

## **Appendix E.iii – Operating Costs – Opex Treatment of QNS**

### **Opex treatment of QNS**

In the H8 Business Plan, Heathrow sought £241m (CPI) of H8 capex investment to deliver Heathrow's Quieter Neighbourhood Support (QNS) programme at the scale needed to meet Noise Action Plan (NAP) commitments, protect affected communities through insulation and vortex mitigation, and avoid delivery delays that would increase regulatory and operating restrictions risk.

Heathrow acknowledges the CAA's position regarding our proposal to treat QNS costs as capex for H8, and the CAA's view that this should be treated as opex in line with statutory accounting policies.

### **Summary of CAA feedback in Steer document**

CAA feedback challenged the case to include the QNS in capex funding, whilst recognising the compliance need to mitigate noise as much as practicable. The analysis could not quantify the consumer (community) benefit and questioned the evidence to support an increase in demand or expenditure (from c£14m to c£48m per annum). This was based on analysis of historic spend and consideration that these schemes have been running for decades. The c15 year target was acknowledged but it was unclear how the schemes would be delivered. The boundary criteria were considered to be going beyond Heathrow's obligations as it was suggested that noise levels would improve and that complaints were less per movement than other EU airports. The Steer report noted that no non-compliance with the National Policy Statement had been recorded. Several airports were cited as benchmarks for insulation programs and it was suggested that capex funding was not commonplace. Additional feedback offered in dialogue with CAA sought confirmation that properties currently identified for compulsory purchase under the expansion plans for Heathrow would not be treated.

Heathrow acknowledges the IP's position for QNS to be treated as opex and provides a response to the CAA's assessment below.

### **Revenues and opex**

Previous assessment conclusion: Include all noise insulation and mitigation costs in opex, with an annual budget of c.£14m in 2024 prices.

Response: Heathrow has taken onboard the proposal that costs should be treated as opex (see Section 3.4). However, the proposals would result in the noise insulation and mitigation schemes taking 100 years to complete which is not a credible position for an airport with the scale of noise impact that Heathrow has. [REDACTED]

[REDACTED]

[REDACTED]

## **Capacity, passenger experience, airline operations and sustainability**

Previous assessment conclusion: The CAA concluded that it was not possible to quantify the demand or community benefit from implementation of the noise insulation and mitigation schemes.

Response: Independent research undertaken through Heathrow’s before-and-after insulation study shows statistically significant reductions in high annoyance and high sleep disturbance levels following installation of insulation under the QNS (see evidence summary). [REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

## **Safety, compliance and operational resilience**

Previous assessment conclusion: The CAA’s IP concluded that the QNS proposals went beyond Heathrow obligations in respect of noise policy in the context of an improving noise climate and lower levels of complaint per movement than other European airports.

In addition, it was found that the proposals lacked evidence of the demand needed to justify the uplift in expenditure based on the historic record of delivery.

Response: In respect of the suggestion that Heathrow has gone beyond its obligations, the QNS has been adopted by the UK Government and aligns with policy. The eligibility criteria is based on requirements set out in the Aviation Policy Framework 2013 (3.36-3.41) and 2017 Airspace Consultation response– which set minimum boundaries within which insulation should be provided and crucially also require airports that have long established schemes to both undertake a review of their effectiveness (3.38 APF) and consider alternative criteria or have additional schemes where night flights are an issue (3.41). As part of the Round 3 NAP Heathrow undertook a review of its historic schemes, which whilst offering to support to around twice as many homes, had low/very low take up (50%/20%). A pilot scheme showed much higher levels (80%) of take up and importantly high levels of resident satisfaction and this informed the development of the QNS. The QNS was adopted by DEFRA into the Round 4 NAP and launched in 2024.

With regard to potential H8 demand, since the original H8 submission a master program has been developed to phase the delivery of the QNS and evidence of very high take up established – for example in the areas planned to be treated in 2027 registration is already in excess of 75% and for those planned for 2028 over 50%.

**Benefits and likelihood of QNS programme**

Theme	Benefits Net impact	Likelihood
<p><b>Capacity, passenger experience, airline operations, sustainability</b></p>	<ul style="list-style-type: none"> <li>Research undertaken through Heathrow’s before-and-after insulation study shows statistically significant reductions in high annoyance and high sleep disturbance levels following installation of insulation under the QNS.</li> </ul>	<ul style="list-style-type: none"> <li></li> </ul>
<p><b>Safety, compliance, operational resilience</b></p>	<ul style="list-style-type: none"> <li></li> <li>The NAP and Government policy require Heathrow to deliver a noise insulation and mitigation program that is “reasonable and proportionate” (3.38 APF2013).</li> </ul>	<ul style="list-style-type: none"> <li>The NAP setting out the QNS program has been adopted by Government.</li> <li>The delivery program is comparable to other major hub airports.</li> </ul>

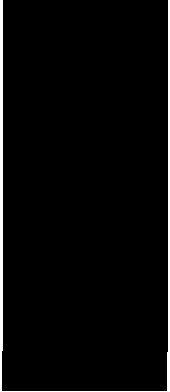
Theme	Benefits Net impact	Likelihood
	<ul style="list-style-type: none"> <li>• The CAA cap 1165 recommends that “Airports seeking expansion should significantly increase spending on noise mitigation schemes to get closer to international competitors – including full insulation for those most affected.”</li> <li>• Delivery at scale through a stable, programme-led model materially improves cost effectiveness and delivery confidence.</li> <li>• Enables continuous delivery of around 600 to 750 homes per year, allowing fixed mobilisation and preliminary costs to be spread across a larger number of properties. This reduces average per-home costs.</li> <li>• Noise Insulation &amp; mitigation reduces the likelihood of operating restrictions being imposed to control noise, supporting continuity of air transport services and protecting economic and consumer outcomes.</li> <li>• Vortex strikes can cause roof tiles to be displaced and fall to the ground. Identification of the specific aircraft responsible is often difficult so Heathrow responds swiftly to strikes to secure the roof and reduce the risk of further damage.</li> <li>• The vortex protection scheme reduces the risk of personal injury and/or property damage by identifying high strike probability areas and seeking to protect the roof from vortex damage.</li> </ul>	<ul style="list-style-type: none"> <li>• The eligibility criteria used by Heathrow is notably less than those used at other hub airports.</li> <li>• Registration and demand for insulation at Heathrow has never been higher.</li> <li>• </li> <li>• There are typically around 100 vortex strikes a year.</li> </ul>

Figure E.iii.1 – Table showing benefits and likelihood of the QNS programme

**Reason for Opex Overlay**

To comply with the requirements of the Environmental Noise (England) Regulations 2006 Heathrow is required to draft a NAP which is then adopted by government. The NAP supports the national aviation noise policy statement which states that

*“The impact of aviation noise must be mitigated as much as is practicable and realistic to do so, limiting, and where possible reducing, the total adverse impacts on health and quality of life from aviation noise.”*

More specifically the latest Night Flight Restrictions (December 2024) include the following night noise objective:

*“To limit, and where possible reduce, the adverse effects of aviation noise at night on health and quality of life, while supporting sustainable growth and recognising the importance to the UK of commercial passenger and freight services.”*

The metrics used by the DfT to measure achievement of the objective include sleep disturbance impacts associated with night flights.

Delivering an effective noise insulation program in a reasonable time frame that can quantify the impact on community annoyance, sleep disturbance and quality of life is a critical and practical intervention to achieve the stated aims of government policy



### Scope Summary

The QNS programme provides targeted mitigation for communities most affected by aircraft noise and vortex strikes around Heathrow. It combines residential insulation, relocation support, quieter schools measures and vortex protection within a single long-term programme.

The table below summarises each scheme, the scale of eligible properties and the target completion date.

Scheme	Description	H7 scope	Scale #	Target completion
<b>Residential Insulation Scheme (RIS)</b>	Fully funded insulation of up to £34,000 for eligible homes.	5200	~24,000	2041
<b>Home Relocation Assistance Scheme (HRAS)</b>	Financial support for eligible homeowners in the noisiest areas who choose to move.	On application	776 remain eligible	n/a
<b>Quieter Schools</b>	Noise insulation and ventilation improvements for	23	23	2031

Scheme	Description	H7 scope	Scale #	Target completion
Programme (QSP)	eligible schools and community buildings.			
Vortex Impact and Prevention Scheme (VIPS)	Protection and repair for homes affected by vortex strikes.	1300	~8,100	2041

Figure E.iii.2 – Table summarising each scheme, the scale of eligible properties and the target completion date.

**How this scope has been developed**

The scope of the QNS was developed following a review of historic schemes operated at Heathrow and other comparable airport over the past 30 years. The review drew on feedback from historic schemes and responses to public consultation undertaken as part of the Noise Action Plan drafting process to establish principles which were agreed at Heathrow Executive level. Subsequently the boundary and contribution proposals were set out in the Round 4 Noise Action Plan (2024-2028) and adopted by Government. The delivery strategy and timeframe were developed based on learning from previous Heathrow schemes and wider benchmarking which indicated that a 15 year targeted delivery was both achievable and could be considered credible by stakeholders.

The composite boundary criteria are based on levels above the day and night SOAEL (Significant Observed Adverse Effect Levels), the likelihood of additional awakenings and the 90dB SEL footprint of the loudest aircraft scheduled to operate before 0600. They recognise that noise has improved since the 1990s and may continue to improve so the scheme includes a regular review of the boundary to ensure those improvements are recognised.

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

[REDACTED]

**Likelihood of delivery**

Delivery is phased over three H periods (see table below). This aligns with experience at Frankfurt and Paris, as comparable European airports, where over 23,000 homes were insulated over 15 years in Frankfurt and of the 110,000 properties eligible in Paris since

2006, 77,000 have been treated to date. Building on the structures and processes developed in H7, delivery capacity in H8 will achieve insulation and vortex protection for around 5,000 homes between 2027 and 2031 through a controlled ramp-up. Annual residential insulation increases from around 750 homes in 2027 to around 1,376 homes by 2031 (12.9% growth year on year). Vortex protection activity increases from around 121 to around 400 treatments per year.

	H8	H9	H10	Total (denominator)
<b>Residential Insulation (RIS)</b>	22%	38%	40%	~24,000
<b>Vortex Impact and Prevention Scheme (VIPS)</b>	16%	41%	43%	~8,100
<b>Quieter Schools Programme (QSP)</b>	100%	0%	0%	23

*Figure E.iii.3 – Table showing phasing of delivery of each scheme.*

Delivery operates through a single master programme with defined gateways covering communications, registration, surveys, and physical works. Entry to each stage requires defined readiness criteria, including an 80 percent registration threshold before surveys start. Works progress in geographically defined tranches with quality assurance, cost control, and auditability at each stage.

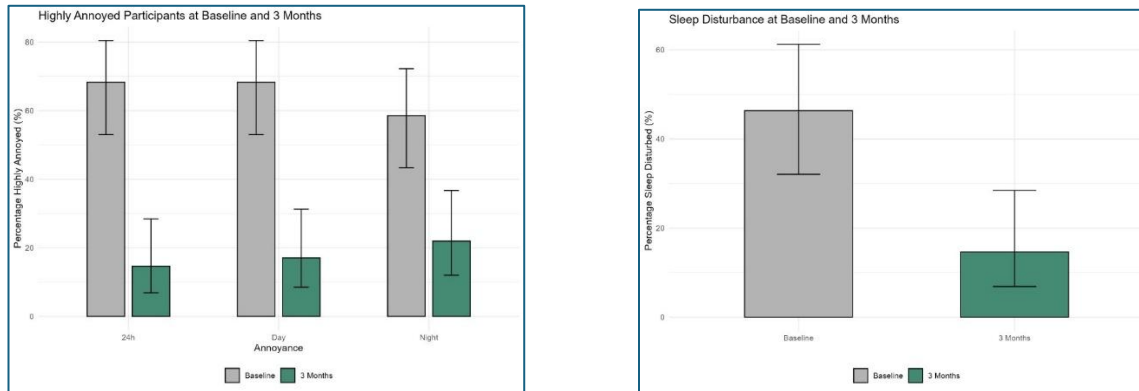
Areas phased for delivery in 2027 are already recording registration levels of 75–100%, reflecting strong early engagement driven by delivery certainty. Areas scheduled for 2028 and beyond are achieving c.53–60% registration already, providing a solid baseline which is expected to strengthen as delivery timelines mature and programme visibility increases.

### **Evidence Summary**

#### **Health Impact benefits of insulation**

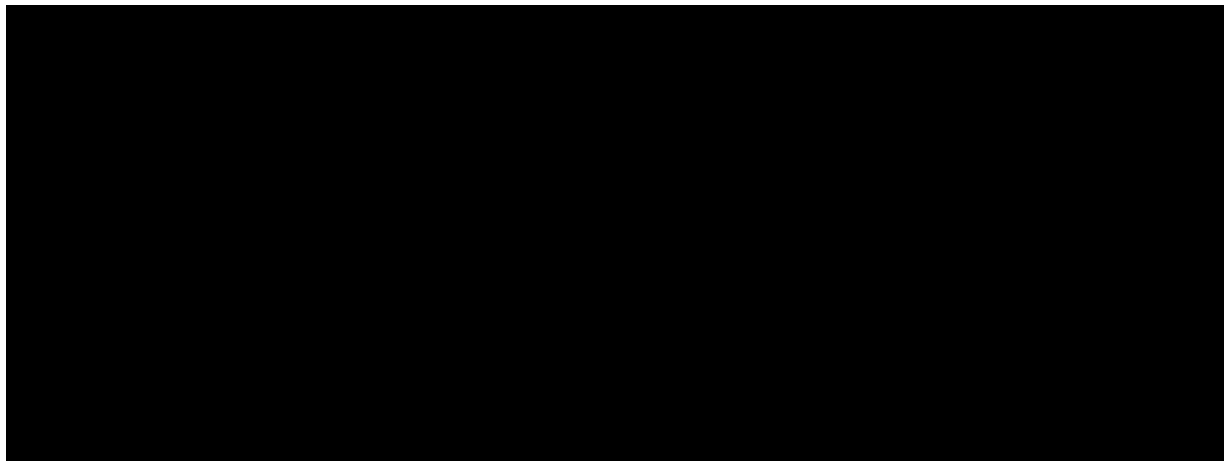
Findings\* presented at Internoise in August 2025 (see graphs below) show significant reductions in both highly sleep disturbed and highly annoyed percentages post installation of residential insulation.

*\*Preliminary Insights from Pilot of a Longitudinal Study on the Im...: Institute of Noise Control Engineering*



*Figure E.iii.4 – Graphs showing findings presented at Internoise in August 2025.*

**Value for Money**



## Increasing and managing demand for insulation

Compared with historic schemes the QNS program has been far more successful in driving take up – largely due to focused phased approach.

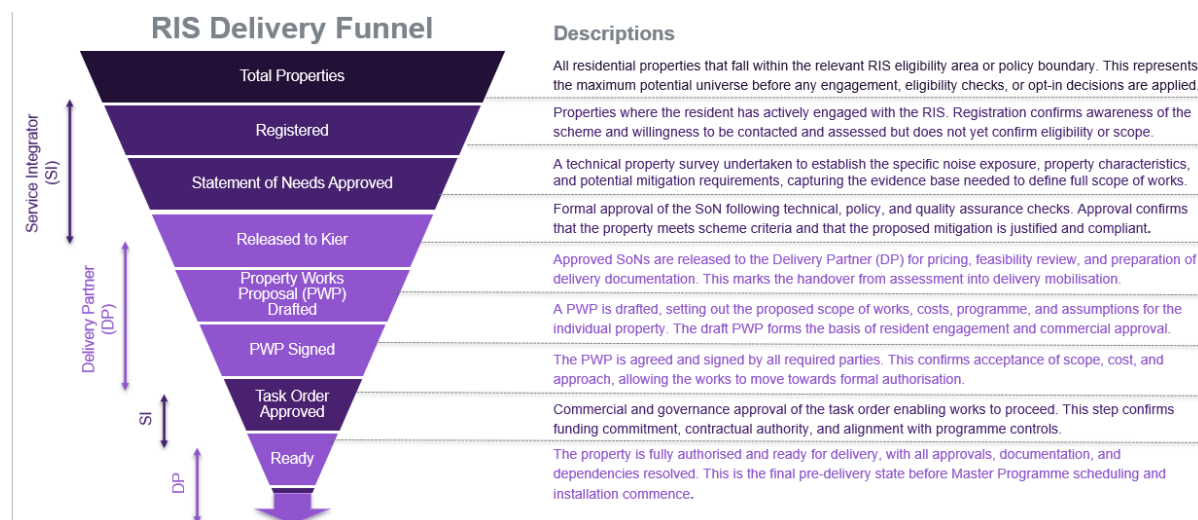


Figure E.iii.6 – Chart showing RIS delivery funnel.

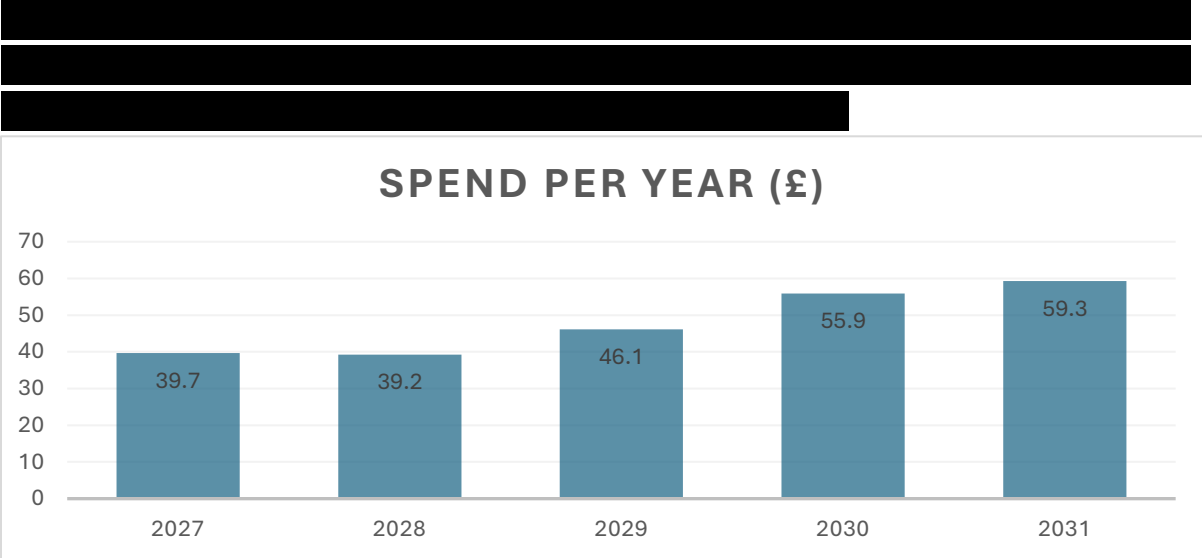
Across the H8 period demand is already stronger than either of the historic legacy schemes as the table below shows.

Program	Phase / Scheme	Period	Scheme Description	Registrations / Demand
Legacy	Legacy Day Scheme (Pre-QHI)	1996-2023	Pre-QHI daytime insulation scheme	Approx. 50% take-up over scheme lifetime
	Legacy Night Scheme (Pre-QHI)	2005-2023	Pre-QHI night insulation scheme	Approx. 20% take-up over scheme lifetime

Program	Phase / Scheme	Period	Scheme Description	Registrations / Demand
	Pre-QNS Pilot (QHI – Day/Night Schemes)	2013-2023	Targeted pilot schemes informing QNS design	Pilot scheme demonstrated ~80% take-up alongside high resident satisfaction
QNS	Delivery (QHS Pilot / Early Rollout)	2024-2025	Longford	73%
	Delivery (Programme Live)	2024-2026	Stanwell Moor	100%
	Pre-Condition Survey + Registration Close	2026-2028	Poyle	77%
	Local Engagements + Registrations	2027-2028	Stanwell	53%
	Local Engagements + Registrations	2028-2029	Feltham	83%
	Local Engagements + Registrations	2028-2031	Cranford	60%

Figure E.iii.7 – Table showing demand per scheme, including Quieter Home Initiative (QHI) and Quieter Home Scheme (QHS).

**H8 Phased Delivery Plan**



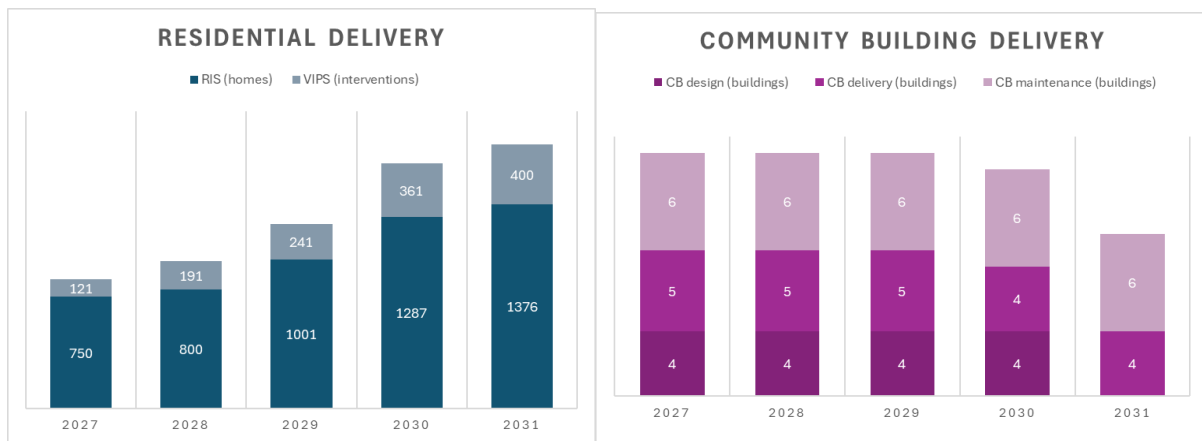


Figure E.iii.10 – Charts showing delivery output per year for Residential and Community Building programmes.

Year	RIS (homes)	VIPS (interventions)	Community Building design (buildings)	Community Building delivery (buildings)	Community Building maintenance (buildings)	Core scheme cost total (£m)	All-in spend (net, after rebate) (£m)
2027	750	121	4	5	6	30.7	39.7
2028	800	191	4	5	6	30.3	39.2
2029	1,001	241	4	5	6	36.0	46.2
2030	1,287	361	4	4	6	44.1	55.9
2031	1,376	400	–	4	6	46.8	59.3
H8 total (2027–31)	5,214	1,314	16	23	30	187.9	240.4

Figure E.iii.11 – Table showing programme outputs per year.

### Consumer Interest

[REDACTED]

**MTI**

The QNS programme supports Heathrow’s MTIs by improving compliance with noise-related policy commitments [REDACTED] and delivering measurable community outcomes linked to health and quality of life.

If the programme is not funded, delivery would slow materially, compliance risk would increase, and Heathrow would be less able to demonstrate credible progress against noise mitigation commitments and associated customer and community outcomes.