



ECONOMIC WELL-BEING SUB-COMMITTEE

2nd October 2026

TITLE: LPWAN project Deployment Plans

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1 PURPOSE OF THE REPORT

- 1.1. To present details of the Deployment Plans in respect of the LPWAN project for consideration by the Economic Well-being Sub-committee.

2. DECISION SOUGHT

- 2.1. That the Sub-Committee approve the release of funding for the Deployment Plans set out in section 4.10 of the report in respect of the LPWAN project and authorise the Portfolio Director to take all operational steps to enter into the Grant Funding Agreements with the relevant local authorities.
- 2.2. That the Sub-Committee approve the retention of the underspend set out in section 5.1 within the project budget for a period of 12 months to allow further Deployment Plans to be developed with the local authorities and to delegate approval of these plans to the Portfolio Director in consultation with the Chair, Vice-Chair, Section 151 Officer and Monitoring Officer.

3. REASON FOR THE DECISION

- 3.1. To seek the Sub-Committee's approval of the Deployment Plans in respect of the LPWAN project. The previous delegated authority to the Portfolio Director in consultation with the Lead Member for Digital and the Programme Board cannot be completed due to a vacancy in the Lead Member role.

4. BACKGROUND AND RELEVANT CONSIDERATIONS

- 4.1. The LPWAN Business Justification Case was approved by the North Wales Economic Ambition Board on the 19th July 2024 on the basis that the individual Deployment Plans for each local authority would be approved by delegated decision.
- 4.2. Following approval of the Business Justification Case in 2024, further background to the project is provided as an appendix to this report (Appendix 1). The project involves capital funding being allocated to five of the region's councils to enable the expansion of 'LoRaWAN' network coverage and deployment of LoRaWAN devices which can enable improved delivery across a wide range of public services. The coverage (provided by 'gateways' installed on public buildings, often schools in rural areas) is also accessible to the private sector and will enable trialling and innovation for businesses wishing to investigate the benefits of this relatively affordable and versatile wireless technology. Alongside the installation of LoRaWAN gateways

and providing network coverage the councils will also support activities to promote LoRaWAN to the wider private sector to encourage adoption beyond the public sector. Where businesses see value in the technology from trialling it they may wish to invest in their own network coverage which is considered to be a cost effective means of supporting 'Internet of Things' (or IoT) applications with an expanding range of business applications for many industries.

- 4.3. Since approval of the original Business Justification Case
- Gateway distribution mapping has been undertaken to identify locations for gateways to be installed in all counties
 - Ambition North Wales has procured a supply framework for all participating councils to purchase LoRaWAN gateways from
 - Deployment Plans have been developed by five of the region's council following internal service level engagement.
- 4.4. Isle of Anglesey Council has chosen not to pursue LoRaWAN deployment at this time, however the council will remain engaged with the project to ensure that the knowledge developed regionally is shared to inform and future considerations of the use of the technology.
- 4.5. Outstanding actions as Business Justification Stage have been addressed:

	Summary of PMO Assessment	Outstanding issues
Economic Case	• Benefits to be reviewed, practicality of benefits assessment / quantification to be considered	• Benefits profiles to at county level to be confirmed within Local Deployment Plans as condition of funding COMPLETE • Final PMO review incl. Hatch review. COMPLETE
Commercial Case	• Review commercial approach, councils' understanding of implications • Sequencing of procurement to be made clearer	• Undertake initial mapping / network design prior to confirming affordability of core/desirable/optional scopes COMPLETE • Final PMO review COMPLETE
Financial Case	• Review cost assumptions; network design, gateway purchase, network management costs	• Confirm capital budget following initial network design COMPLETE • Councils to confirm affordability of delivery resourcing for gateway operation and demand stimulation activities, to be confirmed in Local Deployment Plans. COMPLETE • Section 151 Officer to review COMPLETE
Management Case	• Review project management and delivery resource requirements • Update risk register	• Confirm resourcing arrangements for project manager. Consult councils on secondment opportunity or recruit externally COMPLETE • Update risk register before Economic Ambition Board review

	• Update Benefits Realisation Plan • Confirm evaluation requirements	COMPLETE • Update Benefits Realisation Plan before Economic Ambition Board review COMPLETE • Grant Funding agreement for councils drafted, councils to review COMPLETE
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- 4.6. The individual equipment deployment plans are summarised in the table below, consisting of the number of gateways and sensors, deployment schedules and promotional activities.

The project has four spending objectives

- To deliver affordable and simple to use LPWAN connectivity to in North Wales by 2027, enabling efficiencies across public services and supporting innovation in the private and public sectors
 - To support the adoption of 10-20 new applications of LPWAN technology across the public and private sectors in the region by 2032
 - To support between £0.1m-£0.5m investment in the region by 2032
 - To support the creation of 20 jobs in the region by 2032
- 4.7. The Deployment Plans demonstrate contributions to these with the investment and job creation expected to be delivered indirectly between 2027-2032.
- 4.8. The proposed direct benefits to be realised within each county are summarised below. Indirect benefits will be associated with use of the network by the private sector and other public sector users not directly involved in the project. These benefits will not be readily identifiable and therefore the value for money appraisal for the project will focus solely on those benefits which can be readily identified.
- 4.9. While the Deployment Plans detail a reduced number of gateways to be deployed initially (137) compared to the originally anticipated 250, the overall benefits compare favourably with the lower value of capital investment proposed with a Benefit Cost Ratio now presented as 2.79 compared to the original assessment of 2.46.
- 4.10. The underspend of £691,233 is recommended to be remain available to Local Authorities to draw down over the course of the project to further enhance gateway coverage and applications as new demand for LoRaWAN from within services is identified and confirmed. The process of engaging council services to promote the opportunities LoRaWAN presents in supporting service delivery is ongoing and interest continues to grow as that awareness increases, particularly through engagement between councils demonstrating common themes. In further extending gateway coverage the project will provide wider LoRaWAN coverage for use by the private sector.

	Total costs	Total Benefits (6 years)	Benefit / Cost ratio
2026 Deployment Plans	£449,619	£1,255,545	2.79
2024 Business Justification Case	£1,140,852	£2,816,268	2.46

Details and benefits of public services applications supported in Deployment Plans

Benefit values are provided by each Council which have estimated a range of identified cost savings, including reduced labour costs, replacing existing more expensive systems and reductions in other costs such as avoided repairs, travel time, energy savings etc. Some applications have been identified within several councils, such as flood risk monitoring and ongoing engagement within and between councils continues to identify further applications of potential benefit.

	Application	Description	
Denbighshire County Council	School leaks	Leak detection across schools estate	
	Footfall	System replacement cost saving	
	Dark skies	Automation of currently manual task	
	Council nursery	Automation of monitoring of irrigation levels	
	Footfall	System replacement cost saving	
	Flood risk	Automation of flood level monitoring at culverts	
	Grit bins	Automation of grit bin monitoring	
	Solar power monitoring	Solar Panel Power monitoring	
	Archives	Humidity monitoring in museums	
	Education	Real time monitoring of refrigeration and safety monitoring	
	Footfall	System replacement cost saving	
	Total Benefits (£)		£ 389,283
Flintshire County Council	Flood risk	Automation of flood level monitoring	
	Watering	Tree mortality reduction	
	Water flow monitoring	Leak detection	
	Total Benefits (£)		£ 287,046
Cyngor Gwynedd	Bin monitoring	Reduce waste collections	
	Storm damage	Reduce visits to post storm sites	
	Flood modelling	To predict flooding	
	Vape detection	Detection of vaping	
	Cold homes	To identify damp and mould	
	Total Benefits (£)		£ 351,936
Wrexham County Borough Council	Winter roads maintenance	Road temperature monitoring for savings on gritting	
	Flood risk	Remote monitoring of high-risk sites	
	Total Benefits (£)		£ 81,000
Conwy County Borough Council	Flood risk	Remote monitoring of high-risk sites	
	Soil moisture	Remote monitoring of soil moisture in Lloyd Street Llandudno	
	Network resilience	Enhanced connectivity resilience supporting flood risk monitoring in Conwy valley	
	Flood risk	Water level sensors for manhole covers and restricted access to culverts	
	Water Temperature	Hot water supply monitoring for schools	
	Total Benefits (£)		£ 146,280
	Total Regional Benefits (£)		£ 1,255,545

5. FINANCIAL IMPLICATIONS

- 5.1. Since Business Case approval the main financial matter regards the proposed underspend compared to the original capital budget allocated for the project. A combination of (i) reduced initial council demand for gateways (ii) decision by Isle of Anglesey Council not to submit a Deployment Plan for this round of funding and (iii) lower than expected cost of gateways following a successful framework procurement has led to a reduced capital budget requirement. However, councils have indicated that as internal engagement continues the demand for new gateways and devices will continue. It is therefore proposed that the forecast underspend from current Deployment Plans is reserved to supplement councils' plans over the course of the project, with individual requests for additional funding made directly to Ambition North Wales and approved by the Portfolio Director where the costs meet the minimum value for money threshold of the original Business Justification Case.

Summary of capital costs by local authority (Deployment Plans 2026)

Local Authority	Gateways		Sensors/Devices		Labour (installation)		Total
	No.	£	No	£	Officer	Contractor	
Denbighshire	36	£ 15,453	18	£ 25,059	£ 8,301	£ 23,560	£ 72,373
Gwynedd	30	£ 12,199	16	£ 36,667	£ 2,400	£ 30,000	£ 81,266
Flintshire	31	£ 15,599	56	£ 9,962	£ 3,720	£ 31,000	£ 60,281
Wrexham	25	£ 9,173	10	£ 27,800	£ 2,500	£ 23,000	£ 62,473
Conwy	15	£ 6,825	10	£ 17,300	£ 2,250	£ 2,250	£ 28,625
Total	137	£ 59,249	52	£ 116,787	£ 19,171	£ 109,810	£ 305,018
		Fixed assets £ 176,036			Gateway installation £128,981		

Capital costs in LPWAN Business Justification Case (2024) and Deployment Plans (2026)

Item	BJC Planned Spend	Deployment Plans Spend	Variance
Fixed assets (Gateways, sensors and connection)	£578,750	£176,036	£402,714
Gateway installation (capitalised costs)	£405,000	£128,981	£276,019
Gateway mapping	£20,000	£7,500	£12,500
Other Capital item (equipment renewal)	£43,750	£43,750	£0
Capitalised Staff costs (ANW, project mgt.)	£93,352	£93,352	£0
Total	£1,140,852	£449,619	£691,233

- 5.2 Subject to the approval of the recommendations in this report, the underspend of £691,233 would be retained within the project budget for 12 months to allow the development and agreement of further Deployment Plans with the six local authorities. The use of any remaining underspend at the end of this 12-month period would be a matter for the Economic Wellbeing Sub-Committee to determine.

6. LEGAL IMPLICATIONS

- 6.1. Approval of the recommendations will authorise the release of Growth Deal funding for the current Deployment Plans and enable the CJC to enter into Grant Funding Agreements with the participating local authorities. It will also delegate approval of further Deployment Plans to the Portfolio Director following the specified consultations. A subsidy control assessment has been undertaken and has concluded that the arrangements constitute no subsidy

7. IMPACT ASSESSMENTS

- 7.1. No further changes are identified to the impact assessment undertaken at the Business Justification Case approval stage.

Background documents (available upon request):

Summary of Deployment Plans
Cyngor Gwynedd Deployment Plan
Wrexham County Borough Council Deployment Plan
Conwy County Borough Council Deployment Plan
Flintshire County Council Deployment Plan
Denbighshire County Council Deployment Plan
LPWAN Business Justification Case (July 2024)

APPENDICES:

Appendix 1	Background to the LPWAN Project
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STATUTORY OFFICERS RESPONSE:

i. Monitoring Officer:

"I am satisfied that the recommendations provide an appropriate basis for approving the current Deployment Plans and for the controlled use of the remaining project budget for further Deployment Plans."

ii. Statutory Finance Officer:

"On the basis of the information provided in this report, I have no objections to the decisions sought."