capacity of the infrastructure serving Dublin Airport, any identified local or regional constraints, historic operational trends and, where relevant, the scale of the additional demand in the context of national resource consumption.

17.6.2 For assessment purposes, the lowest recorded data (for the period 2023 – 2025, refer Table 17-1) for resource demand and wastewater discharge values have been carried forward unchanged to represent the 2029 Permitted Operation. As set out in Section 17.3, there is no robust empirical basis for deriving lower demand or discharge values by scaling recorded data directly in proportion to passenger throughput. Carrying forward the lowest values over the 2023-2025 period therefore avoids introducing an unsupported reduction into the future receiving environment.

17.6.3 Carrying forward the lowest recorded values (see Table 17-1) provides a reasonable worst case of utilities demand and discharge under the 2029 Permitted Operation compared with the 2029 Proposed Operation.

17.6.4 Notwithstanding evidence provided in this chapter (e.g. Table 17-1), and on a conservative basis for the purposes of the assessment, the 2029 Proposed Operation applies a precautionary uplift of approximately 10% to 2025 recorded utilities demand and wastewater discharge as set out in Table 17-1, broadly corresponding to the approximately 9.9% increase in passenger throughput from the 2025 Current Operation (36.4 mppa) to the 2029 Proposed Operation (40.0 mppa). These forecasts (from a reasonable worst case viewpoint) do not rely on the continuation of historic improvements in resource efficiency or reductions in discharge intensity. The assessment therefore does not rely on the continuation of historic improvements in resource efficiency or reductions in discharge intensity.

Electricity

17.6.5 The lowest recorded electricity consumption at the Dublin Airport Site in the period 2023 – 2025 was in 2025, at approximately 37.75 GWh. For the purposes of the Principal Assessment carrying forward the 2025 value therefore provides a precautionary representation of electricity demand under the 2029 Permitted Operation by avoiding an unsupported reduction in demand and ensuring that the existing loading on the relevant infrastructure is not understated.

17.6.6 For the 2029 Proposed Operation (40 mppa), annual electricity consumption has been estimated at approximately 41.5 GWh by applying an approximately 10% uplift to recorded 2025 consumption, broadly corresponding to the increase in passenger throughput from 36.4 mppa to 40 mppa. The incremental increase attributable to the Proposed Order is therefore approximately 3.8 GWh per annum,

[16] Uisce Éireann (2026), Wastewater Treatment Capacity Register – Dublin, published April 2026.
[17] Uisce Éireann (2026), Greater Dublin Drainage Project.

equivalent to approximately 10% of the assumed 2029 Permitted Operation demand. This approach does not rely on the continuation of historic improvements in electricity-use efficiency and therefore provides a precautionary estimate of the additional annual electricity demand associated with the Proposed Order.

17.6.7 At a national scale, the incremental electricity demand of approximately 3.8 GWh per annum attributable to the Proposed Order would represent approximately 0.009% of annual electricity consumption in Ireland. This demonstrates that the incremental demand is very small in the context of overall national electricity consumption. In accordance with the methodology set out in Section 17.3, this comparison is used as supplementary context and is not relied upon as a threshold or as the principal basis for determining the significance of the effect.

17.6.8 The assessment of significance principally considers the additional electricity demand in the context of the infrastructure serving the Dublin Airport Site. Current peak electrical demand is approximately 10.5 MW against an existing Maximum Import Capacity (MIC) of approximately 17 MW, providing approximately 6.5 MW of headroom within the existing connection arrangements. The Dublin Airport Site is also served by dual electricity supplies and established on-site generation infrastructure. Peak demand and MIC provide the relevant comparison for considering available connection capacity. Annual electricity consumption is assessed separately to quantify the incremental resource demand associated with the Proposed Order and is not used as a proxy for peak electrical demand.

17.6.9 At the wider network level, the assessment takes account of the constraints affecting electricity transmission into and around the Greater Dublin Area and the forecast improvement in national resource adequacy over the assessment period. These wider network considerations are assessed alongside the existing connection arrangements and available capacity serving the Dublin Airport Site.

17.6.10 Historic electricity consumption at the Dublin Airport Site provides further context for the assessment. Between 2023 and 2025, passenger throughput increased from approximately 33.5 mppa to 36.4 mppa, while recorded annual electricity consumption reduced from approximately 44.3 GWh to 37.7 GWh. This demonstrates that passenger growth has previously been accommodated without a corresponding increase in electricity demand, reflecting the substantial fixed component of electricity demand associated with the operation of the existing airport estate together with improvements in energy efficiency and management. As set out above, the forecast for the 2029 Proposed Operation does not rely on the continuation of these historic improvements.

17.6.11 Having regard principally to the scale of the forecast incremental demand, the existing connection arrangements and available electrical capacity serving the Dublin Airport Site, the anticipated wider network position in 2029 and historic electricity consumption trends, the additional electricity demand associated with the Proposed Order would not be expected to materially affect the availability or operation of electricity infrastructure. The effect would therefore be Slight Adverse and Not Significant.

Natural Gas

17.6.12 The lowest recorded natural gas consumption at the Dublin Airport Site in the period 2023 – 2025 was approximately 29.32 GWh in 2025. For the purposes of the Principal Assessment carrying forward the 2025 value therefore provides a precautionary representation of natural gas demand under the 2029 Permitted Operation by avoiding an unsupported reduction in demand and ensuring that the existing loading on the relevant infrastructure is not understated.

17.6.13 For the 2029 Proposed Operation (40 mppa), annual natural gas consumption has been estimated at approximately 32.3 GWh by applying an approximately 10% uplift to recorded 2025 consumption, broadly corresponding to the increase in passenger throughput from 36.4 mppa to 40 mppa. The incremental increase attributable to the Proposed Order is therefore approximately 2.9 GWh per annum, equivalent to approximately 10% of the assumed 2029 Permitted Operation demand. This approach does not rely on the continuation of historic reductions in gas consumption intensity and therefore provides a precautionary estimate of the additional annual natural gas demand associated with the Proposed Order.

17.6.14 At a national scale, the incremental natural gas demand of approximately 2.9 GWh per annum attributable to the Proposed Order would represent approximately 0.005% of annual natural gas consumption in Ireland. This demonstrates that the incremental demand is very small in the context of overall national gas consumption. In accordance with the methodology set out in Section 17.3, this

comparison is used as supplementary context and is not relied upon as a threshold or as the principal basis for determining the significance of the effect.

17.6.15 The assessment of significance principally considers the additional demand in the context of the gas infrastructure serving the Dublin Airport Site. The Site is supplied by the established gas network described in Section 17.4, including the 19-bar supply from the Cloghran Ground Installation and the internal 4-bar ring main. Gas Networks Ireland's Network Development Plan 2024 does not identify a specific capacity constraint affecting the gas network serving the Dublin Airport Site or the wider Dublin region. The forecast incremental demand associated with the Proposed Order is therefore not expected to require material alteration of the existing gas supply arrangements.

17.6.16 Historic consumption provides further context for the assessment. Natural gas consumption at the Dublin Airport Site reduced from approximately 50.2 GWh in 2014 to 29.32 GWh in 2025, notwithstanding substantial growth in passenger throughput over the same period. This demonstrates that, historically, passenger growth has occurred without a corresponding increase in natural gas demand. As set out above, the forecast for the 2029 Proposed Operation does not rely on the continuation of this historic reduction in gas consumption intensity.

17.6.17 Having regard principally to the scale of the forecast incremental demand, the established gas infrastructure serving the Dublin Airport Site, the absence of an identified specific local network capacity constraint in published Gas Networks Ireland information, and historic gas consumption trends, the additional natural gas demand associated with the Proposed Order would not be expected to materially affect the availability or operation of gas infrastructure. The effect would therefore be Slight Adverse and Not Significant.

Water

17.6.18 The lowest recorded water consumption at the Dublin Airport Site in the period 2023 – 2025 was approximately 355,182 m³ in 2024. For the purposes of the Principal Assessment carrying forward the 2024 value therefore provides a precautionary representation of water consumption under the 2029 Permitted Operation by avoiding an unsupported reduction in demand and ensuring that the existing loading on the relevant infrastructure is not understated.

17.6.19 For the 2029 Proposed Operation (40 mppa), annual water consumption has been estimated at approximately 434,154 m³ by applying an approximately 10% uplift to recorded 2025 consumption (394,686 m^3). This increase represents an increase of approximately 78,973 m³ per annum, or approximately 22.2%, relative to the assumed 2029 Permitted Operation demand. The forecast broadly reflects the increase in passenger throughput from 36.4 mppa to 40 mppa and does not rely on the continuation of historic improvements in water-use efficiency. It therefore provides a precautionary estimate of the additional annual water demand associated with the Proposed Order.

17.6.20 At a national scale, the incremental water demand of approximately 78,973 m³ per annum attributable to the Proposed Order would represent approximately 0.012% of annual public water supply in Ireland. This demonstrates that the incremental demand is very small in the context of overall national water supply. In accordance with the methodology set out in Section 17.3, this comparison is used as supplementary context and is not relied upon as a threshold or as the principal basis for determining the significance of the effect.

17.6.21 The assessment of significance principally considers the additional demand in the context of the water supply infrastructure serving the Dublin Airport Site and the wider regional supply position. The Dublin Airport Site is supplied from Uisce Éireann's public water supply network and incorporates a primary reservoir with approximately 14,000 m³ of storage. As described in Section 17.5, Uisce Éireann identifies potential capacity within the Greater Dublin Area Water Resource Zone to accommodate projected growth, but subject to improvements in level of service, and identifies wider constraints affecting the resilience of water supply within the Greater Dublin Area. The assessment therefore does not assume that unrestricted spare capacity is available within the regional water supply system.

17.6.22 Having regard principally to the relatively small incremental water demand associated with the Proposed Order compared to the wider Fingal area demand, the established water-supply and storage infrastructure serving the Dublin Airport Site, and Uisce Éireann's published information on the Greater Dublin Area Water Resource Zone, the additional demand would not be expected to materially affect the availability or operation of water-supply infrastructure. Uisce Éireann's 2026 Water Supply Capacity

Register identifies potential capacity to support projected growth within the relevant Water Resource Zone, subject to improvements in level of service, while also identifying wider constraints affecting water-supply resilience in the Greater Dublin Area. These constraints have been taken into account in the assessment and unrestricted spare capacity has not been assumed. The effect would therefore be Slight Adverse and Not Significant.

Wastewater

17.6.23 The lowest recorded foul discharge from the Dublin Airport Site over the period 2023 – 2025 was approximately 641,058 m³ in 2024. For the purposes of the Principal Assessment carrying forward the 2024 value therefore provides a precautionary representation of foul wastewater discharge under the 2029 Permitted Operation by avoiding an unsupported reduction in discharge and ensuring that the existing loading on the relevant wastewater infrastructure is not understated.

17.6.24 For the 2029 Proposed Operation (40 mppa), annual foul discharge has been estimated at approximately 814,000 m³ by applying an approximately 10% uplift to recorded 2025 foul discharge, broadly reflecting the increase in passenger throughput from 36.4 mppa to 40 mppa. The incremental increase attributable to the Proposed Order is therefore approximately 172,942 m³ per annum, equivalent to an increase of approximately 27% relative to the assumed 2029 Permitted Operation. Consistent with the approach adopted for the other built services, this does not rely on the continuation of historic improvements in resource efficiency or reductions in foul discharge and therefore provides a precautionary estimate of the potential additional discharge associated with the Proposed Order.

17.6.25 The forecast annual foul discharge of approximately 814,000 m³ under the 2029 Proposed Operation would remain slightly below the approximately 818,121 m³ recorded at the Dublin Airport Site in 2023. Annual foul discharge is not determined solely by passenger throughput and is influenced by other operational and meteorological factors, including flows associated with the wider operation of the airport estate. The higher recorded discharge in 2023 despite lower passenger throughput is therefore consistent with the historic evidence that wastewater discharge does not vary directly or proportionately with passenger numbers. The existing foul drainage system has previously accommodated an annual discharge of a similar, and marginally greater, magnitude than that forecast for the 2029 Proposed Operation, providing direct operational evidence regarding the scale of the forecast discharge.

17.6.26 The assessment of significance principally considers the additional discharge in the context of the foul drainage and wastewater treatment infrastructure serving the Dublin Airport Site. As described in Section 17.4, foul wastewater from the Site is discharged to the public sewerage network and ultimately treated at Ringsend WwTP. The Dublin Airport Site also incorporates approximately 25,300 m³ of polluted-water storage, enabling certain contaminated operational flows to be retained and subsequently discharged to the foul sewer in a controlled manner. Trade effluent discharges are managed under the existing Trade Effluent Discharge Licence with Uisce Éireann.

17.6.27 Uisce Éireann's 2026 Wastewater Treatment Capacity Register identifies spare treatment capacity at Ringsend WwTP. Treatment capacity relates to the ability of the wastewater treatment plant to receive and treat wastewater once it reaches the plant. It is distinct from the hydraulic capacity of the sewer network, which relates to the ability of the intervening pipes and associated infrastructure to convey wastewater from the Dublin Airport Site to Ringsend WwTP. The Capacity Register does not provide information on the available hydraulic capacity of that sewer network. Strategic planning information also identifies increasing wastewater treatment requirements within the Ringsend catchment over the assessment period. The assessment therefore does not assume unrestricted capacity within the wider wastewater system and does not rely upon the proposed Greater Dublin Drainage Project becoming operational by 2029.

17.6.28 Historic foul discharge data provide further context for the assessment. Recorded annual discharge reduced from approximately 818,121 m³ in 2023 to 740,015 m³ in 2025, while passenger throughput increased from 33.5 mppa to 36.4 mppa. This demonstrates that foul discharge does not vary directly with passenger throughput, consistent with the contribution of operational and meteorological factors to flows entering the foul drainage system. The forecast for the 2029 Proposed Operation nevertheless assumes an approximately 10% increase from the recorded 2025 discharge and therefore does not rely on continuation of this historic trend.

17.6.29 Having regard principally to the magnitude of the forecast incremental discharge, the fact that annual discharge under the 2029 Proposed Operation would remain slightly below that previously recorded in

2023, and the established foul drainage and pollution-control infrastructure serving the Dublin Airport Site, the additional wastewater discharge associated with the Proposed Order would not be expected to materially affect the operation or availability of wastewater infrastructure. Uisce Éireann's published information identifies available treatment capacity at Ringsend WwTP but does not establish the available hydraulic capacity of the sewer network serving the Dublin Airport Site or any capacity specifically available to daa. The assessment therefore does not assume unrestricted sewer-network capacity and takes account of wider demand and future pressures within the Ringsend catchment. On this basis, the effect would be Slight Adverse and Not Significant.

Summary

17.6.30 The results of the Principal Assessment are summarised in Table 17-2. As described in Section 17.3, the assessment of significance principally considers the incremental change attributable to the Proposed Order in the context of the infrastructure serving the Dublin Airport Site, available information regarding infrastructure capacity and constraints, and historic operational performance.

Table 17-2: Summary of Principal Assessment

Built service	2029 Permitted Operation	2029 Proposed Operation	Increment attributable to Proposed Order	Effect	
Electricity	37.7 GWh	41.5 GWh	+3.8 GWh (+10 %)	Permanent, Adverse, Significant	Slight Not
Natural gas	29.32 GWh	32.3 GWh	+2.9 GWh (+10 %)	Permanent, Adverse, Significant	Slight Not
Water	355,182 m³	434,154 m³	+78,973 m³ (+22.2%)	Permanent, Adverse, Significant	Slight Not
Wastewater	641,058 m³	814,000 m³	+172,942 m³ (+27%)	Permanent, Adverse, Significant	Slight Not

17.7 Mitigation and Monitoring

17.7.1 The Principal Assessment concludes that the incremental increases in electricity, natural gas and water demand and wastewater discharge attributable to the Proposed Order would result in effects on Material Assets (Built Services) that would be Not Significant. No additional mitigation measures are therefore required.

17.7.2 As described in Section 17.4, daa operates established arrangements for the monitoring and management of built services across the Dublin Airport Site. These include monitoring and management of electricity, natural gas and water consumption, energy-efficiency and asset-optimisation measures, ISO 50001 energy-management governance, and the management of wastewater and trade effluent through the existing foul drainage and pollution-control infrastructure and applicable discharge controls. These arrangements form part of the existing operation and management of the Dublin Airport Site and have been taken into account as part of the receiving environment. They are not relied upon as additional mitigation for the Proposed Order.

17.7.3 No additional monitoring specific to the Proposed Order is considered necessary in relation to Material Assets (Built Services). Existing monitoring and management of electricity, natural gas and water consumption and wastewater discharge at the Dublin Airport Site will continue as part of normal airport operations.

17.8 Residual Effects and Conclusions

17.8.1 As no additional mitigation measures are required in relation to Material Assets (Built Services), the residual effects are the same as those identified in the Principal Assessment.

17.8.2 The Principal Assessment identifies incremental increases in electricity, natural gas and water demand and wastewater discharge associated with the Proposed Order. The assessment has principally considered these changes in the context of the established built services infrastructure serving the

Dublin Airport Site, available information on infrastructure capacity and constraints, and historic trends in resource consumption and wastewater discharge. National consumption data for electricity, natural gas and water provide supplementary context regarding the overall scale of the incremental resource demand.

17.8.3 The assessment demonstrates that the forecast incremental demand can be accommodated without materially affecting the availability or operation of the relevant built services infrastructure. For electricity, substantial headroom exists within the current connection arrangements; no specific local gas-network capacity constraint affecting the Dublin Airport Site has been identified; and the water assessment takes account of both the established on-site supply and storage infrastructure and the wider constraints affecting the Greater Dublin Area Water Resource Zone. For wastewater, the forecast discharge under the 2029 Proposed Operation would remain slightly below the annual discharge previously recorded in 2023, while Uisce Éireann's published information identifies available treatment capacity at Ringsend WwTP, subject to the limitations regarding sewer-network capacity described in Section 17.6.

17.8.4 The incremental increases in demand for electricity, natural gas and water, and wastewater discharge attributable to the Proposed Order would therefore result in Permanent, Slight Adverse effects on Material Assets (Built Services) that would be Not Significant.

17.9 Cumulative Effects

17.9.1 The approach to the assessment of cumulative effects is described in Chapter 20: In-combination and Cumulative Effects. For Material Assets (Built Services), cumulative effects could arise where the additional demand for electricity, natural gas or water, or additional wastewater discharge associated with the Proposed Order occurs alongside demand or discharge arising from other existing, permitted or reasonably foreseeable developments.

17.9.2 The Principal Assessment identifies relatively small incremental changes in demand for each of the relevant utility resources and in wastewater discharge. As described in Section 17.6, these changes have been considered principally in the context of the established infrastructure serving the Dublin Airport Site and available information regarding local and regional infrastructure capacity and constraints. The assessment also demonstrates that the existing built services infrastructure has previously accommodated substantial changes in passenger throughput and associated utility demand and wastewater discharge. At a national scale, the incremental electricity, natural gas and water demand associated with the Proposed Order also represents a very small proportion of national consumption, providing supplementary context regarding the overall scale of the additional resource demand.

17.9.3 Other existing, permitted or reasonably foreseeable developments may result in additional demand on electricity, natural gas, water supply and wastewater infrastructure. Such demand forms part of the wider growth and development pressures taken into account, where relevant, in the network planning and capacity information published by EirGrid, Gas Networks Ireland and Uisce Éireann. New or increased connections are also subject to the requirements of the relevant utility provider, including assessment of available network capacity and, where necessary, requirements for infrastructure reinforcement.

17.9.4 The assessment recognises the wider infrastructure constraints described in Sections 17.5 and 17.6, including transmission constraints affecting the Greater Dublin electricity network, constraints affecting water-supply resilience within the Greater Dublin Area Water Resource Zone, and increasing wastewater treatment requirements within the Ringsend catchment. These wider pressures have been taken into account in the cumulative assessment rather than assuming unrestricted future infrastructure capacity. The assessment also does not rely upon the delivery of major future water-supply or wastewater infrastructure projects in order to accommodate the incremental demand associated with the Proposed Order.

17.9.5 Having regard to the relatively small incremental demand and wastewater discharge attributable to the Proposed Order, the established infrastructure serving the Dublin Airport Site, available information regarding the capacity and future operation of the relevant utility networks, and the established role of the utility providers in managing connections and network capacity, the Proposed Order would not be expected to materially alter the cumulative demand placed upon built services infrastructure. No significant cumulative effects on Material Assets (Built Services) are therefore anticipated.

17.10 Indirect, Secondary and Transboundary Effects

17.10.1 Indirect or secondary effects could potentially arise where the additional demand for electricity, natural gas and water, or additional wastewater discharge associated with the Proposed Order results in consequential environmental effects through the generation, supply, treatment or management of those resources. Such effects could include, for example, emissions associated with additional energy generation or gas consumption, or effects associated with the abstraction, treatment and supply of water and the conveyance and treatment of wastewater.

17.10.2 These potential indirect effects are principally relevant to other environmental factors rather than to the availability or capacity of built services infrastructure itself. Where relevant, the environmental consequences associated with changes in energy consumption, water use and wastewater generation are considered within the corresponding topic assessments in this EIAR, including Chapter 11: Water and Chapter 13: Climate. The assessment in this chapter is concerned with the effect of the incremental demand and discharge on Material Assets (Built Services).

17.10.3 No additional indirect or secondary effects on Material Assets (Built Services) have been identified beyond the direct effects on utility demand, infrastructure capacity and wastewater discharge assessed in Section 17.6. Potential consequential effects on other environmental factors are addressed, where relevant, in the corresponding topic chapters of this EIAR.

17.10.4 The Proposed Order would not involve the development of new utility infrastructure and the incremental changes in resource demand and wastewater discharge identified by the assessment would not give rise to an impact pathway capable of resulting in significant effects outside Ireland. No likely significant transboundary effects on Material Assets (Built Services) are therefore anticipated.

17.11 Supporting Assessments and Interpretation

Introduction

17.11.1 As described in Section 17.3, three Supporting Assessments have been undertaken to provide additional context to the Principal Assessment. These consider changes in demand for electricity, natural gas and water, and wastewater discharge, between the 2023 Baseline Operation, the 2025 Current Operation and the relevant 2029 assessment scenarios. The Supporting Assessments are contextual and do not provide the basis for determining the likely significant effects of the Proposed Order.

17.11.2 The Supporting Assessments assist in understanding the relationship between passenger throughput and demand for built services over different assessment periods. In particular, they enable consideration of whether changes in passenger throughput have historically been associated with corresponding changes in resource consumption and wastewater discharge and provide context for the precautionary forecasting assumptions adopted in the Principal Assessment. Their findings are considered alongside the Principal Assessment and the historic trends described in Section 17.4.

Supporting Assessment 1 - 2023 Baseline Operation (32.0 mppa) vs Proposed Operation (2029, 40.0 mppa)

17.11.3 Supporting Assessment 1 considers the change in demand for electricity, natural gas and water, and wastewater discharge, between the 2023 Baseline Operation and the 2029 Proposed Operation. The 2023 demand and discharge values comprise recorded operational data for that year and have not been adjusted in proportion to passenger throughput. This Supporting Assessment provides additional context regarding the scale and direction of change between the 2023 operational condition and the 2029 Proposed Operation. The changes are presented in Table 17-3.

Table 17-3: Supporting Assessment 1 – Built Services Consumption and Wastewater Discharge

Built Service	2023 Baseline Operation (32.0 mppa)	2029 Proposed Operation (40.0 mppa)	Change
Electricity	44.3 GWh	41.6 GWh	-2.7 GWh (-6.1%)
Natural gas	35.6 GWh	32.3 GWh	-3.3 GWh (-9.3%)
Water	371,915 m³	434,154 m³	+63,319 m³ (+17.0%)
Wastewater Discharge	818,121 m³	814,000 m³	-4,121 m³ (-0.5%)

17.11.4 The 2029 Proposed Operation forecasts are derived from the most recent recorded 2025 consumption and discharge data, rather than by applying the increase in passenger throughput directly to the 2023 Baseline Operation. As described in Section 17.6, an approximately 10% uplift has been applied to the relevant 2025 values to provide a precautionary representation of the potential change associated with the increase from 36.4 mppa in 2025 to 40.0 mppa in 2029. This approach provides a conservative forecasting basis and does not rely on the continuation of historic improvements in resource efficiency or reductions in discharge intensity. Consequently, the direction and magnitude of change between the 2023 Baseline Operation and the 2029 Proposed Operation also reflect changes in actual consumption and wastewater discharge that occurred between 2023 and 2025.

17.11.5 Recorded electricity consumption was approximately 44.3 GWh in 2023 and approximately 37.7 GWh in 2025. The 2029 Proposed Operation forecast is derived from the recorded 2025 value, with the precautionary uplift described in Section 17.6 applied to give forecast annual consumption of approximately 41.6 GWh. The forecast does not assume that the reduction in electricity consumption observed between 2023 and 2025 will continue to 2029. Compared with the 2023 Baseline Operation, the forecast 2029 Proposed Operation therefore represents a reduction of approximately 2.7 GWh, or 6.1%.

17.11.6 Recorded natural gas consumption reduced from approximately 35.64 GWh in 2023 to approximately 29.32 GWh in 2025. Natural gas demand is not directly proportional to passenger throughput, as a substantial component of consumption relates to the operation of the airport estate, including heating, hot water generation and the CHP plant. Historic data also demonstrate that passenger growth has occurred without a corresponding increase in gas consumption. The 2029 Proposed Operation forecast is therefore derived from the recorded 2025 value, with the precautionary uplift described in Section 17.6 applied to give forecast annual consumption of approximately 32.3 GWh. Compared with the 2023 Baseline Operation, this still represents a decrease of approximately 3.3 GWh, or a reduction of 9.3%.

17.11.7 Recorded water consumption increased from approximately 371,915 m³ in 2023 to 394,686 m³ in 2025. Applying the forecasting approach described above results in forecast consumption of approximately 434,154 m³ under the 2029 Proposed Operation. This is approximately 62,239 m³, or 17.0%, above recorded 2023 consumption, which remains below the approximately 25% increase in passenger throughput between the two assessment scenarios.

17.11.8 Recorded wastewater discharge reduced from approximately 818,121 m³ in 2023 to 740,015 m³ in 2025. Applying the forecasting approach described above results in forecast discharge of approximately 814,000 m³ under the 2029 Proposed Operation. Although this represents an increase from recorded 2025 discharge, it remains approximately 4,100 m³, or 0.5%, below recorded 2023 discharge, notwithstanding the approximately 25% increase in passenger throughput between the two assessment scenarios.

17.11.9 Supporting Assessment 1 shows the forecast change in demand for built services and wastewater discharge between the 2023 Baseline Operation and the 2029 Proposed Operation. The resulting changes reflect the forecast additional demand associated with the 2029 Proposed Operation together with the actual operational trends recorded between 2023 and 2025. The historic trends provide supporting context for interpreting the direction and magnitude of change across the individual built services and are consistent with the longer-term operational trends described in Section 17.4.

Supporting Assessment 2 - Current Operation (2025, 36.4 mppa) vs Proposed Operation (2029, 40.0 mppa)

17.11.10 Supporting Assessment 2 considers the change in demand for electricity, natural gas and water, and wastewater discharge, between the 2025 Current Operation (36.4 mppa) and the 2029 Proposed Operation (40.0 mppa). This provides context regarding the scale of additional change between current airport operations and the operational conditions that would be facilitated by the Proposed Order. The changes are presented in Table 17-4. The numerical changes are the same as those presented in the Principal Assessment because recorded 2025 demand and discharge are carried forward unchanged to represent the 2029 Permitted Operation; however, this Supporting Assessment provides a separate current-to-future operational comparison for contextual purposes.

Table 17-4: Supporting Assessment 2 – Built Services Consumption and Wastewater Discharge

Utility	2025 Current Operation (36.4 mppa)	2029 Proposed Operation (40.0 mppa)	Change

Electricity	37.75 GWh	41.6 GWh	+3.9 GWh (+10.2%)
Natural gas	29.32 GWh	32.3 GWh	+3.0 GWh (+10.2%)
Water	394,686 m³	434,154 m³	+39,468 m³ (+10.0 %)
Wastewater Discharge	740,015 m³	814,000 m³	+73,985 m³ (+10.0%)

17.11.11 The 2025 Current Operation values presented in Table 17-3 are based on the latest available 2025 consumption and wastewater discharge information provided by daa.

17.11.12 The 2029 Proposed Operation forecasts have been derived from these recorded 2025 values by applying an approximately 10% uplift, broadly reflecting the increase in passenger throughput from 36.4 mppa in 2025 to 40.0 mppa in 2029. This results in forecast annual consumption of approximately 41.6 GWh of electricity, 32.3 GWh of natural gas and 434,154 m³ of water, together with forecast wastewater discharge of approximately 814,000 m³.

17.11.13 Passenger throughput increases by approximately 9.9% between the 2025 Current Operation and the 2029 Proposed Operation, while the resulting forecast changes in individual built services are approximately 10.0% to 10.3%, reflecting the use of an approximately 10% forecasting uplift and rounding of the underlying consumption data. The forecasts therefore provide a precautionary representation of potential additional demand and wastewater discharge by broadly applying the increase in passenger throughput to 2025 operational data, rather than assuming that the historic trend of improved resource efficiency or reduced discharge intensity will continue.

17.11.14 This approach is precautionary in the context of the longer-term trends described in Section 17.4, which demonstrate that changes in passenger throughput have not historically resulted in directly proportionate changes in electricity, natural gas or water consumption or wastewater discharge. Supporting Assessment 2 therefore provides additional context regarding the scale of change between the 2025 Current Operation and the 2029 Proposed Operation. It is a supporting comparison and does not provide the basis for determining the likely significant effects of the Proposed Order.

Supporting Assessment 3 – 2025 Current Operation (36.4 mppa) vs 2029 Permitted Operation (32.0 mppa)

17.11.15 Supporting Assessment 3 considers the change in demand for electricity, natural gas and water, and wastewater discharge, between the 2025 Current Operation (36.4 mppa) and the 2029 Permitted Operation (32.0 mppa). Consistent with the approach adopted for the Future Receiving Environment and the Principal Assessment, recorded 2025 consumption and wastewater discharge have been carried forward unchanged to represent the 2029 Permitted Operation. Supporting Assessment 3 therefore assumes a 0% change in electricity, natural gas and water consumption and wastewater discharge, notwithstanding the approximately 12.1% reduction in passenger throughput between the two scenarios.

17.11.16 This represents a precautionary approach because no corresponding reduction in demand or wastewater discharge is assumed as a consequence of the lower passenger throughput. As demonstrated by the historic trends described in Section 17.4, demand for built services and wastewater discharge do not vary directly in proportion to passenger throughput, reflecting the fixed operational requirements of the airport estate and other operational and meteorological factors. The assumed 0% change therefore avoids taking credit for reductions in demand or discharge that cannot be reliably quantified and ensures that the existing loading on the relevant built services infrastructure is not understated.

17.12 Conclusions

17.12.1 This chapter has assessed the likely effects of the Proposed Order on Material Assets (Built Services), comprising electricity, natural gas and water supply and wastewater infrastructure. The Principal Assessment considers the incremental change between the 2029 Permitted Operation (32.0 mppa) and the 2029 Proposed Operation (40.0 mppa), having regard principally to the scale of the additional demand and discharge, the capacity and operation of the infrastructure serving the Dublin Airport Site, and available information regarding the capacity and constraints of the wider utility networks.

17.12.2 The Dublin Airport Site is served by established utility infrastructure which has supported substantial historic growth in airport operations. For electricity, current peak demand of approximately 10.5 MW is substantially below the existing Maximum Import Capacity of approximately 17 MW, providing approximately 6.5 MW of headroom within the existing connection arrangements. The Site is served by an established gas supply network, with no specific local network capacity constraint affecting the Dublin Airport Site identified in published Gas Networks Ireland information. Water is supplied through established infrastructure incorporating approximately 14,000 m³ of on-site storage, while recognising the identified constraints affecting the wider Greater Dublin Area Water Resource Zone.

17.12.3 Foul wastewater from the Dublin Airport Site is discharged to the public sewerage network and ultimately treated at Ringsend WwTP. The assessment has taken account of available treatment-capacity information for Ringsend and the limitations of the available information regarding hydraulic capacity within the sewer network. In light of those limitations, the assessment does not assume unrestricted sewer-network capacity and adopts a precautionary approach. Forecast annual wastewater discharge under the 2029 Proposed Operation, at approximately 814,000 m³, would remain slightly below the approximately 818,121 m³ already recorded at the Dublin Airport Site in 2023. The assessment does not rely on the delivery of future major wastewater infrastructure to accommodate the 2029 Proposed Operation.

17.12.4 Historic operational data provide further context for the assessment and demonstrate that changes in passenger throughput have not resulted in directly proportionate changes in demand for utility services or wastewater discharge. The forecasts adopted for the 2029 Proposed Operation nevertheless apply an approximately 10% uplift to the latest recorded consumption and discharge data, broadly reflecting the increase in passenger throughput from 36.4 mppa in 2025 to 40.0 mppa in 2029. This provides a precautionary forecasting basis by not relying on the continuation of historic improvements in resource efficiency or reductions in discharge intensity.

17.12.5 At a national scale, the incremental electricity, natural gas and water demand attributable to the Proposed Order would represent very small proportions of national consumption. These comparisons provide supplementary context regarding the overall scale of additional resource demand but are not relied upon as thresholds or as the principal basis for determining significance.

17.12.6 Having regard to the forecast incremental demand and wastewater discharge, the established infrastructure serving the Dublin Airport Site, available information regarding infrastructure capacity and constraints, and historic operational performance, the Proposed Order would not be expected to materially affect the availability or operation of electricity, natural gas, water supply or wastewater infrastructure. The effects on Material Assets (Built Services) would therefore be Permanent, Slight Adverse and Not Significant. No additional mitigation or monitoring specific to the Proposed Order is required.

17.12.7 The Supporting Assessments provide additional context consistent with the conclusions of the Principal Assessment. They illustrate the differing relationships between passenger throughput and demand for built services and wastewater discharge across the assessment scenarios. No significant cumulative, indirect, secondary or transboundary effects on Material Assets (Built Services) have been identified.