

ADE | DECARBONISING BRITISH HEAT

DRAFT RESPONSE INVEST 2035: UK'S MODERN INDUSTRIAL STRATEGY
22 NOVEMBER 2024

NOTE FOR MEMBERS: This response had to be submitted via proforma and therefore we could not provide a context/overall summary paragraph.

Q1. How should the UK government identify the most important subsectors for delivering our objectives?

We believe sub-sectors should be considered against their potential to deliver against the objectives of the Industrial Strategy more widely, particularly in driving productivity and **economic growth**, which underpins the Industrial Strategy as a whole. Heat networks will be a significant source of high-quality jobs across our urban areas, as larger networks developed through heat network zoning increasingly represent infrastructure projects on the scale of onshore wind and solar and on the scale of offshore wind as we approach net zero in 2050. We expect these schemes to be a significant driver of **regional growth** (note: 60% of jobs associated with projects supported by the Green Heat Network Fund today are local), with scope for co-location with manufacturing and other energy intensive industries, as well as energy generation, resulting in lower input costs to heat networks (either in recovered waste heat, or electricity) which will be passed through to consumers, both residential, commercial, and public sector, in reduced heating costs, saving customers as much as 40% vs Air-Source Heat Pumps. In this way, heat networks will be a crucial component in reducing energy costs in the UK, which are a constraint on growth, and district heating's role in contributing towards the lowest-cost route to **net-zero** will support international competitiveness. Given new heat networks are already overwhelmingly low-carbon, they have a crucial role to play in securing the UK's **Economic Security and Resilience**, making us much less dependent on imported gas.

Q2. How should the UK government account for emerging sectors and technologies for which conventional data sources are less appropriate?

We agree with DBT's position that different metrics are needed for emerging technologies. In the case of SIC-2 level data, we argue that it is unsuitable for any clean technologies, as the landscape has moved on dramatically since the codes were last updated. There are several dozen relating to gas and oil heating manufacture and supply, allowing for a rich breakdown of skills and roles in that market, but this is not replicated for renewable heat. This is a barrier to identifying strengths in sectors vital for achieving net zero.

We support the current approach of drawing on academic evidence, market intelligence and industry reports, however the rapid pace of development imposes a limit on how useful this approach can be. Furthermore, in heat decarbonisation, the variance across white and grey literature can be extreme, making it inappropriate to generalise, and very often timebound. To mitigate this we strongly recommend an element of horizon scanning to anticipate future strengths for high potential subsectors, against a back drop of different economic and policy landscapes. Additionally, there is no substitute for direct engagement with sectors where high potential and scarce data coincide. It is fundamentally important that sectors are engaged before the final selection is made.

Although emerging in the UK, heat networks have a long and successful history across Europe, especially in Scandinavia, with ample evidence demonstrating their social and economic benefits. Heat Networks supply around 70% of heating demand from buildings in Denmark and around 70% of Sweden's total heat demand. Unlike relatively nascent technologies like carbon capture and storage, or hydrogen, there is no technical risk associated with heat networks and they provide the lowest cost route to decarbonising heating across our urban areas, with significant system savings associated with them, for example in avoided grid expansion.

District Heating has a very flexible applicability, with significant scope to support the viability and efficacy of other activities likely to be supported as part of the Industrial Strategy by recovering what would otherwise be wasted heat resulting from industrial processes, energy generation, and other energy intensive activities. The UK's industrial strategy should consider how emerging technologies like Nuclear SMRs, data centres, or hydrogen production can best make their waste heat available to district heat networks.

Q3. How should the UK government incorporate foundational sectors and value chains into this analysis?

We don't have a strong view on the incorporation of foundational sectors and value chains but note that district heating will be uniquely placed to recover waste heat from a number of industrial processes associated with the foundational sectors. For example, the district heat network being developed as part of the Advanced Zoning Programme in Leeds will take waste heat from a local glass factory.

Q4. What are the most important subsectors and technologies that the UK government should focus on and why?

Our mission is to transform how UK homes and businesses are heated, contributing to a secure and resilient economy, energy security and protecting billpayers. Our central point for Government is that *Heat Networks must be included as a subsector under "Clean Energy Technologies"*. The UK's heat network opportunity is estimated to be the biggest in Europe and developing a domestic skills-base and developing city-scale heat networks as an integrated component of the energy system, would enable the UK to become a world-leader in clean energy, drive economic transformation in industrialised urban areas, and underpin regeneration across our towns and cities.

We are already beginning to see heat network projects emerge at the scale we expect to develop as heat network zoning comes into effect over the coming years, through the Advanced Zoning Programme (AZP). The recently procured South Westminster Area Network (project SWAN) will bring in £100m of investment over the next 5 years and £1bn by 2050, creating 500 jobs and saving 75,000 tonnes of CO₂ every year (the equivalent to removing 40,000 cars from the road). Heat networks will also be a key driver of local economic regeneration, reducing running costs of local businesses, organisations and households, and improving competitiveness. The district heat network in Gateshead, which has been driven by the local council through a wholly owned EScO, is expected to provide an 8% rate of return on investment for the council over the first 40 years of the project, whilst guaranteeing customers discounts of 10% on their heat costs from the outset which supports the wider local economy; Gateshead College, the Sage Gateshead, BALTIC Centre for Contemporary Art, Gateshead Housing Company and Gateshead Civic Centre are all customers.

The sector is estimated to have the potential to deliver 290,000 jobs and unlock as much as £100bn in investment to 2050. As the lowest-cost pathway to delivering low-carbon heating in urban areas, it will also provide savings to households and businesses up to 40% vs an Air-Source Heat Pump

decarbonisation counterfactual and will provide significant additional savings to the UK as a whole in foregone grid expansion and power generation, with just the flexibility savings valued at [£1.5bn per year by 2050](#).

City-scale District Heating should be recognised as a central clean energy vector, given its crucial role in decarbonisation, with the CCC estimating heat networks will provide 20% of our heat demand in 2050. Developing clean heating systems, through policies like heat network zoning, will be a huge driver for green jobs, and the development of new and expanded networks will increasingly represent infrastructure projects on the scale of onshore wind and solar. District Heating will also become an integral agent within our whole energy system, interacting with and offering flexibility to the electricity grid, harnessing waste heat from energy intensive industries and industrial processes, and potentially new actors in the energy system like nuclear SMRs and data centres.

Despite being responsible for approximately [20% of UK emissions](#), the Government has yet to champion clean heat in buildings within their bid to make the UK a clean energy superpower. While we welcome the launch of GB Energy, it is evident that heat decarbonisation will not be included. The Warm Homes Plan has thus far focussed predominantly on the continuation of existing schemes, most of which focus on energy efficiency. It is critical that, within the Industrial Strategy, Government demonstrates its commitment to heat decarbonisation as a central pillar within its mission to become a clean energy superpower. Given the overwhelming predominance of gas boilers in the UK, decarbonising heat will demand a significant fuel transition and massive electrification, and as a result the UK has the opportunity to be a world leader in decarbonising heating via retrofit-led adoption of new clean heat technologies. Given the scale of the opportunity offered by heat networks to drive local growth, private investment, and exportable expertise, they should be considered a very significant subsector within Clean Energy Technologies.

We agree that SIC codes are not perfectly situated to pick up emerging subsectors or technologies, and present a challenge in capturing heat networks which will include a range of generation and heat recovery technologies, and supply end customers across multiple sectors. Therefore, we support the attempts to gather relevant information from a range of sources and are happy to signpost to additional evidence where this would be useful.

Q5. What are the UK's strengths and capabilities in these sub sectors?

The UK has a burgeoning district heating sector, and the overall opportunity, which is now valued at £80-100bn, and is considered to be the largest in Europe ([UK heat networks: market overview](#)). DESNZ have been leading on significant policy work to unlock this opportunity, particularly via the heat network market framework, and heat network zoning. This work has demonstrated that district heat networks represent the lowest-cost route to decarbonising heating across the UK's urban areas, with huge potential to tap-into existing waste heat opportunities which allows us to avoid significant investment in grid upgrades and new renewable electricity generation, resulting in significant system savings overall.

Q6. What are the key enablers and barriers to growth in these sub sectors and how could the UK government address them?

Key enablers for growth in the Heat Networks sector in the UK include subsidy support, with the Capital Grant scheme GHNF outperforming the government's target of unlocking private to public investment at a ratio of 3:1, and bringing new low carbon heat networks to fruition across our towns and cities. Further work on delivering cost competitiveness will be key to enabling further growth, including innovation in

flexibility and eventually re-balancing of levies to reduce the cost ratio of electricity to gas, which represents the key barrier to heat network adoption at present.

The heat network sector is currently undergoing a welcome transformation, partly as a result of government policy, with the introduction of consumer regulation, the coming introduction of heat network zoning (and the ongoing advanced zoning programme), reforms to the planning system to treat heat networks as essential infrastructure (i.e. through the introduction heat network rights and powers licensing regime). In support of this work, industry is investing significantly in innovation and standardisation to reduce overall project costs.

Recognising the potential skills gaps that could emerge as the sector develops there is active joint Government and industry action to support new entrants into the Heat Network labour market and supply chain, including opportunities for re-training, and further work on skills surveys to understand the current expertise in the sector.

Remaining barriers to further growth include the cost of heat issues associated with competing with legacy gas, and the continued lack of demand assurance which can directly express itself in high costs of Capital. Capex costs overall are a challenge, with district heating representing large-scale infrastructure projects, currently being progressed without comparable rights and powers to other utilities. Further work could be done with government on developing the currently constrained supply chain and addressing the very limited public awareness of district heating and its benefits in the UK market.

Q7. What are the most significant barriers to investment? Do they vary across the growth-driving sectors? What evidence can you share to illustrate this?

For the heat network sector the key drivers are reforms in the energy and infrastructure policy areas, and the regulatory environment. The biggest barrier to deploying district heating, which is the lowest-cost solution to low-carbon heating across our urban areas, is competing with legacy gas on overall cost. At present, a lack of a compelling driver to transition from gas for most building owners and occupiers, and a lack of demand assurance, represent the key barrier to investment in the district heating sector. Reducing the risk of projects, by creating a clear and compelling zoning policy for heat networks in England, supported by a comparable framework in Scotland, will be key in unlocking investment. Behind the very significant investment in the sector to date, there is significant scope for new entrants to the heat network market in the UK, should viable opportunities emerge. District Heating represents a significant long-term investment, which requires patient investors and relative certainty in the policy environment. Therefore, de-risking investments through a clear long-term strategy and supportive policies beneath this is key to bringing in new investors and driving growth.

Q8. Where you identified barriers in response to Question 7 which relate to people and skills (including issues such as delivery of employment support, careers, and skills provision), what UK government policy solutions could best address these?

Industry is leading on work with government to develop the skills and supply chain required for a growing heat network sector. Looking at the scale of the heat network opportunity in the UK, growth along the lines projected by the CCC would require 35,000 direct jobs in the sector, with an emphasis on high-skill roles ([HeatNIC Skills Survey](#)). Whilst general and specialist roles will be needed, training and independent accreditation schemes will be needed to facilitate an agreed standard of knowledge across the sector. Clear paths to entry will also be important to encourage a younger and more diverse workforce, especially in skill areas where there is a higher percentage of the workforce due to retire

within the next 10 years, with clear vocational routes for apprenticeships and more detailed training at university level needed.

Support from government for the development of heat networks has included social value and economic growth drivers, with the Green Heat Network Fund delivering a Social Benefit-Cost Ratio of 2.1 ([GHN Business Case](#)).

Q9. What more could be done to achieve a step change in employer investment in training in the growth-driving sectors?

A clearer picture of what training and skills are required would help employers invest in the correct areas and encourage more training in the growth-sectors. At present there are many training courses at all different levels but there is no agreed standard or accreditation. Development of a clear training framework needed to support skills development would enable employers to build a well-defined programme of investment in apprenticeships and specialist training programmes. Increasing public and employer awareness of specialist and general skills needed in the sector and how it links in with green jobs for the country would also highlight how investing now will increase business growth and opportunities in the future.

Q10. Where you identified barriers in response to Question 7 which relate to RDI and technology adoption and diffusion, what UK government policy solutions could best address these?

N/A

Q11. What are the barriers to R&D commercialisation that the UK government should be considering?

As outlined in our other responses, district heating is a mature technology, without technical risk or significant R&D requirements. We are seeing increasingly sophisticated control systems emerging, including use of AI, which will allow for large-scale heat networks to be a very significant source of flexibility to the grid, utilising large-scale thermal storage to match energy consumption with times of peak generation, and the ability to turn-down demand during e.g. Dunkelflaute periods. Innovation work on maximising the flexibility offer of heat networks in the UK has demonstrated the huge potential here, for example through Ofgem's SIF programme. Further work in this area, as heat network zoning rolls out, will support ensuring these benefits are maximised.

Q12. How can the UK government best use data to support the delivery of the Industrial Strategy?

No comment.

Q13. What challenges or barriers to sharing or accessing data could the UK government remove to help improve business operations and decision making?

No comment.

Q14. Where you identified barriers in response to Question 7 which relate to planning, infrastructure, and transport, what UK government policy solutions could best address these in addition to existing reforms? How can this best support regional growth?

At present costs associated with planning are a significant barrier to deployment of heat networks and we are supporting work being undertaken to streamline the planning process for delivering new heat network infrastructure and see the developing heat networks rights & powers licensing regime being developed by DESNZ as essential to this. This licensing regime will provide land access rights, permitted development rights, linear obstacle rights, and statutory undertaker status, at equivalent levels to other

utilities, recognising the centrality of heat networks to a renewable energy system. Further work is being developing on Compulsory Purchase rights for essential heat network infrastructure like energy centres, as well as the potential for the largest schemes to be included in the NSIP programme (for nationally significant infrastructure projects).

In addition to our answer to Q7, the ADE encourages Government to utilise RESPs and consider linking them with the Industrial Strategy.

Q15. How can investment into infrastructure support the Industrial Strategy? What can the UK government do to better support this and facilitate co-investment? How does this differ across infrastructure classes?

The Green Heat Network Fund (GHNF) has demonstrated a very strong public-private funding ratio for heat networks projects, currently outperforming 1:3 and rising over time. Weighted average cost of capital (WACC) plays a significant role in the overall cost of heat network infrastructure, and at present reflects the relatively uncertain environment developers are operating in, without significant demand assurance.

We believe there is scope for Government to be more innovative in the investment it provides in order to reduce the WACC for heat network projects, to continue to mature the market and that this should include exploring the role of the National Wealth Fund in both debt and equity in ways that can help reduce overall project WACC.

Q16. What are the barriers to competitive industrial activity and increased electrification, beyond those set out in response to the UK government's recent Call for Evidence on industrial electrification?

Please see our response from our sister mission, Empowering Energy Demand, for more detail on industrial energy and decarbonisation more generally.

Q17. What examples of international best practice to support businesses on energy, for example Purchase Power Agreements, would you recommend to increase investment and growth?

As noted in the green paper, Germany has almost twice as many renewable jobs per capita as the UK; Sweden almost three times; Denmark almost four times as many. It is no coincidence that all have significantly more developed rollout of district heating, with heat networks the predominant heat technology in Sweden and Denmark, and rapid development of heat networks in Germany. Of the four German cities with more than one million inhabitants, in three of them, Munich, Hamburg and Berlin, more than one-third of houses are already supplied with district heating.

Similar to how district heating has evolved in those countries, co-location and effective planning could make Heat Networks a crucial customer for local renewables projects, like community wind and solar PV, with socialised benefits realised by householders, businesses and public sector buildings connected to these clean heat networks. Co-location of waste heat opportunities (SMRs, Data Centres etc.) with major Heat Network Energy Centres holds huge potential for win-win growth opportunities, reducing the cost of infrastructure projects, clean heat, and reducing the costs of the electricity network as whole through avoided grid upgrade costs.

Q18. Where you identified barriers in response to Question 7 which relate to competition, what evidence can you share to illustrate their impact and what solutions could best address them?

No comment.

Q19. How can regulatory and competition institutions best drive market dynamism to boost economic activity and growth?

We believe the significant work being undertaken at present to introduce customer protection and regulation in the heat network sector, bringing it to parity with gas and electricity markets, will significantly support growth and investment. Ofgem becoming the regulator in April 2025 will represent a step-change, enabling consumers to have confidence that they will receive fair treatment when connecting into or adopting heat networks.

There are further regulatory frameworks emerging, including through heat network zoning, and technical standards in the sector, all of which hold potential to significantly mature and develop the sector, where they are complementary, simple to navigate, and well-designed.

Q20. Do you have suggestions on where regulation can be reformed or introduced to encourage growth and innovation, including addressing any barriers you identified in Question 7?

Government is progressing significant work to create the conditions for a mature heat network sector, via the heat networks market framework and heat network zoning. In total this will mean the heat network sector has equivalent customer protection to the gas and electricity markets, with Ofgem as the regulator, and significantly higher technical standards than other heating technologies through the Heat Network Technical Assurance Scheme.

Heat Network Zoning, which is being developed by DESNZ, is the most important policy instrument for unlocking the heat network sector in England, and similar coordination in Scotland, which is currently being developed via LHEEs, is central to enabling the huge growth potential in the sector. To be effective this needs to provide significant coordination and demand assurance for investors and developers, ensuring a dense rollout of connections can be achieved in a timely fashion within any identified zone.

Key challenges, as for other renewable heating sectors in the UK, are delivering a clear signal to consumers for decarbonising heat (e.g. a clear end date for gas) and reducing costs (e.g. via rebalancing). Integrating Heat Networks into a wider industrial and clean energy strategy has the potential to underpin progress on these crucial areas.

Q21. What are the main factors that influence businesses' investment decisions? Do these differ for the growth-driving sectors and based on the nature of the investment (e.g. buildings, machinery & equipment, vehicles, software, RDI, workforce skills) and types of firms (large, small, domestic, international, across different regions)?

We have seen welcome development in speeding up and standardising the procurement process for projects in the Advanced Zoning Programme, which we believe will encourage the mobilisation of capital and reduce barriers which exist in the market today, which include high bid costs and bid fatigue. Workforce skills are an issue and industry is collaborating with government to develop training and develop to support the heat network sector to scale-up for growth. Other barriers to investment have been noted elsewhere in our response.

Q22. What are the main barriers faced by companies who are seeking finance to scale up in the UK or by investors who are seeking to deploy capital, and do those barriers vary for the growth-driving sectors? How can addressing these barriers enable more global players in the UK?

The main barriers to deploying capital in the UK Heat Network sector are those outlined elsewhere in our responses including a lack of competitiveness with existing gas heating, driven by a high ratio of electricity to gas prices, high infrastructure and planning costs, and a lack of certainty driven by unclear decarbonisation targets for heating. We would expect significant inward investment, in addition to that already entering the UK, should UK government continue its work to deliver a market framework for the sector, and an impactful heat network zoning policy.

Q23. The UK government currently seeks to support growth through a range of financial instruments including grants, loans, guarantees and equity. Are there additional instruments of which you have experience in other jurisdictions, which could encourage strategic investment?

The government continues to support the industry in developing new low-carbon heat networks via its Capital Support programme, the Green Heat Network Fund (GHNFF). Fundamentally, however, the scale and pace of delivery and expansion of networks has been constrained by a lack of sufficient underlying drivers for the decarbonisation of heating and hot water, leaving new low-carbon district heating in a position of competing on price with heat generation via gas. Although effective policy is emerging, in the form of heat network zoning, to identify areas where heat networks are the most appropriate technology, and government is putting into place significant regulatory powers over the carbon intensity of heat networks and ensuring high levels of customer protection, we are yet to see effective mechanisms put in place to oblige building owners to switch from fossil fuel heating. Without such a mechanism, which now applies in comparable countries like Germany and the Netherlands, concessionary finance, or revenue support for the sector, could potentially act as important bridging mechanisms over the next few years to accelerate deployment.

Q24. How can international partnerships (government-to-government or government-to-business) support the Industrial Strategy?

There is good practice in the Heat Network sector in building and developing international partnerships, with close relationships already existing with world leaders in district heating (e.g. Denmark and Sweden), as well as with those where district heating represents more of an emerging solution, as it is in the UK (e.g. Netherlands, Germany). The Danish Embassy, for example, run a mentoring programme on District Heating for local authorities in the UK, as part of their [Energy Governance Partnership](#) work, which matches high-level management in Danish district heating companies with councils across the UK (currently including Shetland, Gateshead, Westminster, and Sunderland). The UK has the opportunity to be a world leader in decarbonising heating via retrofit-led adoption of low-carbon district heat networks, developing exportable expertise in delivering heat decarbonisation at scale to existing urban areas.

Q25. Which international markets do you see as the greatest opportunity for the growth-driving sectors and how does it differ by sector?

No comment.

Q26. Do you agree with this characterisation of clusters? Are there any additional characteristics of dimensions of cluster definition and strength we should consider, such as the difference between services clusters and manufacturing clusters?

The ADE strongly agrees that “there is enormous untapped potential outside the capital and its surrounding areas. City regions like Greater Manchester, the West Midlands, and Glasgow, are not generating the growth and local prosperity that urban agglomerations of their size should.” As explained elsewhere in our report, district heating is very well-placed to co-locate with industrial and manufacturing activities, from which it can recover waste heat and provide low-cost heating to

businesses, organisations, and households in the wider region. There is also considerable scope to co-locate with energy generation in a mutually beneficial way, in cities like Aberdeen and Derby listed in the consultation, as well as with digital industries, with data centres particularly seen as a viable clean heat source for heat networks.

We support the intention to align clusters as far as possible with local administrative and policy structures, but encourage cross-sector considerations are made towards developing sustainable and balanced regional growth.

Q27. What public and private sector interventions are needed to make strategic industrial sites 'investment-ready'? How should we determine which sites across the UK are most critical for unlocking this investment?

Q28. How should the Industrial Strategy accelerate growth in city regions and clusters of growth sectors across the UK through Local Growth Plans and other policy mechanisms?

Local Area Energy Plans (LAEPs) in England and Wales are intended to identify suitable sites for large-scale energy developments and can be an important part of identifying strategic areas for industry, where there is enough grid capacity for sites and where any excess heat can be used in heat networks, providing benefits for both the industrial site, the area, and the grid. We encourage Government to consider merging LAEPs with Local Growth Plans, or laying out how exactly the two will interact.

Q29. How should the Industrial Strategy align with Devolved Government economic strategies and support the sectoral strengths of Scotland, Wales, and Northern Ireland?

Q30. How can the Industrial Strategy Council best support the UK government to deliver and monitor the Industrial Strategy?

While the ADE supports the formation of an ISC, it is too early to comment without more specifics to comment on.

Q31. How should the Industrial Strategy Council interact with key non-government institutions and organisations?

While the ADE supports the formation of an ISC, it is too early to comment without more specifics to comment on.

Q32. How can the UK government improve the interface between the Industrial Strategy Council and government, business, local leaders and trade unions?

While the ADE supports the formation of an ISC, it is too early to comment without more specifics to comment on.

Q33. How could the analytical framework (e.g. identifying intermediate outcomes) for the Industrial Strategy be strengthened?

To answer this question in a way that is most useful to you, it would be necessary to see more detail about the nuance of the framework that has been used. We urge DBT to publish that detail, so that industry and economic experts can provide feedback on specifics rather than principles.

The analytical framework should examine market failures in sectors where growth is essential regardless of the current skills landscape, export opportunity, etc. In particular, the Clean Energy sector. All routes

to net zero require significant growth in sectors that are not expected to displace fossil fuels through market forces alone. Skills is a recurring barrier across all low carbon industries and technologies, from system design to product installation to effective utilisation. In the context of net zero it is vital that this barrier is identified as a priority for intervention, and not a limitation on growth.

The analytical framework needs to account for the feedback loop of policy intervention. For example, if natural gas heating is banned in 2035 then there will be sudden growth in emerging markets that are currently niche – but there is a risk of those markets withering in the meantime. The consultation recognises the importance of long-term certainty and that current failures arise from lack of certainty and lack of investment in infrastructure.

To mitigate this, we strongly recommend an element of horizon scanning to anticipate future strengths for high potential subsectors, against a backdrop of different economic and policy landscapes. Additionally, there is no substitute for direct engagement with sectors where high potential and scarce data coincide. It is fundamentally important that sectors are engaged before the final selection is made.

DBT needs to distinguish between sectors with enormous growth potential and sectors that need to be made to grow. E.g. analysis based on current strengths, output growth, productivity and international position would probably favour fossil fuel gas boilers as a priority subsector, and advocates for gas boilers could argue it falls within the broad ‘digital and technologies’ domain, or ‘advanced manufacturing’. To safeguard against this, the high-level sectors should present principles that are inviolable across all sectors – no ‘technology’ sectors will be in scope if they contravene the principles of ‘clean energy’, and similarly no ‘clean energy’ sectors should be prioritised if they conflict with ‘life sciences’ (for instance).

Finally, there are geographical elements to growth that are not fully addressed in the consultation. Although it is recognised that performance is lagging in city regions outside of London, this does not appear to be a factor in the analytical framework. DBT must collaborate with local authorities, regional bodies, and sector-specific stakeholders to identify place-based barriers and enablers. This approach can ensure that intermediate outcomes reflect regional differences and the unique strengths of growth clusters across the UK.

Q34. What are the key risks and assumptions we should embed in the logical model underpinning the Theory of Change?

Generally, the Theory of Change model needs to acknowledge the potential feedback loops caused by government policy (including across all OGDs), which may skew the apparent strength of individual sectors. For example, as identified in the consultation, the UK’s investment in industry, and particularly in infrastructure, is in the bottom 10% of OECD countries. Under these conditions, the growth potential for many industries (and particularly clean energy) is constrained as private investors see the UK as a low return, high risk environment. So, the ToC needs to anticipate different broader circumstances. For decarbonising heat, this is particularly influenced by policy decisions made in DESNZ – a well-designed heat network zoning model will enable growth, whereas ongoing low investment (relative to other economies) will stifle heat networks growth.

DBT should build on the current Theory of Change by detailing potential causal pathways, supported by assumptions and risk assessments. This would involve mapping sectoral interdependencies and specific causal links between outputs (e.g., policy measures) and intermediate outcomes (e.g., investment growth in targeted sectors)

Q35. How would you monitor and evaluate the Industrial Strategy, including metrics?

The ADE would like to see Industrial Strategy metrics include Net Zero by 2050 metrics, to the extent relevant, in an effort to streamline, save reporting resources, and to ensure our decarbonisation goals are met. Of course, Industrial Strategy metrics will, and should, be broader than these metrics.

Q36. Is there any additional information you would like to provide?

There was no substantive discussion on how this Industrial Strategy, and its multiple levels of sub-plans will interact with the numerous other plans being formed simultaneously. There was no direct mention of heat network zoning, the Strategic Spatial Energy Plan (SSEP), the Centralised Strategic Network Plan (CSNP) or the RESPs, which are all “whole system” plans. While all these plans will operate in parallel with the Industrial Strategy, we’re concerned with the intricacies of executing so many layers of plans, across departments and institutions, without creating any contradictory policy objectives. Indeed the 8 Sectoral Plans will each be broken out into subsectors, we also have the Clean Power 2030 mission, Local Area Energy Plans (LAEPs), planning reform through MHCLG and this Industrial Strategy introduces new Local Growth Plans. We encourage DBT to ensure collaboration with DESNZ and other Government departments to coordinate wherever possible.

Finally, we have been in discussion with both DESNZ and DBT to arrange follow up engagement and provide supplementary evidence in the coming weeks.

Please also see our response for our sister mission, Empowering Energy Demand.

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THE ASSOCIATION FOR DECENTRALISED ENERGY
