

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

Organisation	Construction Scotland Innovation Centre
Question 1: how should the outcomes framework currently in place for UIF evolve to ensure University KEIF is structured to deliver on its renewed purpose and has the right strategic drivers and incentives in place?	<p>We consider the UIF outcomes to remain broadly relevant and fit for purpose although we recognise that they are purposefully high level and open to interpretation. An emphasised focus on impact and value aligned with key national and international missions, such as the just transition, national performance framework, climate emergency, sustainable development goals etc., will serve to promote better alignment within the system and enhance confidence in mission relevant investments made by the Funding Council and other partners.</p> <p>We note the key role that innovation centres can, and do, play in creating and stimulating demand and welcome the opportunity to deepen collaboration across the sector in our role as supporting infrastructure. In this respect, we recognise the demand for access to assets (expertise/machinery/technology/equipment) and note the success of centralised centres of excellence with national collaborative engagement strategies, including the IC programme, NMIS, AFRC, and others. Whilst these assets effectively service national demand, they also provide a vital focal point for international collaboration and inward investment, as well as enhancing our ability to attract world class talent to Scotland.</p> <p>We would welcome a broader understanding and clearer articulation of value creation within the context of innovation activity, including the inclusion of longer-term impact measures within the proposed impact framework. Similarly, we would welcome a greater emphasis on the equity, diversity, and inclusion impact of UIF activity as an inherent consideration in any future models.</p>
Question 2: what are your views on the current UIF collaborative framework, how could this evolve and be sustained to support further good practice and purposeful collaboration? Is there a role for the Knowledge Exchange Concordat in this context or more generally?	<p>We recognise the value in having an established and recognised framework to support collaboration in pursuit of agreed mission objectives and would welcome the opportunity to contribute to the development and refinement of further iterations to the framework. Having reviewed the principles of the Knowledge Exchange Concordat, we consider them to be fit-for-purpose and a useful framework for creating the conditions in which collaborative value creation can flourish.</p> <p>We note that in many areas, public sector investment in R&D activity is significantly higher than</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>industry investment, and we are keen to understand the role that innovation centres might play in stimulating deeper connectivity and engagement between our industry and wider partners and the framework(s) underpinning collaboration in our academic institutes. We place particular emphasis on both initial investment and activities relating to commercialisation of scalable solutions.</p>
<p>Question 3: what are your views on how the impact and outcomes of University KEIF should be measured, including the role of metrics or other indicators in any future funding and allocation model? We would welcome views on current or potential good practice regarding measuring net-zero KE&I activities and outcomes.</p>	<p>We recognise the outstanding value created by Scottish universities and welcome the opportunity to improve the methods through which we capture and articulate that value through appropriate measurement and evaluation frameworks. Our experience of metric driven evaluation frameworks has often limited our capacity to effectively share the full impact of our activity and we see the opportunity to address this through refining existing approaches. Moreover, we recognise that many evaluations are focused more on outputs than outcomes and we would welcome any attempt to move toward a longer-term evaluation process focused on outcomes aligned with the national performance framework, and incorporating appropriate longitudinal evaluative capability.</p> <p>We are aware of growing adoption of net zero related metrics across the sector. Scottish Enterprise and the Construction Leadership Council are both undertaking useful activity with which we would encourage engagement. We have also developed, and supported the wider development, of emissions calculators that can predict the impact of planned activity on our transition to net zero. Our experience of these systems has emphasised the importance of ensuring end users are supported in both the use of specific tools, and the development of wider carbon and climate literacies.</p> <p>We would welcome the development of a ‘value toolkit’ to support enhanced identification and articulation of value measures across the sector.</p>
<p>Question 4: how could the University KEIF, with Interface, help support collaboration with colleges, collectively supporting Scotland’s SME base to be more innovative?</p>	<p>We would welcome recognition of the role that innovation centres also play in supporting collaboration between the identified stakeholder groups.</p> <p>We believe that maximising the visibility, engagement and utilisation of national assets including expertise, machinery, equipment, technology, and networks is essential. We recognise the capital cost of innovation is often prohibitive for SMEs and acknowledge the difficulty they can experience in</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>identifying appropriate support from within the wider business support landscape. In this respect, Interface plays a critical role in early-stage support and follow-on signposting.</p> <p>Enhancing the network of connectivity amongst academia, employers, and the wider business support ecosystem will ensure better alignment, improve efficiency within the system, and lead to better outcomes.</p> <p>We are keen to emphasise the valuable role that colleges play in workforce development needs and opportunities resulting from applied innovation projects. Industry partners and investors require confidence that the labour market can respond to support the scaled adoption of new products, systems, and processes, and colleges have demonstrated they can contribute value in that regard. However, we recognise that the role of colleges is by no means limited to workforce development and note the success of wider innovation support within the college sector and recognise the potential for systemic and sustained programmes of innovation support for the SME community. Good examples include the Institute of Innovation and Knowledge Exchange at City of Glasgow College and the Service Design Academy at Dundee and Angus College.</p> <p>We believe that aligning the outcomes and impact measures within both the UKEIF and CKEIF would be a sensible approach for the Funding Council to adopt. Incentivising deeper collaboration between college and university staff and ensuring capacity for meaningful and sustained engagement with the SME community would help to create an environment in which collaboration can flourish. We believe that the IC programme has an established platform for this type of support and would encourage further discussion as to the role we may play in the future.</p>
<p>Question 5: how could core capacity funding (College KEIF) best support colleges to be effective agents of KE&I? We would particularly like to learn from colleges directly on what KE&I means to them and where capacity is needed to deliver this effectively, which could include building on current practice.</p>	<p>We recognise the key role that colleges play in supporting learners, businesses and local communities and consider that they already make a significant contribution to the knowledge exchange and innovation landscape. City of Glasgow College’s Institute for Innovation and Knowledge Exchange, Dundee & Angus College’s Service Design Academy, and the AIMS programme run by Dumfries and Galloway and Borders Colleges are only a few examples of outstanding capability within the sector.</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>However, we also recognise the structural and financial challenges the sector faces in being able to develop, embed, and scale KE&I outside of core functions and welcome the introduction of an enhanced package of support to further mainstream activity. We propose that additional action in the following areas would be useful:</p> <ul style="list-style-type: none"> - Increasing capacity within colleges to enable educators, students, and wider stakeholders to co-create learning experiences and delivery models that best meet the needs and expectations of those involved. - Increasing capital investment available to procure machinery, equipment and technologies in high-value, high growth sectors. - Recognising the value of regionally focused centres of excellence, aligned with industry demand, that enable colleges to enhance local value creation in collaboration with industry partners. - Recognising the critical need to invest in upskilling educators to keep ahead of pace of rapidly changing industrial practices. - Creating space outside the restrictions of credit delivery to deepen relationships with local employers and increase the adoption of models of co-design and co-delivery. - Increasing the capacity within colleges to create devised qualifications aligned with industry demand.
<p>Question 6: we would welcome views on what would be an appropriate period for SFC to run the first cycle of College KEIF before formally reviewing it and establishing a mature model for future years.</p>	<p>Having run a full cycle of the Innovation Centre programme, and being mid-way through a second cycle, we consider a period of three-five years to be a suitable timeframe for establishing a mature model for future years. We base this on the recognition that an appropriate length of time must be afforded to setting up, designing, implementing, evaluating, and improving, as detailed in the list below:</p> <ul style="list-style-type: none"> - One year to initiate and ensure appropriate support, monitoring and evaluations structures are in

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>place;</p> <ul style="list-style-type: none"> - One year to design and implement innovative interventions ; - One year to establish impact of innovations and apply learnings from previous activity; - Full review of sectoral learnings at end of year three; - Two further years of innovation, impact, and evaluation. <p>We note that many colleges have already established programmes of KE&I and may already have systems, processes, and structures in place that enable them to mainstream current activity rather than starting from a blank canvas. We strongly encourage close engagement with sector leaders and pathfinders in this respect and believe that a collective and cohesive approach will enhance the impact of national investment. Moreover, we recognise the value that Innovation Centres, research pools, Interface, and others can offer in terms of experience of working within similar models.</p>
<p>Question 7: we would welcome views on the potential value of using College KEIF to create frameworks for collaboration and sharing of good practice across the colleges, and with universities.</p>	<p>We consider colleges to have a critical role to play in strengthening the connectivity throughout the KEI ecosystem and note that established frameworks for collaboration are already in place and suitable for scaling. Ensuring connectivity between colleges, universities, industry, public sector, and the wider KE&I ecosystem presents the surest route to embedding coherence and sustainability and will allow for support to be accessed and deployed more effectively.</p> <p>This position is underpinned by ensuring a stable, sustained, and consistent pipeline of support across a spectrum of skills, knowledge exchange, competency development, research and development, service design and commercialisation, for both individuals and businesses. We believe that the innovation centre programme, with considerable experience in cross sectoral and cross agency collaboration, is well placed to provide support in this endeavour.</p> <p>Whilst common frameworks are welcome and viewed as essential, we also recognise that a key</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>strength of our colleges is their ability to effectively service local and regional demand. We therefore propose that a high degree of flexibility is allowed in any supporting frameworks to maintain an appropriate level of contextualisation for both current and future needs.</p> <p>We also believe that collaboration could, and should, be deeper than shared frameworks, and should extend to investment in regional centres of excellence with incentivised models of collaboration through systemic resource and asset sharing. The inclusion of collaboration metrics in any future impact framework may be useful in this regard and is likely to lead to better outcomes for students, industry partners, and wider stakeholders.</p>
<p>Question 8: our review recommended that we co-design the Entrepreneurial Campus strategy with colleges and universities. We would welcome views on what is proposed in this consultation, including potential opportunities, weaknesses and gaps.</p>	<p>CSIC is supportive of the Entrepreneurial Campus proposal. It has the potential to help address any gaps in connectivity between business and academia whilst also helping academia to further support economic development in Scotland. It can promote entrepreneurship across Scotland and could assist in addressing regional challenges as well as national ones.</p> <p>We would consider it beneficial for the following points to be included in the consultation:</p> <ul style="list-style-type: none"> - Who are the Entrepreneurial Campuses aimed at? - Thought should be given to how an Entrepreneurial Campus can be accessible to all, not just the users of a particular institution. For example, specialist support and outreach programmes should be considered for those from deprived economic areas and minority groups to help ensure that this support is available to all. - The Better Incubation programme (Collection-of-Best-Practices-in-Inclusive-Entrepreneurship_Final.pdf (betterincubation.eu)) funded by the European Union Programme for Employment and Social Innovation has researched and provided guidance for multiple groups including women, migrants and refugees, youth, seniors, and people with disabilities. Adopting this model and establishing what the barriers are to entrepreneurship within Scotland would help the Entrepreneurial Campuses make a positive impact in line with Scotland’s commitment to a fair and

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

inclusive society.

- An early engagement link with schools should be considered to promote early adoption of an entrepreneurial mindset.
- Consideration needs to be given to how to engage audiences in the Entrepreneurial Campus, creating a clearly communicated proposition that appeals to a diverse audience, feels accessible and answers 'is this for me?' within the target audiences.
- If quantitative and qualitative research has not already been done, it would be beneficial to gather insight on the experience of both existing and would-be entrepreneurs to establish barriers and opportunities. This could be done through existing programmes and with colleges and universities.
- Who should the Entrepreneurial Campuses be supported by?
- As well as academia, it is important to consider links with business. Programmes such as Entrepreneurial Spark have benefitted from links with high profile individuals such as Lord William Haughey and Sir Tom Hunter. Universities and colleges may be able to draw on their network of alumni to help support this goal.
- As well as links with individuals though, it is important to create an environment where Entrepreneurial Campus users have the potential to put ideas into practice. Strategic partnerships with named firms could address this need, potentially combined with a CivTech style challenge approach.

What should be considered?

It is important to avoid Entrepreneurial Campuses operating in silos. Thought should be given as to how they link up and work together in a market square approach, as recommended by the Logan Review. An overarching strategy would be beneficial. For example, establishing underpinning themes

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>such as Net Zero could provide a cohesive response. Thought as to how they will link up with other programmes supporting entrepreneurship would also be useful.</p> <p>The innovation centres provide a unique role in building the pillars that sit within a successful entrepreneurship support strategy, which are:</p> <ul style="list-style-type: none"> - Scotland’s connectivity to the rest of the world; - Easy access to capital; - Supporting legal framework; - Good entrepreneurial infrastructure; and - Supporting resources.
<p>Question 9: we would welcome evidence of current practice in Scotland (or elsewhere) to ensure we have an up-to-date picture of what is working well and upon which the Entrepreneurial Campus strategy could build on.</p>	<p>There is a fragmented entrepreneurship support landscape ranging from advice and signposting to public and private incubator funds to educational institutions offering programmes, with much overlap. Some support is aimed at individuals looking to set up small businesses some more at new products and ideas (R&D).</p> <p>It is a difficult landscape to navigate, so any proposition for the Entrepreneurial Campus would need to be clear and relevant based on needs and opportunities with clearly defined expected outcomes. We would therefore recommend an in-depth analysis of existing support to establish gaps and opportunities for the Entrepreneurial Campus.</p> <p>The UK Government’s Innovation Strategy (July 2021), that sits alongside Scotland CANDO: an innovation action plan for Scotland, provides a strong opportunity for Scotland to strategically benefit from. A top-level summary of its main goals and outputs:</p> <ul style="list-style-type: none"> - Increase annual public investment on R&D to a record £22 billion. - Reduce complexity for innovative companies by developing an online finance and innovation hub between Innovate UK and the British Business Bank.

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<ul style="list-style-type: none"> - Invest £200 million through the British Business Bank’s Life Sciences Investment. - A programme to target the growth-stage funding gap faced by UK life science companies. - Consult on how regulation can ensure that the UK is well-placed to extract the best value from innovation. - Form a new Business Innovation Forum to drive implementation of its strategy. <p>It is based on the Innovation Ecosystem model (by Luke Georgiou) that accelerates the level, quality and profitability of national innovation delivered by the flow of talent, finance, and technology/knowledge with more dynamic flows between the UK and the rest of the world. The innovation centres are an effective and successful existing model of creating impactful outputs from this Innovation Ecosystem which comprises:</p> <ul style="list-style-type: none"> -Small firms and start ups - Large firms - Research and technology organisations - Venture capital and other finance - R&D funding bodies (e.g., Innovate UK, UKRI) - Government - Universities
<p>Question 10: the Review recommended that the university and college sectors join SFC in repositioning Innovation Centres (ICs) as stable long-term infrastructure investments. We would welcome views on the details of the proposed ‘repositioning’</p>	<p>The recommendation to reposition Innovation Centres as stable long-term infrastructure investments, with an explicit focus on key mission priorities and outcomes, is welcomed. Against the backdrop of multiple global challenges, relaunching the IC programme with a bold, ambitious purpose as a strategic linchpin at the intersection of government policy, academic capability, and industry transformation, focused on maximising economic, social, and environmental impact for Scotland, is also timely.</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

as described in this consultation, including any opportunities, weaknesses and gaps.

Scotland's innovation and knowledge exchange infrastructure, including ICs and those assets that sit out with SFC's direct influence, are like CSIC, already firmly focused on, or rapidly gravitating towards society's grand challenges. In our experience, they will to collaborate across industry, academia, and government, and focus on key strategic issues is already extremely high. A wide range of stakeholders will benefit from the repositioning of ICs, ensuring innovation sits at the heart of Scotland's transformation, and enabling the wider innovation and knowledge exchange ecosystem to be better organised, coordinated, and integrated. Shaping mission priorities collaboratively with industry, academia & government will create a sense of joint ownership that is essential to foster the partnership culture that will deliver success.

Relaunching the purpose of the IC programme creates the opportunity to mobilize the ICs as more effective strategic assets for Scotland. At CSIC for example, we have brought together an extensive community of over 50,000 stakeholders, over seven years that can deliver impact today that only a few years ago, would have been unimaginable. The opportunity to supercharge this around critical mission priorities now exists. In addition, the IC assets, both physical and intellectual, should be positioned explicitly as extensions of the university and college campuses, helping ensure necessary capability can be deployed across Scotland, and reducing the need for duplication. Core IC infrastructure funding should support current model priorities and enable sustainable expansion and growth plans in the short, medium, and long term where mission objectives require it. With solid foundations in place, strategic objectives clear and a community of collaborative partners coalesced around these mission priorities, there is potential to accelerate the scale and pace of transformational change.

Qualifying innovation centres should be re-established as a refreshed IC programme cohort, with consideration given to the creation of new ICs where relevant gaps and opportunities exist. Bringing ICs and existing networks of academic excellence into closer collaboration would create deep capability in areas of national importance and support a move towards more rapid transformation of critical sectors. ICs should support their key industry, academic and government stakeholders to develop the route maps that will deliver the identified mission outcomes for their ecosystems. There

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

should be clear connectivity from relevant sector and just transition plans, through SFC's National Impact Framework, to Scottish Government's National Strategy for Economic Transformation, Scottish Government's forthcoming Innovation Strategy, the UK Government's Innovation Strategy and Levelling Up the UK white paper, to Scotland's National Performance Framework, and international objectives like the UN's Sustainable Development Goals.

An aspect to consider when repositioning ICs as core infrastructure investments is to what extent the ICs could develop a physical presence within university and college campuses. There is an opportunity to build upon the IC ecosystems in local communities and maximise their place-based value. This would include university and college locations across Scotland, but also internationally, where a presence is already established by academic stakeholders, or where ICs have relevant collaborations and there are opportunities to mature these physically. CSIC for example is Scotland's Centre of Excellence within the UN's High Performing Buildings Initiative, bringing 26 international centres together around common objectives. The TKNIKA model implemented by the Basque Government in Northern Spain offers another example of international best practice. How this might be integrated alongside the Entrepreneurial Campus model is worth further exploration.

In the context of funding, we acknowledge the enormous pressure stakeholders are under to invest in the physical infrastructure needed to support Scotland's just transition to a zero-carbon economy. In repositioning the ICs, it would be wise to undertake a stock-take, establishing the key physical assets that exist across all stakeholders, and develop a model of shared infrastructure investment going forward.

The scale of the upskilling, reskilling, and multi-skilling task to create the green jobs of the future, for a sector like construction alone where we require over 26,000 additional workers by 2025, is significant. There is a key role ICs can play at the leading edge of industrial practice, creating high value and sustainable growth, which places the IC model in an effective position to provide an innovative platform for commercial skilling opportunities. Where challenges exist around capital investment, educator upskilling and qualification development, the ICs can add significant value in particular areas where existing asset value should be maximised. The ICs have a laser like focus on the rapid commercialisation of research and innovation, and this should be exploited to the full through the

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>relaunching of ICs as infrastructure investments.</p> <p>Despite many examples where the right mindset and behaviours, coupled with open and transparent communication is all that is required to build purposeful collaborations. In the short term, it may be useful to underpin the repositioning of ICs as infrastructure investments, co-owned and co-designed by the universities and colleges, with a formal collaboration agreement that sets out clearly how all parties will work towards maximising external impact. In addition, a service level agreement with each IC host should be established to help optimise internal efficiencies that enable this.</p> <p>Finally, to really create optimum value from this long-term infrastructure investment, the enterprise agencies could best utilise the national capabilities of the ICs, Interface, universities and colleges as valuable R&D, innovation, knowledge exchange and commercialisation mechanisms of first choice, and establish efficient processes that create impact across key economic, social, and environmental measures. This approach would build upon existing strong relationships, but add deeper continuity, capacity, expertise and deliver optimum value to the public purse.</p>
<p>Question 11: we would welcome views on how we could best strengthen the Innovation Centres' relationship with universities and colleges, ensuring added value, sense of partnership and collaboration, avoiding duplication of effort etc. This would include opportunities for alignment and partnership with Interface, Scottish Enterprise, Highlands and Islands Enterprise, South of Scotland Enterprise and other relevant agencies and organisations.</p>	<p>We wish to emphasise the strong links we currently enjoy with Scotland's colleges, universities, and wider public sector infrastructure and welcome the opportunity to explore ways in which we might further strengthen relationships. A vital and unique role that the ICs play is the bridge between Scotland's world-class academic expertise and the powerhouse of Scotland's economy – industry by clearly promoting strong relevance and benefits between them. Moreover, a core part of the ICs business model is to continuously engage across all key stakeholders, and through this exercise we have identified further opportunity to leverage from our collaboration within the ecosystem creating a powerful model with greater impact.</p> <p>Our mission focus at CSIC is to 'accelerate our transition to a zero-carbon built environment' and this provides us with a highly relevant platform from which to collaboratively tackle some of society's biggest challenges. Within the context of Scotland's built environment, we recognise that we have world leading expertise and capability in our colleges and universities, progressive and ambitious policy drivers coming from Scottish Government, and an industry that is collaborating in a more</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

cohesive manner than ever before through platforms including the Construction Leadership Forum and Construction Industry Collective Voice.

It is in the intersection between these stakeholder groups that the IC model is particularly effective; bridging the gap between cultures, ambitions, expectations, and need. Our focus on conceptualising value creation beyond economic measures and more in line with the outcomes identified in the National Performance Framework, National Strategy for Economic Transformation, and the Just Transition, enable us to take a strategic position focused on creating longer-term sustainable value as opposed to short term outputs.

We would therefore welcome the opportunity to contribute to the development of a model of deeper integration between stakeholders and innovation centres, a process we are currently going through across our business to better understand the drivers, barriers, and opportunities within the built environment sector's ecosystem. The outcomes of this strategic exercise will better match the needs of industry with academic expertise but moreover engage industry in the wider relevance of Scotland's academic community and ways it can be used to create scalable, impactful solutions that can be adopted at speed by across the industry.

An example of where we have made impact through stronger integration is with Edinburgh Napier University, The University of Edinburgh School of Engineering and industry partners in proving the use and technical case of using homegrown mass timber as a sustainable, local resource. The prototype, built for technical and commercial testing, and displayed at COP26, has the potential to transform the provision of low carbon communities in Scotland, solve local supply chain issues by removing the dependency on imported timber, and create significant economic opportunity for Scottish timber and manufacturing. Scalable impact achieved through a better integration of academia and industry facilitated by CSIC. Through our unique valuable assets, we have cultivated over our lifespan so far of our large, engaged network of more than 50,000 businesses and individuals, and a strong engagement team, we can also assist in raising the profile and showing the crucial relevance of academia to industry stakeholders.

We also recognise the role that ICs play in attracting inward investment and international

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

collaboration. With active engagement through Erasmus, Horizon 2020/Europe, the UN Centres of Excellence Programme, and wider international partnership, we believe that CSIC can continue to act as a focal point for Scottish research, knowledge exchange, and innovation. We are particularly keen to explore the role that we might play in supporting the planned Scottish Education Exchange Programme as we view our position as an internationally recognised centre of excellence to be an asset to the Scottish KEI ecosystem. Moreover, we wish to emphasise our desire to offer residency opportunities to Scottish based students and academics which we believe will act to deepen connectivity and enhance the impact of our activity.

An additional area of opportunity relates directly to the decarbonisation of the public sector estate. The built environment is responsible for circa 40% of harmful emissions and our current approach of bespoke solutions for every asset is both inefficient and unsustainable. We recognise the role that CSIC can play in acting as the platform from which public sector agencies can engage and collaborate on scalable solutions to the retrofit challenge and through which we can reduce the duplication of pilot projects, share learnings from both national and international exemplars, and stimulate the environment in which supply chain development opportunities are borne through the secure and sustainable pipelines of investment. In short, we believe that CSIC can play a key role in enhancing return on investment in the public sector estate and can use this role to improve engagement with academics to ensure new learning is continuously integrated into our education and skills system.

Over the last 18 months we have been developing our mission focus as detailed above. We recognise that decarbonising our built environment will not be achieved unless there is sustained and systemic collaboration between stakeholders representing every facet of our economy and society. The platform approach previously detailed represents our key proposition in this response. ICs have proven an ability to act as connecting agents within complex environments. We have reached a point of maturity whereby the value we can support has been demonstrated, and our ambition turns towards scaling that value through recognised and highly visible platforms. Our 'Accelerate to Zero' programme is an example of a mission focused transformational route map around which relevant stakeholders can coordinate activity. Ensuring that national infrastructure is available in regional, and particularly rural, areas is a natural evolution of the IC model. We are already engaged in this type of

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>activity through programmes like the ‘AMCF Make it Smart Hub’ in the Highlands and Islands region and would be keen to explore ways in which we can expand the regional availability of IC support relating to physical technologies, machinery, equipment, as a means of enhancing the connectivity throughout Scotland.</p> <p>Having enjoyed success with our postgraduate programme, we are keen to explore opportunities for both expanding the programme and widening the scope to include both undergraduate and doctoral activity. We can demonstrate industry appetite for deepening engagement with the university sector through applied research and development opportunities, particularly in areas of high growth potential and activity aligned with decreasing both operational and embodied carbon emissions. We view this as a valuable opportunity to enhance relationships between the developing workforce and early career researchers and our network of industry contacts.</p> <p>Whilst alignment between and across the mission focus of the public sector infrastructure and industry is welcome, we recognise subtle complexities and tensions inherent within key performance measures. We believe that ICs already play a key role in contextualising and connecting areas of commonality in stakeholder ambitions and see this as an area for future development. We can do this through enhancing and consolidating existing partnerships with the enterprise agencies, research pools, Interface, and wider public sector infrastructure, alongside national assets such as NMIS, and COCIS. We would also include sectoral specific UK institutions including the Construction Innovation Hub, Centre for Digital Built Britain, Manufacturing Technology Centre, UK Green Building Council, and the Passivhaus Trust as good examples of relevant partnerships likely to add value to our work. We are particularly keen to enhance strategic partnerships in mission critical areas and to explore joint venture activity in areas with high likelihood of delivering impact.</p>
<p>Question 12: we would welcome views on potential areas of future opportunity where the Innovation Centre model could help deliver outcomes for Scotland.</p>	<p>We consider a key strength of the innovation centre programme to be the provision of a platform that connects and amplifies the impact of collaboration between industry, academic, public sector, and international partners. Our mission focus at CSIC has been carefully and strategically crafted and continuously evolved to ensure alignment with key mission objectives at global, national, and sectoral levels, which enables us to drive opportunity across multiple audiences and presents a convening</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

power that adds value to the KEI landscape.

By positioning innovation centre(s) as ‘value multipliers’ we can demonstrate positive and sustained impact across innovation, research and development, knowledge exchange, system design, and commercialisation. Whilst these are core areas of focus, we also recognise the value of ecosystem development, community engagement, and sectoral advocacy as important aspects of innovation activity. Moreover, we view the IC programme as being well placed to support our ambition to maximise the utilisation of assets across the sector through collaboration with stakeholders across the ecosystem. This, in turn, enables the IC network to accelerate adoption, mainstream practice more effectively, and realise longer-term return on investment through forming and consolidating relationships between ecosystem stakeholders.

Given the focus of our mission at CSIC, to accelerate our transition to a zero-carbon built environment, there is a clear and obvious long-term relevance across economic, social, and environmental measures. We expect to embark upon the most significant engineering project ever undertaken (the retrofitting and decarbonisation of existing built assets) and recognise the deeply connected and complex policy, procurement, and financing environment in which we operate. In this regard, we consider CSIC to be well placed to act as a key delivery vehicle for a range of national strategies including the National Strategy for Economic Transformation, Heat in Buildings Strategy, Just Transition, Housing 2040, and the National Performance Framework. This list is not intended to be exhaustive.

We also recognise the role of the IC programme in capturing and articulating emergent signals from the market. We have an excellent record of identifying new and near-to-market opportunities and leveraging academic expertise in accelerating mainstream adoption. ICs are well placed to provide this function due to the agile and nimble models with which they have developed and refined their focus and activity since inception. Within the context of CSIC, we see significant supply chain development opportunities, underpinned by reshoring manufacturing capability, improving resilience and capability, attracting inward investment, and transitioning to locally sourced, sustainable, and natural materials and products. This is an area in which we see significant potential for deeper collaboration with our partners and one which the ICs are well placed to coordinate within a cluttered innovation

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>landscape in the UK.</p> <p>Having noted the convening role that ICs play within the national context, there is also an important international lens to consider as we seek to both collaborate with, and attract, leading global talent to Scotland. The ICs are well placed to enhance the representation of our academic expertise through established and growing networks of international partners, such as the United Nations Economic Commission for Europe High Performing Buildings Initiative, of which CSIC are one of twenty-six globally recognised Centres of Excellence. We propose that ICs can play a more significant role in fostering global relationships and creating economic and social value from resulting collaborations.</p> <p>As we undertake a seismic shift in the policy landscape, we note the opportunity to ensure that wider public investment is creating maximum value for the citizens of Scotland. Enhancing connectivity of public investment with leading practice, and deepening engagement with the academic community to create a ‘national memory’ of good practice is a role the ICs are well placed to play. Examples include city and regional deals, local authority investment; including collaboration with the seven cities alliance, the heat network fund, and the wider pursuit of the programme outcomes detailed in the National Strategy for Economic Transformation. In this respect, we recognise the role that ICs can play in supporting value and outcome-based investment and procurement as opposed to cost-based approaches which remain commonplace throughout the public sector investment landscape.</p> <p>Within the context of CSIC, we see an expanded role for ICs to support the accreditation of materials, products and systems being developed by our academic community. We are experiencing an acute challenge in this area due to the UK withdrawal from the European Union and a potential future bottleneck for the adoption of innovation solutions, critical to our net zero ambitions, that can be alleviated through coordinated and collaborative investment in appropriate testing and certification capability.</p>
<p>Question 13: we would welcome views on strengthening Interface’s relationship with universities and colleges, ensuring added value,</p>	<p>Improving and strengthening relationships between Interface and universities and colleges would be a welcome step and one that would help promote innovation across the country. Interface has a broad reach across the university and college ecosystem. Innovation centres and enterprise agencies are, by</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

<p>sense of partnership and collaboration, avoiding duplication of effort etc. This would include opportunities for alignment and partnership with Innovation Centres, Scottish Enterprise, Highlands and Islands Enterprise, South of Scotland Enterprise and other relevant agencies and organisations.</p>	<p>their nature, more specific in terms of themes, sectors, or locations. By building a clearer understanding of how each entity is positioned and how success is measured a more formal collaborative process could be instigated, which would reduce the current reliance on existing personal relationships, although these remain effective. This may also allow for integrated reporting which would provide a better understanding of the impact of funding and other interventions.</p> <p>It can be difficult to develop an understanding of what the offering of every university or college is. Establishing exactly what assets and expertise are present across the academic sector would remove duplication of effort and help promote areas of expertise within Scotland to a wider audience. Give their expertise in this area and connections, Interface would be well placed to establish and manage the map of expertise, assets and facilities which could be utilised by multiple parties.</p> <p>As covered in our response to question 15, increasing the size of the initial innovation voucher, or making clear the possibilities of combing the vouchers, would help deliver a greater level of impact and strengthen relationships between Interface, universities, and colleges.</p>
<p>Question 14: if you have direct experience of working with Interface, we would welcome suggestions for evolutions to its operating model to help it develop even more effective support for productive relationships between businesses and our universities and colleges.</p>	<p>When engaging with Interface, CSIC has found the team to be very supportive, although limited opportunities have arisen where innovation vouchers have been identified as a critical industry need, hence this has resulted in limited strategic collaboration to date.</p> <p>Feedback from industry is that the application process is quite arduous, particularly when the initial value is low. The perceived focus on micro/small businesses can cause issues as the requirement for a cash matched/in-kind contribution can be challenging, which then reduces the attractiveness of the scheme.</p> <p>Whilst Interface has made a valuable contribution to promoting the benefits of academic research and greater development of links with the business community, there remain opportunities to enhance the commercialisation of innovation within Scotland. Greater clarity on funding product evolution would be beneficial. For example, when the innovation voucher scheme was switched to support</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>COVID-19 specific solutions, awareness of this was limited. More proactive and direct engagement with academia and industry may address this issue.</p>
<p>Question 15: we would welcome general views, based on direct experience of the Innovation Voucher scheme, on how it could evolve and better support our system for KE&I.</p>	<p>Due to the low value of the initial interface voucher the transformative potential is low. The voucher value has been set at £5,000 for many years, and there is feedback from both industry and academia that this is no longer enough to deliver even basic impact. Larger, more targeted contributions would overcome that to stimulate entrepreneurship.</p> <p>The benefits of collaboration and being able to pool vouchers should be a major selling point for Interface and would ensure a greater impact, that does not appear to be widely understood by potential beneficiaries. Running focused funding calls could address this, along with an enhanced matchmaking capability.</p> <p>Considering a combined application approach for the initial £5,000 voucher and the £20,000 voucher would reduce industry and academic time and increase impact. This could work with the follow-up voucher being conditionally approved at the same time as the initial voucher. Industry could be asked to demonstrate as part of the initial application how a follow-up voucher would be utilised.</p>
<p>Question 16: we would welcome views on widening the scope of Innovation Vouchers to encompass wider KE activity but retaining the key objective of using them as a means to promote first time collaborations and encourage longer-term relationships.</p>	<p>We would welcome a widening of scope of the Innovation Vouchers and feel that by doing so a greater level of impact could be achieved. By working with other agencies such as the Innovation Centres or Enterprise Agencies a series of joint calls could be organised to promote the benefits of Interface. Joint calls would also have the advantage of allowing relationships to develop between multiple supportive partners and allow greater tracking of the impact of investment.</p> <p>Another area of expansion would be a version of the vouchers which can be utilised to directly assist spin outs from academic institutions as part of the spinning out process.</p> <p>The benefits of collaboration and being able to pool vouchers should be a major selling point for Interface and would ensure a greater impact, that does not appear to be widely understood by potential beneficiaries. Running focused funding calls could address this, along with an enhanced</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>matchmaking capability.</p> <p>Considering a combined application approach for the initial £5,000 voucher and the £20,000 voucher would reduce industry and academic time and increase impact. This could work with the follow-up voucher being conditionally approved at the same time as the initial voucher. Industry could be asked to demonstrate as part of the initial application how a follow-up voucher would be utilised.</p>
<p>Question 17: how could colleges and universities help SFC understand, or monitor longitudinally, how many Innovation Vouchers have led to ongoing relationships? Are there cross sectoral digital solutions to this which can help us better understand the outcome we hope to achieve?</p>	<p>This relies on the ability to be able to share information accurately between multiple organisations. A check back system once a voucher has been awarded would allow greater clarity on this. If the vouchers were at a higher value, then more weight could be given to the need to report back.</p> <p>Involving innovation centres and enterprise agencies at the first stage of engagement would support the development of longer-term relationships and R&D/KE deliveries at scale.</p> <p>Careful consideration as to what exactly should be monitored in terms of outcomes would be beneficial. Exploratory work undertaken for the ICs has identified the importance of recognising the correct outcomes in terms of reporting impact. For example, reporting back on drivers of productivity and considering the varying nature of the interventions could help develop a greater understanding of the impact of the vouchers.</p>
<p>Question 18: From experience of mission-led approaches elsewhere, how would you advise SFC to use its resources and investments to facilitate such activity in support of Scottish Government objectives for economic transformation?</p>	<p>Missions set long term direction of travel. They are grand challenges that tackle systemic issues we face as a society. They need to be big, bold, and at first glance, perhaps impossible. Missions set out the 'what we're going to do' in response to the 'why do we need to do this' question.</p> <p>Setting out as few mission priorities as possible will ensure focus. Ideally, we should prioritise one as the key 'north star' mission, supported by a small number of supporting objectives. In the context of Scotland's identified national priorities, becoming a Net Zero society by 2045 is our 'north star', with a green recovery and a just transition to a well-being and entrepreneurial economy taking on the role of the supporting objectives. They are key components of our journey to net zero.</p>

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

Our core mission and supporting objectives should be linked to wider global missions; the UN SDGs (Sustainable Development Goals) for example. This gives our mission context and relevance. When the mission objectives are clear, the Funding Council and other stakeholders should use good underpinning data to identify where their investment is likely to deliver maximum impact (green jobs, sustainable growth, carbon reductions etc.). The mission then needs supported by a route map, multiple route maps for different sectors or ecosystems, that sets out the 'how we're going to do all the things that need done', to achieve the mission.

This cannot be done in isolation by the Funding Council. It is important to ensure SFC's resources and investments are made in an integrated and coordinated way alongside other key stakeholders and partners. The priority should be to maximise impact, so building strategic collaboration partnerships will offer the greatest chance of successfully achieving the mission.

Tactically, a mission-led approach presents an opportunity to infuse a net zero culture right across all aspects of SFC's investments. It would ensure a golden thread runs from initial objective setting (what you are going to do/support/fund), through to outcomes and impacts (what has it led to that has made a difference?).

SFC's academic community has immense potential to sit at the very heart of this mission-lead approach. We will not achieve our objectives without radically changing the way we think and act. Developing those key skills around knowledge, innovation, collaboration, critical thinking, disruption and so on. These are the skills that need nurtured and developed across Scotland's universities and colleges, then deployed into public, private and third sector businesses and organisations if we're to meet the challenges of our time.

SFC's investment in academic expertise, in trusted science, that can help unlock this capability is a golden opportunity. Driving systems change, deploying design thinking and disruptive design principals to achieve circular, sustainable & regenerative outcomes, all of which will be critical to achieving the net zero mission, are unfortunately not mainstream enough to have reached the impact tipping point. The Funding Council has the opportunity once again, as it did in 2012 when it launched

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<p>the Innovation Centre programme, to fundamentally disrupt the status quo by making strategic investments that will help build this essential culture and capability across Scotland at a time when it is needed more than ever.</p>
<p>Question 19: We would welcome views on the breadth of the role a KE&I Advisory Board could play and what stakeholder membership would give us the most effective support for SFC's role in the ecosystem.</p>	<p>We believe that the primary function of the advisory board should be to ensure system alignment with mission focused goals outlined in the impact framework, and supported by alignment with recognised national (e.g., National Performance Framework) and international (e.g., Sustainable Development Goals) frameworks. The board can achieve this by providing strategic guidance in areas of high value/high growth potential which are within the context of their experience and expertise. To this end, we would encourage representation from a broad spectrum of advisors who are well placed to represent key mission themes whilst bringing current knowledge and critical feedback to improve the quality of decision making. We believe that industry representation is critical and would encourage the inclusion of both appointed industry advisors and non-appointed advisors who may be called upon to provide specific insight at relevant times. We note the community structure at the Royal Society of Edinburgh as representing a good example of this approach.</p> <p>We recognise the value the advisory board can bring to the creation, interpretation, and future iteration of the impact framework. They may also act as connecting actors, ensuring we are able to realise maximum value through collaborating, sharing, and aligning wider activity, with a view toward amplifying impact and improving outcomes.</p> <p>We would also encourage that efforts are made to ensure the advisory board is representative of our society and is able to provide a broad range of views drawn from lived experience.</p> <p>Suggested representatives include:</p> <ul style="list-style-type: none"> - Colleges Scotland - Education Scotland - Enterprise Agencies - Innovation Centre Programme

Consultation on changes to our funding policies for knowledge exchange and innovation (KE&I)

	<ul style="list-style-type: none">- Innovate UK- Industry leaders/Representatives (multiple)- Interface- National Union of Students (or similar early career representative body)- Nesta- Research Pools- Royal Society of Edinburgh/Young Academy- Scottish Government- Skills Development Scotland- UKRI- Universities Scotland- Special interest/representative group(s)
<p>We may publish a summary of the consultation responses and, in some cases, the responses themselves. Published responses may be attributed to an organisation where this information has been provided but will not contain personal data. When providing a response in an individual capacity, published responses will be anonymised. Please confirm whether or not you agree to your response being included in any potential publication.</p>	<p>Publish information and excerpts from this survey response INCLUDING the organisation name.</p>