

Treasury Committee

Oral evidence: National Wealth Fund, HC 806

Wednesday 18 June 2025

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Members present: Dame Harriett Baldwin (Chair); Chris Coghlan; Bobby Dean; John Glen; John Grady; Dame Siobhain McDonagh; Lola McEvoy; Dr Jeevun Sandher; and Yuan Yang.

Questions 73 to 164

Witnesses

[I](#): Chaitanya Kumar, Acting Head of Economic and Environmental Policy, New Economics Foundation; Professor Neil Lee, Professor of Economic Geography, London School of Economics; and Pranesh Narayanan, Research Fellow, Institute for Public Policy Research.

[II](#): Darren Davidson, Vice President, Siemens Energy UK & Ireland and Siemens Gamesa UK; James Earl, Chief Executive, Future Energy Networks; and Mark Thomas, Chief Executive Officer, First Light Fusion.

[III](#): Phil Chambers, Chief Executive Officer, Orbex; Shaun Spiers, Executive Director, Green Alliance; and Dr Martin Turner, Director of Policy and External Affairs, UK BioIndustry Association.

Examination of witnesses

Witnesses: Chaitanya Kumar, Professor Neil Lee and Pranesh Narayanan.

Chair: Welcome to the Treasury Committee on the afternoon of Wednesday 18 June. We are taking evidence for our inquiry into the National Wealth Fund. We have three panels, the first comprising eminent academics who have given us some good written evidence, which we want to explore further. Without any more ado, I ask you to introduce yourselves, starting on the left with Mr Narayanan.

Pranesh Narayanan: I am Pranesh Narayanan; I am a professor and research fellow at the Institute for Public Policy Research and a part of our green industrial strategy programme.

Professor Lee: I am Neil Lee; I am a professor of economic geography at the London School of Economics and a fellow of the Canadian Institute for Advanced Research.

Chaitanya Kumar: Thank for having me. I am Chaitanya Kumar; I work as the head of economy and environment at the New Economics Foundation—we are a think-tank and charity. You can call me Mr Kumar.

Q73 **Chair:** I will start with an introductory question on the evidence that we have seen so far, which seems to imply that a lot of the groundwork for the National Wealth Fund came through the UK Infrastructure Bank, and additional capital has been allocated to the new entity. Do you feel that “National Wealth Fund” is a good description of what this new entity is designed to do?

Pranesh Narayanan: I think it is closer to a sovereign investment fund, public investment bank or development bank than a sovereign wealth fund. The name “National Wealth Fund” might be a slight misnomer, but I think it is a useful institution none the less.

Q74 **Chair:** Slightly different in the sense that it is funded more by debt than by wealth from a windfall on oil or gas, or something like that?

Pranesh Narayanan: Exactly. It is capitalised through Government borrowing; it is not linked to, as you say, windfall profits from a certain sector.

Q75 **Chair:** Professor Lee, do you agree with that?

Professor Lee: Yes. Building on that, there are three types of sovereign wealth fund: there are stabilisation funds; there are savings funds, like Norway’s; and then there is a third type, which is the strategic investment fund. This has characteristics similar to that, but then I would also say that it has strong characteristics similar to a green investment bank, basically.

Q76 **Chair:** What would you call it?



Professor Lee: I would call it a strategic investment fund.

Chair: Professor Kumar?

Chaitanya Kumar: A public investment bank—that is what I would call it—but, of course, these are early days for the fund. We will see in a few years what it transforms into. For example, the KfW has been around for decades; it is still a public investment bank, owned primarily by the German Government, and we do not call it a wealth fund. I wouldn't assign too much value to the nomenclature, but, it is, at the moment, an investment bank.

Chair: So all three of you would support a name change, is what I am hearing.

Q77 **Dr Sandher:** Before we start, I should say that Mr Kumar and I used to work together at the New Economics Foundation, so I declare that interest. Mr Kumar, if I could start with you, the National Wealth Fund is a vehicle to increase investment in this country, specifically public investment crowding-in private. How does the level of British public investment compare to other peer nations?

Chaitanya Kumar: Let's start off by zooming out a bit and looking at public sector net investment, which is an important metric to understand what the gross capital formation in Britain is compared with other countries. Since the turn of this century, the average OECD public sector net investment has roughly been around 3.7% of GDP. For the UK, it has been around 2.5%. So, for the last two decades, it has been significantly lower than the OECD average. The spending review announced last week raises that public sector net investment to 2.6% on average for the rest of this Parliament, so it maintains the level that we have seen historically, as opposed to what, counterfactually, would have been a significant fall to 1.7%. Maintaining existing levels of public investment is good.

There are three challenges, really. First, you need to have a reference or a baseline that you are comparing against. We would argue for comparing it to the European Investment Bank, or European infrastructure finance, which was providing a significant amount of finance to the UK. If you look at EIB funding at its peak, which was in 2016, pre-Brexit—or pre-referendum—it was £8.1 billion. The UK Infrastructure Bank peak, in 2023, was £3.4 billion, so we are not yet matching the scale of funding that we have lost from the European Investment Bank and infrastructure finance.

The second challenge is that the scale of finance that is needed—what we call the investment gap—in the UK is also quite significant. In terms of clean energy and climate, the Climate Change Committee, the statutory advisory body, has clearly laid out in its seventh carbon budget that we need anywhere between £30 billion a year, starting in 2026, to about £50 billion a year at its peak in 2035. Not all of that is public finance—in fact, a majority of it is private finance—but, if you split it, you essentially get about £6 billion to £23 billion a year on average. Our estimates suggest that the National Wealth Fund and other state-owned finance institutions

combined represent about £12 billion, so we are sort of middling in terms of the finance gap for the public sector. So we would argue that there is still a financing gap that the National Wealth Fund could tackle.

The final thing, of course, is: how much do we leverage? The UK Infrastructure Bank, historically, in its short lifespan, has leveraged about £3 to £4, which is good, but of course there are other comparisons we could make, such as to the KfW, which has historically achieved about a 14:1 ratio. So there is still a long way to go in terms of meeting that kind of leveraging of private capital compared to our neighbouring countries, for example.

Q78 Dr Sandher: Let's pick up on some of the examples that you raised. The KfW and EIB have both been around for a long time—the KfW since 1948 and the EIB since 1958. What do you think we can learn from those cases around the world, and what they have done successfully?

Chaitanya Kumar: We should ensure that we do not repeat the mistakes of the Green Investment Bank, which was sold off too early. I think the National Audit Office and a lot of other public bodies have since regretted the decision that was made back then. Obviously, it is hard to imagine what the counterfactual would be if the Green Investment Bank still existed, and what capacity it would have now. However, we should think about this as a long-term institution, like the KfW and the EIB, that provides much-needed public finance to UK infrastructure and UK plc.

Q79 Dr Sandher: What about the size of the balance sheets?

Chaitanya Kumar: At the moment, we have a £27.8 billion allocation and £5.8 billion of new money announced for some specific areas, which is welcome. I do not think there is any ceiling. Of course, I mentioned there is a financing gap—that is something we should target. Tomorrow, we are expecting an infrastructure pipeline document and perhaps an industrial strategy that will help to guide some of those investments as well, but there is no ceiling.

In our submission to the Committee, we argue that the National Wealth Fund should issue its own bonds, but that is not a short-term goal. Perhaps by the start of the next Parliament, or even beyond, we argue that the National Wealth Fund could start issuing its own bonds and raise more money from capital markets.

Q80 Dr Sandher: On the leverage side of it—the NFW is going to raise three to four pounds for every pound invested, but you mentioned that KfW gets €13 for every euro invested. What explains the difference between our National Wealth Fund's leverage and that of KfW in Germany?

Chaitanya Kumar: The short answer is being able to leverage—or “crowd in”, as we say—a lot more private capital. It depends. You have to look at it on a case-by-case basis to understand what sorts of instruments KfW is introducing into markets and how it manages to leverage significant amounts of capital. You also need to look at investment in both mature and nascent technologies.



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Right now, the National Wealth Fund, at least in its statement of intent, is quite clear that it wants primarily to invest in nascent and frontier technologies, which is welcome. However, there is a missed opportunity if it does not think about investing in mature ones as well, where the return on investment for the wealth fund could be significant. That is where the leveraging of private capital could be high.

Chair: Jeevun, did you want to ask any other questions?

Dr Sandher: Perhaps Bobby first.

Q81 **Chris Coghlan:** I would like to come in with a question. On your point around the National Wealth Fund potentially issuing bonds, how would that impact interest rates, or how could we ensure that issuing large volumes did not have a significant impact on interest rates?

Chaitanya Kumar: That is right. That is why I would argue that we cannot launch that right away, because it is a new, fledgling institution. Capital markets would want to see the fund invest and make a decent return, and to see it as a credible institution. Then we could start raising more from capital markets at a reasonable interest rate. That is despite the Government's backing—I still think there is a case to be made in the next Parliament for a bond issuance.

Q82 **Bobby Dean:** Professor Lee, if I can come to you first. I was interested when you talked about the Canadian experience. They seem to have a much higher risk appetite. The National Wealth Fund has set a target to make a positive return for the Exchequer, and we have been discussing in Committee, in previous sittings, whether that is the right target to aim for. Could you elaborate on the Canadian experience and tell us what you think about the National Wealth Fund's target as well?

Professor Lee: First, I should say that we need to be quite careful with some of this international learning, because one thing we can clearly see—I have a spreadsheet filled with examples of similar funds—is that there is huge variation: in returns, additionality, and so on. Canada is a very different place—the UK has its own specific problems—but we can learn a bit from that.

The fund needs to have two primary purposes: it needs to be strategic—that is, long-term and embedded in Government policy through the industrial strategy—and it needs to be catalytic. This is where the risk comes in, because it needs to catalyse new markets and hopefully make stuff start.

On international examples, the best-in-class funds are those that do the catalytic stuff well. Reflecting on the answers to the question a moment ago, to some extent it does not matter how big the fund is if it is not committing all its capital, or if there is still capital left, which I think has been the case with the UKIB.

One of the most important international lessons is that it needs to play that catalytic function a bit better: be more active, build relationships at a

local level and be more proactive in building up the pipeline. That is something the European Investment Bank does very well, for example. Part of the reason it can do that is because it has existed for a long time and has a very clear mandate to carry out that sort of advisory function. I have not quite answered your question about Canada, but hopefully that is useful.

Q83 Bobby Dean: That is fine. Is what I am hearing that, perhaps because it is such a nascent institution and it needs to build up a track record, the fund should be slightly more cautious, although not too cautious, because you do not want to crowd out private sector investment? Going straight away for a very risky approach could set it up to fail too early, particularly in the political context, because it will be a tough job for the Government to go out and defend projects that have failed. They need to be able to point to some successes as well.

Professor Lee: I think that risk is fine. The positive return is important to guarantee the long-term strategic viability of the organisation, essentially. That is what I was trying to put in there. That is important because this needs to be a long-term organisation.

Part of the rationale for having an investment bank, rather than doing this as part of Whitehall is that the bank is supposed to be independent, and it can think over timescales of 30, 40 or 50 years. That is why the positive return that makes it look viable is helpful for us. What we see internationally is that, when these things start to make a loss and look like a liability, politicians start to get involved. I am sure that you guys are different but, as we know, there are political changes, and people are swayed by short-term politics rather than long-term investment mandates.

Chaitanya Kumar: I have a direct quote from the Canadian Infrastructure Bank's corporate strategy document for 2022 to 2026. It says, "As at March 31, 2022, the weighted average effective interest rate for amounts advanced is approximately 1.5%". That, as you can imagine, is significantly lower than market rates, and the weighted term of said loans is 17 years, which is again quite long. That is a clear example of patient capital, which should be a core pillar of the National Wealth Fund.

Q84 Bobby Dean: I know we said to be cautious about the Canadian example, but I also have something here that says it has been criticised for deploying its capital too slowly. Does anyone have anything to say to that point?

Professor Lee: That is very common among these things. There is a balance between getting it to go out there and invest, and the fact that you want it to make the best investments over the medium term. That is a common policy tension. The only thing that I would say is that you can do the pipeline development stuff now. You can push the fund to build relationships with combined authorities. It is already doing plenty of that, but that is the stuff that will guarantee its success in the medium term. The UK has well developed capital markets. Lots of people want to invest in the UK, or have historically wanted to do so. The problem is often at a

local level, where there are not investable propositions close enough to the market for an investment bank to invest in them.

- Q85 **Bobby Dean:** Mr Kumar, you have written some interesting things about the National Wealth Fund being encouraged to take up more equity positions. Could you expand on why you think it should do that?

Chaitanya Kumar: I guess the fundamental principle that is driving the statement that we made is that we want the fund to be a player that ensures that profits are not just privatised and that risks are not just socialised. The fund should participate in getting the upside and facing the downside of the investment it makes. Taking equity stakes would create that risk, and generate both the upside and the downside. That was my primary argument.

- Q86 **Bobby Dean:** I think that the public would understand well that they should share in the profits. I guess the push-back would be, "Why wouldn't you do that on every project?", because you would presumably want to go for a different type of investment option according to the project. Can you explain to us in which cases an equity position would be the right thing to do? Would that be in the majority of cases, or a smaller proportion of them, and in which cases would it not be right?

Chaitanya Kumar: You would want to start off with a smaller subset of sectors, and perhaps those that the National Wealth Fund currently focuses on with the additional £5.8 billion. They are hydrogen, carbon capture, and gigafactories. I would argue that there is a strong case for equity investments from the fund in those five sectors that it has identified. One could look at different instruments on a deal-by-deal basis, but I think that the case for equity investments in those sectors is quite strong.

- Q87 **Bobby Dean:** My question was what your criteria would be for assessing why those were strong candidates. Would there be other sectors that you would rule out, potentially because it might put off other investors, and you are trying to crowd in capital? Can you explain in which scenarios you would want to go for the equity option, and in which you would not? Or do you just think that we should go for equity as much as possible? That is also a legitimate answer.

Chaitanya Kumar: You would want a set of criteria to define your equity investments. For me, the focus is these emerging sectors, such as gigafactories and hydrogen, that are pivotal for meeting our carbon budgets and reaching net zero by 2050. We know that these sectors are important, and that investment is absolutely essential. These are markets that will inevitably scale, unless we are willing to have China eat our lunch in all these sectors. We know that these are growing sectors and industries, and the case is therefore fairly clear for thinking about equity investments, because the market is going to grow in those sectors.

Pranesh Narayanan: I would like to build on that point by saying that first-of-a-kind projects in the UK require an initial, up-front injection of capital, in cases where the technology has been demonstrated but has not



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been developed or produced in the UK at scale, and the gigafactory example is a good one. These sorts of industries often struggle to attract the capital they need to scale up.

The UK has a commercialisation problem. Often people will patent inventions in the UK but end up reaching out to offshore markets to produce them. That situation, where you have a technology that has been demonstrated but not produced on a large scale in the UK, is where equity investments can really help. It can also help to co-ordinate commercial and public finance actors in doing some of these first-of-a-kind projects.

Professor Lee: May I come in very quickly? Where this has happened in the past, there is a big danger that other private investors will be scared if the state takes equity investments, but there are ways of getting around that. Best-in-class-type funds would look at making sure they are very clearly driven by profits, rather than having companies that serve too many goals. They will try to make sure that equity investments are held in a specific way.

The final point here is about additionality. Obviously, when making an equity investment, you will want to leave the equity investment at some point and have a clear exit strategy, if I can put it like that, so that you can claim the additionality over the medium and long term.

Q88 **Dr Sandher:** Professor Lee, may I pick up on that point? There is almost a conflict, if you like, between return to the taxpayer and the other missions that the National Wealth Fund is supposed to support, such as the growth and clean energy missions, as well as capital intensity. How should it manage those somewhat conflicting objectives? A private firm would have shareholder value as pretty much its only goal, which is much cleaner and simpler.

Professor Lee: To some extent, I guess the National Wealth Fund manages those tensions because it is willing to accept a slightly lower return, which partly alleviates that challenge. Just thinking about the funds that I have talked to or worked with, which are doing stuff where they are making equity investments, they are, first, clearly profit-driven. Sadly, it is very hard to reconcile these two things.

Having said that, in countries like Singapore, where the sovereign wealth fund—a different beast—has strong equity investments, it often seems to serve two policy goals, but that is not done through a formal mandate, because the profit motive has to be front and centre. It is quite hard to do, and it tends to be done through different forms of co-ordination, rather than saying to the private sector, which might want to co-invest, “This is going to be doing profits, but it is also going to be doing something else.” So you have to be quite careful.

Q89 **Dr Sandher:** Does anyone else on the panel have views on that?

Chaitanya Kumar: Switching gears a bit, profitability is obviously a huge question for the private sector in investment. If you look at sectors like offshore wind, which is a highly developed and mature sector, we are still



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struggling. Just a few weeks ago, you had a huge announcement from Ørsted, one of the largest offshore wind developers in the world, that it was backing out from the Hornsea 4 project, which was going to be one of the largest wind farms in the country. That puts a huge dent in the Government's clean power mission.

Just yesterday, the National Wealth Fund announced its statement of intent in "Financing the Future". I would argue that, even before the ink dries on the upcoming strategy document, the clean power mission is in jeopardy because of examples like that. The reasons for the company announcing what it did are high interest rates, supply chain issues and, essentially, because profitability is being hurt quite a bit, despite getting a fixed-term contract through the CfD.

The challenge is how the Government or the National Wealth Fund intervene in those situations to support those projects and ultimately support the clean power mission. It is an indirect response to your question, but we have to think about new instruments, and perhaps even equity, in those scenarios to derisk some of these projects and bring in private capital. We know that offshore wind, once developed, produces good returns on investment.

Q90 Dr Sandher: With some of the mature sectors that you are speaking about, such as offshore wind—and you mentioned Hornsea 4—do you think the National Wealth Fund should have a remit to invest in those mature sectors where the private sector also has an interest or a history in investing?

Chaitanya Kumar: A cautious yes is the short answer.

Dr Sandher: That is very clear—brilliant. Thank you very much.

Q91 Yuan Yang: I have a question about the difference, when spending on something like R&D and innovation, between departmental spending and the spending of this arm's length body, the National Wealth Fund, which is still broadly in line with the Government's strategic aims. Does anyone on the panel want to speak to the important differences between those two models of spending when it comes to crowding in private investment?

Pranesh Narayanan: I think the model of the National Wealth Fund is to have a very focused institution that can do very detailed work on the specific deal-by-deal knowledge development that it needs to highlight which sectors and projects will generate that additionality for the UK economy, and things like that. That sort of work is very focused, and having that in an arm's length body is beneficial. It also signals to investors that a specific and focused institution is thinking about these things.

The issue with trying to do this through departmental spending is that it is quite difficult for investors or businesses to know where the front door is to access some of that funding, and the processes are quite opaque on how funding is allocated through departmental spending. I think it makes it a lot clearer for investors and businesses to go to an institution like the



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National Wealth Fund. It can build trust and credibility in the Government to pick some worthwhile investments.

I think there are places where departmental spending is more appropriate. You mentioned innovation and R&D spending, and where that is done more on a grant basis, I think departmental spending is a better model.

Professor Lee: It is a great question. With R&D, I would imagine that you can essentially appropriate less of the spillovers compared with the closer-to-market stuff. It also serves a slightly different market function. The fact that you are crowding in, or trying to crowd in, private sector investment is slightly different.

I would also second the point that it is really important that it is focused. Everything we know about these institutions suggests that they work best when they have a focused goal.

Chaitanya Kumar: Very briefly, on departmental spending versus the National Wealth Fund, we identify four criteria, the first of which is what we call an economic gap. For example, the financial benefits are insufficient to cover a project's operating costs. Take Tata Steel, which received half a billion pounds from the Government through the Department for Business and Trade to transition from blast furnaces to electric arc furnaces. The argument is that it would not have been operationally viable without that investment from the state, so the Department stepped in and provided that resource.

The second is a commercial risk gap where the demand for the investment you are making in, say, heat pumps or a gigafactory does not exist or is very weak. That is where the National Wealth Fund perhaps comes in.

Then there is a structural investment gap where there is a risk that there are not enough products for consumers to benefit from—home retrofit is a good example, as there are not that many products out there for consumers. Again, Departments could come in with grants, for example.

Finally, there is a regulated asset base, where Sizewell C is a good example. Again, the Department comes in.

There are different approaches: grants primarily come from the Department, and investments like the ones mentioned in heat pumps and gigafactories come via the National Wealth Fund or an equivalent institution.

Q92 **Chris Coghlan:** Building on Yuan Yang's question, is part of it not that Government R&D would be more focused towards basic research, and then there is the National Wealth Fund? Because you need some form of financial return—even if slightly negative—you presumably cannot do basic research through the National Wealth Fund.

Professor Lee: That is the answer we should have given. If you read their stuff, it is about technology readiness levels.

Q93 Yuan Yang: Mr Kumar spoke about there still being a gap in financing, despite the capitalisation of the National Wealth Fund, at just under £30 billion, for the carbon transition and the other challenges that our economy faces. Does the panel have any advice for increasing the fund's leverage ratio without having to increase the amount of capital it can deploy?

Professor Lee: I feel I have made this point, but it is all about being more active and entrepreneurial, and about building links at a local level to try to build up the pipeline. When we have worked with local authorities or combined authorities, there has been a frustration that investment projects or ideas cannot be brought up to an investable level. I have also worked with pension funds and investment banks, which would say something similar. The problem is that, at a local level in the UK, projects are often not being brought up to a level at which they are investable.

If you look at something like the European Investment Bank, it has a very strong advisory function called JASPERS, for which I have worked in the past. It does the advisory work, the project cycle work, project appraisal, capacity building and stuff like that. We have an opportunity in the UK, because we have combined authorities, which are working pretty well, and we will have the new strategic authorities if the White Paper goes through. We could go from a situation in which we have quite fragmented local government in this country to a situation in which stuff like this can be done well.

For that to happen, it requires the National Wealth Fund, the British Business Bank and so on to be much more deeply ingrained in local areas—working with them and developing a stronger advisory function. In the document released yesterday, it talks about strategic relationships with the combined authorities. Stuff like that is great, but I would push them a little more on that. I do not think the problem is just in the supply of finance; I think the problem is in the pipeline of investable projects.

Q94 Yuan Yang: So you are saying that it is not just about the amount of capital being deployed but about the management and whether they are in the community and speaking to investors? It is really about the running of the bank and the service it provides outside of investment.

Professor Lee: Yes, exactly. The European Investment Bank will go in, often on a no-fee basis, and it will advise local areas. I have done it. I have flown to Poland and talked to Polish local authorities. Similar stuff needs to happen with the National Wealth Fund.

Yuan Yang: I would welcome you to visit our local tech and biotech companies in Reading.

Q95 John Glen: Could I ask about the National Wealth Fund's strategic objectives and priority areas? The Chancellor asserted the imperative to consider investments in dual-use technologies to support the UK's defence and security. Given where we are as a country and what is happening at the moment, do you think it is reasonable to say that she should have gone further in including defence as a priority sector?



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Professor Lee: The key thing is that it should back up and be strategically aligned with other parts of Government policy. If the industrial strategy has defence as a key area, and where there is a clear need for more investment in that space, I think it would seem reasonable.

The other obvious area is life sciences, where we see a big shortage of lab space that could be addressed through investment.

Q96 **John Glen:** Does anyone else have anything to say on that? Has it been framed in the right way? Should the Chancellor have gone further on the defence sector, specifically?

Chaitanya Kumar: In the context of the National Wealth Fund?

John Glen: Yes.

Chaitanya Kumar: We would argue that, no, the National Wealth Fund should not be used for investing in defence, given that economic growth is the Government's No. 1 mission. If you look at the economic multipliers associated with defence spending, compared with, say, clean tech, as an alternative, it is x1 versus x2 or x2.5. The economic multipliers are therefore significantly higher in the context of clean tech.

I am not making the case against defence investment; I am talking about the National Wealth Fund, which is already stretched in lots of ways. You want it to be focused on the five priorities it has at the moment, and there is a lot of work to be done there. I think stretching it beyond that into defence would be challenging.

Q97 **John Glen:** Is there not a risk, though? How do the Government avoid a situation in which the efficiency of the National Wealth Fund's contribution is diluted by changes in the national economy? Do you think there is a reasonable chance that there will be tougher projects?

We have just discussed the possibility of strategic decision making being at a higher level, with regional or local government, but if that does not happen, is there not a risk? I think there has been a sense that low-risk projects such as solar farms and onshore wind farms should not be included, but what needs to happen to stop the National Wealth Fund reverting to that when some of these more complicated investments prove elusive or take too long to deliver, because there will be political pressure to show what has been delivered?

Pranesh Narayanan: I think the strategic remit covers areas that align with the UK's comparative advantages, or potential comparative advantages. In identifying areas such as gigafactories and so on, they have picked growth sectors that can yield a return. I do not think we are done with investing in those areas. I do not think they have been operational long enough to have completely exhausted the opportunities in the sectors they have already defined. I think the risk of mission creep is pretty low right now.

And the change in remit between the UK Infrastructure Bank and the National Wealth Fund, in terms of sectors, has not been all that large.



There is a slightly looser definition of digital and technologies—advanced manufacturing—and those things overlap significantly with the original remit of the UK Infrastructure Bank, such as clean energy. You highlight a reasonable risk, but I do not think we should be too worried about it right now.

John Glen: I was the Minister who took the legislation for the UK Infrastructure Bank through Parliament, and I have been trying to discern what is different, apart from a little more money. I am still struggling with that. Does anyone else have anything to say? No? Thank you, Chair.

Q98 Chris Coghlan: Mr Kumar, I am slightly surprised by your answer to John Glen on defence spending, because we heard yesterday from Dr Surico that defence spending, when tilted towards R&D, is one of the best ways of driving long-term economic growth. In fact, the Chancellor upgraded our long-term GDP forecast by £11 billion a year in the spring statement as a result. Does the difference between what you are saying and what Dr Surico said come back to basic research being outside the scope of the National Wealth Fund?

Chaitanya Kumar: I have not heard those statements, and I will have to look into it. Is it about combining defence spending with R&D?

Chris Coghlan: It is when you use defence spending specifically for defence R&D. You are absolutely right that consumption, buying artillery shells or whatever, does not do anything—or does not do much. The reason for that effect is because of the spillovers into civilian technology. In fact, I believe there is an example in the spending review of Rolls-Royce's work on small modular nuclear reactors coming directly out of nuclear submarines.

Chaitanya Kumar: In general, the more we can spend on R&D, the better. Historically, R&D's economic multipliers have been fantastic, and Britain in particular has an excellent history of spending on R&D and gaining from it. If anything, I lament the fact that we do not see more private sector investment in R&D—we want to see more of that. The studies I mentioned, in terms of defence spending and multipliers, are related to the capital investment side of things. I will look into those statements and come back to you.

Q99 Chris Coghlan: Professor Lee, in your view, how should the National Wealth Fund be evaluated?

Professor Lee: The first thing is that you need to give it space to breathe. It is very hard to evaluate these things because they are, by their nature—particularly if you are looking at risky, hard-to-evaluate projects—things that colleagues in the Treasury or wherever else would not necessarily be well set up to judge. There is no clear counterfactual evaluation for much of what you could do, which is the type of thing that someone like me would normally propose.

You have to be quite careful in how you do it, making sure you give it space to breathe, and you need to be quite careful to keep it independent

from the political process. One of the things that we often see very clearly is that these things get skewed by politics. You probably need to do it on a portfolio basis, rather than doing it on a project-by-project basis, which is the way that I would normally do it. You also need to get good people on the board, as well as a chief executive who can communicate with you guys.

Q100 Chris Coghlan: As you have argued in your blog, if you are not seeing failure in the fund, you probably have not succeeded because you haven't got your risk-reward calibration correct.

Professor Lee: Yes. I am pleased you have read the blog. A bit of failure, showing that it is taking on some risk, is good, because it is very hard to evaluate that risk from outside.

Q101 Chris Coghlan: What qualities do you think the Government need to actively pursue to ensure that the conditions are there for the National Wealth Fund to be successful?

Professor Lee: A lot hinges on the success of the industrial strategy, the infrastructure plan and the other funds that are in place. The other thing is that it is always easier to invest in a growing country, so it is integrated into this sort of wider policy framework.

Pranesh Narayanan: One other area to think about is how well it is co-ordinating between the different financial institutions of the UK. You have the R&D funding through Innovate UK, all the way up to the British Business Bank. All these actors are working within the space of driving investment in the UK.

The National Wealth Fund would have to ensure that it is working alongside those institutions, not just providing additionality from a private sector perspective. It did that quite well recently, partnering with UK Export Finance in providing Nissan with some sort of loan guarantees. I think it is learning that it can do that.

Q102 Chris Coghlan: In the OBR's fiscal outlook, it notes that, with the new debt measure—public sector net financial liabilities—there are potential incentives there for the Government to invest through loans and equities via the National Wealth Fund, rather than having them on its own balance sheet, because that does not contribute to the Government debt target. Do you agree, and is that a risk?

Chaitanya Kumar: I think it is a good outcome to change the fiscal rule to reflect financial liabilities instead. We agree that the change has unlocked significant capital for investment, in the £113 billion that was announced in the spending review. The challenge is whether they will be productive investments and whether they will have good return on investment. That is, invariably, the question now. The rule change is welcome, and we will see more departmental spending as a result.

Professor Lee: I would be fairly relaxed. On the international evidence I have seen, I have seen nothing that makes me concerned.

Chair: If you have a very different point of view, we would love to hear it, but if you are happy with what your fellow panellists have said, that is great.

Q103 Lola McEvoy: Just to pick up on a couple of the points we have heard before, the Chancellor wrote to the CEO of the National Wealth Fund on 19 March, setting out some strategic priorities. On the first strategic objective, it specifically mentions building stronger relationships with regional, local and devolved authorities, which is what you were talking about.

On the National Wealth Fund's website, it says it offers private sector finance and its secondary offer is local authority services, such as advisory services and market lending. Is that in the right ballpark of what you were suggesting that other international comparators do? When you were making the comparison, it sounded as if the National Wealth Fund is not going to be doing that, and I was just wondering if that is the case, or whether you are encouraging more of that.

Professor Lee: More of that type of stuff, first of all, because it is good. The document that was released yesterday had the first mention that I had seen of these strategic partnerships in combined authorities. That is important, but having worked in this space recently, they have not got far enough. There is the issue around co-ordinating at a local level, which is important. They need to better understand local needs.

One thing that you would hear is that the UK Infrastructure Bank would sometimes not understand the way in which local authority funding works, which made it harder to make investments. That was a common complaint. Generally, we need more of that type of stuff. It needs to become more embedded and more systematic. This might be a good first stage, but we need to ensure that it happens.

Q104 Lola McEvoy: Mr Narayanan, does the National Wealth Fund have the right risk appetite? How much should it be taking risks early on? I know we have said about being patient—having this patient capital—but some of the projects are champing at the bit. They have got proof of concept, but they cannot get the private investment. How much of the budget should be spent on the riskier projects?

Pranesh Narayanan: With the risk appetite, it is important to remember that because the National Wealth Fund is funded through Government borrowing, it is able to take a lower rate of return and still make a positive return. Its risk appetite is generally lower than a purely private financial institution. It might not just be the risk appetite that is stopping some of these projects. Without knowing the details of the specific projects you have referred to, it is hard to say exactly why.

As colleagues have mentioned, this is a new institution. There is going to be a process of learning by doing, in terms of what kind of risks it is and is not able to take. As Professor Lee mentioned, some failures will have to happen to inform that process. It is difficult to say right now. It is easy to

say that it could be riskier, but it is hard to say exactly how that could happen.

Q105 Lola McEvoy: The Chancellor said in the same letter on 19 March that she is increasing the economic capital limit from £4.5 billion to £7 billion to support more high-risk investment and the derisking of potential growth-enhancing projects. Mr Kumar, do you have any views on the disconnect between that and what is happening on the ground with the National Wealth Fund? I know it is early days, but I think a lot of businesses and industry leaders have been impatient for change—like lots of us in the country. Do you think that is enabling enough for the derisking of some of these new sectors?

Chaitanya Kumar: I guess we will see how much crowding-in happens to some of these projects. With the £5.8 billion announced for those five sectors, we will start seeing some of that money go out the door in the next few months and years. How much it leverages private capital will obviously be a key metric for how effective it is.

Ultimately, the National Wealth Fund is a political institution as well, especially in an environment where net zero is under attack. It would not surprise me if the National Wealth Fund, by extension, would also be heavily scrutinised—as it should be. For instance, if you look at the example of a company called Solyndra in the US, which went bankrupt, it received a huge amount of public money during the early part of the Obama Administration. Its downfall led to a significant attack from the Republicans on essentially the whole programme of offering loans for clean tech—it besmirched the entire idea of lending to clean tech.

We need those kinds of risk to be taken. What people do not talk about is that, alongside Solyndra, the loans were also given to Tesla, which became a huge company with massive profits. If you take a portfolio approach, you will have Solyndras and you will have Teslas. How do we ensure that the National Wealth Fund does not get attacked too much for Solyndras and gets rewarded for Teslas—or the equivalent?

Q106 Lola McEvoy: This is quite niche. The Green Book reforms in the spending review are how we spend the Treasury's money and how decisions get made. These reforms are hopefully going to support more place-based investment. Do you think that, given the huge strategic scope that the National Wealth Fund already has in what it has to deliver, there is scope for additional reforms to the way it spends and the conditionality on some of the place-based approaches that we are going to see in the Green Book, mirroring some of those Treasury reforms centrally, Professor Lee?

Professor Lee: I think we have to be quite careful not to have very high expectations of this institution, which is still relatively new, even if it did have a predecessor. That is the first thing I would say. On the Green Book, I think some of the stuff I am talking about—on capacity building and being more proactive at a local level to build up the pipeline—might be the way to do it, rather than doing it on the lending side.

Q107 Lola McEvoy: Finally, on the international comparators and how you have



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seen it work before: what is their risk appetite compared to ours? I am interested to know how much public money is considered an acceptable amount for projects that do not make it all the way, in the examples you have given where these funds are working well. You mentioned that there were criticisms of the Canadian model because they do not get the money out the door—obviously we had that problem in the last Government.

Professor Lee: Sorry, the question is?

Lola McEvoy: In the international comparators, are there some funds that are more risky and work well? How does it work internationally in terms of the risk appetite?

Professor Lee: There is a huge variation. I have a spreadsheet of 50 or 90 of these things. But the most important thing to work out is what the problem is in the UK, and then the appropriate risk level based on that. Here, I would say that is quite risky, because we have a relatively well-developed capital market.

Q108 **Bobby Dean:** I was going to ask a question about PuFIns—I am not sure if anyone else has come across this term; we discovered it recently to describe public financial institutions. I do not know if you are familiar with it. My question is more about the confusion between the different ones we have. The National Wealth Fund and the British Business Bank in particular seem like they are going to serve similar roles, and they also have a similar amount of capacity.

Do you think this is confusing for investors, and might they end up competing inadvertently? Would they be better rolled into one institution? I know we also have Great British Energy and others, but focusing on the British Business Bank and the National Wealth Fund—can I invite views from the panel, left to right, starting with Pranesh?

Pranesh Narayanan: I think there is a risk that some confusion will arise simply because the institutions—certainly the National Wealth Fund—have gone through a change recently, so investors might not be fully sure what sort of proposition they are going to get from the Fund.

The British Business Bank's remit is quite clear: it is there to finance SMEs and support their growth across the country. The National Wealth Fund should clearly state that its focus is on larger-scale projects and larger-scale businesses. If that clear statement is made and there is a clear demarcation between the two, that would both reduce confusion for investors and allow them to co-ordinate their investments better.

Professor Lee: They need to fill very different types of projects and institutions, so I think it is fine. I think the confusion here is in the National Wealth Fund name, which is probably not very helpful. That is the issue I would change. Institutional reform to try to clarify things is probably unnecessary.

Chaitanya Kumar: Very briefly—you call it PuFIns, and sometimes we call it SOFIs, state-owned financial institutions. Just today, I believe there was a publication from the Government on the precise question of co-

ordination between all these banks. We have not had time to look at the detail of it yet.

Q109 Yuan Yang: I want to go back to the question about risk appetite. It seems to be something that many on this Committee are concerned about—that the National Wealth Fund will have a sufficient risk appetite, rather than simply delivering things the private sector could already deliver. How much of this comes down to institutional culture and the management of the institution? What evidence is there from the performance of the predecessor organisation, the UK Investment Bank, that there is sufficient risk appetite in the organisation? I will go to Professor Lee.

Professor Lee: I am not going to have a very good answer for you, unfortunately. The culture point really matters, and it is very important, but it also makes it very hard to evaluate and to intervene in from elsewhere. It is the kind of thing that you should be asking the next chief exec to focus on. You need someone who is willing to take on that risk, basically.

The fund also needs a political shield. It needs to be clear that the institution is not going to be wiped off the face of the earth if it makes a few ill-advised investments. It also needs to be given space to take a bit of risk. The real risk decisions are made within the organisation, so it is really about shielding that organisation from the outside world, and giving it clear guidance about what to do.

Q110 Yuan Yang: Is there a clear economic shield in the current policy for the National Wealth Fund, if it makes bad bets?

Professor Lee: I was thinking of a political shield to make sure that it is not seen too badly in the media. I do not know how else you would do it.

Q111 Lola McEvoy: I have a follow-up question on Bobby Dean's point about PuFIns—we are enjoying that acronym quite a lot. Regarding the gap for scaling up and spin-outs, we hear all the time from businesses that they have an amazing concept but they cannot get scale-up funding. Innovate UK obviously does some of that work, and there are lots of angel investors, but they are often not out in the regions. The National Wealth Fund has £25 million—is that right?

Chair: £27.8 billion.

Lola McEvoy: No, I mean for the starting deal.

Professor Lee: Yes, the deal size.

Q112 Lola McEvoy: When they invest, they have a high minimum level of investment, so there is a gap. You could go to the British Business Bank instead, but is the British Business Bank going to give the same credibility to private investors to crowd in on the back of a concept? Is there a gap? When we see how successful the National Wealth Fund is in a couple of years' time, could we expand its remit to include some of that scale-up funding? What is your view on how we get those spin-outs to market?

Professor Lee: It feels like they are different types of funding.

Q113 **Lola McEvoy:** There is a big gap in that bit of funding, though. Would the National Wealth Fund would be an appropriate place to give that sort of funding, or should that come from a whole different PuFin?

Professor Lee: You would expect most scale-up funding to be addressed by the British Business Bank. There is a problem, but I would probably not use the National Wealth Fund as the tool to address that.

Pranesh Narayanan: There is a sector focus to the National Wealth Fund. If it is able to develop the knowledge about the sectors that it is focused on, then it could maybe take a role in those sectors. But if you were just to give it a remit to do scale-up finance—

Lola McEvoy: It could be within the strategic priority sectors of the industrial strategy. But you think it could potentially do it. I suppose an alternative model would be to boost the coffers of other institutions.

Q114 **Chair:** I think that you have highlighted a real issue: we are the Treasury Committee and you are experts in this area, but even we find the situation, with all these different organisations, quite confusing. We have not even mentioned Great British Energy and where that fits into this picture. There was a question that elicited an answer from you, Mr Kumar, about the Green Investment Bank. You said that if it had not been privatised, it would have been better. I wonder whether we would have needed the National Wealth Fund if that bank had not been privatised.

Chaitanya Kumar: Probably not, because it was performing a similar function: investment in green tech.

Q115 **Chair:** Finally, Professor Lee, you have that amazing spreadsheet database of every organisation around the world. Could you name the one that you think does it best, and which you would like the National Wealth Fund to be every bit as good as?

Professor Lee: Off the top of my head, the European Investment Bank is pretty good. It has its problems, but it is not bad.

Chair: It has been fascinating to hear from such experts. I know that the Committee has very much enjoyed this first session.

Examination of Witnesses

Witnesses: Darren Davidson, James Earl and Mark Thomas.

Q116 **Chair:** Welcome to the second session in our inquiry into the National Wealth Fund. In this session we will hear from some energy experts. I will ask you to introduce yourselves, starting with Mr Earl.

James Earl: Thank you for the invitation to provide evidence today. My name is James Earl and I am chief executive of Future Energy Networks, a membership organisation that represents the GB gas networks. We have five members who own and operate the extensive gas grid that we have running all across the country.



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As an organisation, we are very much focused on the future—as per the name—on the role of our members' assets in supporting net zero and providing energy security not just now, but into the future, and importantly on providing the economic prosperity that is so linked with the energy sector. Lastly, if I may, we are specifically focused on two green gas technologies to put into that network: biomethane and hydrogen, which you have already heard a little bit about.

Chair: We really just need names and organisations at this stage.

Darren Davidson: Good afternoon. I am Darren Davidson, and I head up Siemens Energy and Siemens Gamesa in the UK and Ireland.

Mark Thomas: I am Mark Thomas, the chief executive of First Light Fusion.

Q117 **John Glen:** Obviously, we are trying to understand the application of the National Wealth Fund to different sectors—in your case, the energy sector. Could you describe the challenges you see in the UK energy sector and how you hope the National Wealth Fund would help to overcome them?

Mark Thomas: A lot is going on in the energy sector, and energy security is a huge consideration. My area, fusion, is obviously a long play. We are talking about something that has the opportunity to provide abundant clean energy. It is seeing massive breakthroughs and a huge amount of private interest—private companies and private investment—at the moment, so it is really on a charge.

This could go a long way towards addressing some of the clean energy shortfall that we see and some of the limitations of some of the other energy solutions, in particular the intermittency of renewables. We are seeing a clean energy gap emerge, which needs to be filled, and we are seeing some really innovative solutions to that coming forward. We cannot ignore it; it is there, and it is not going away unless we do something about it.

Q118 **John Glen:** Mr Thomas, you just mentioned a surge of interest in private sector investment. Does that indicate that, in your particular part of the pitch, the National Wealth Fund is not so needed, because you have growing confidence that there is a pathway to delivery to deal with the intermittency of supply? You have private backers that you can go to, so you do not need the National Wealth Fund.

Mark Thomas: It is absolutely needed. Fusion is an interesting sector, and there has been over £7 billion of investment in the last several years, the majority of which has been in the US. That is off the back of significant commitments from the US Government through national laboratories that have spun out companies that are now being taken forward privately.

That anchor investment, particularly in a strategic sector with strategic technology—that statement of intent from Government—is really powerful. We can do much better than the £3 of private investment for every £1 of public investment, particularly in these strategic, high-priority and high-

value areas. I think it is needed in some form, and I do like the concept of a strategic investment fund—that works for me.

Q119 **John Glen:** Mr Davidson, how does Siemens see it?

Darren Davidson: Siemens Energy is really sizeable; it is probably the biggest energy contributor, from a supply chain perspective, in the UK. We do everything from the CP30 plan, including offshore wind, onshore wind, gas turbines and compression, with 6,500 employees in the UK. We have invested quite a bit in the UK—over £1 billion in the last 10 years—and we are consistently looking at next investments and what we want to do next in each of our factories and locations to support the CP30 plan and the net zero targets.

It sometimes feels as though the lack of support is very visible. We really struggle as an organisation to engage with Government to help and support us with some investments. One may argue that we do not need support, and that is regularly said, but we are in competition with the rest of Europe and the rest of Siemens Energy globally. We need to be the place to invest. When we look at the National Wealth Fund, we almost do not know where to go, to be honest.

Q120 **John Glen:** So you see the National Wealth Fund as a first point of entry into Government support, but you are not necessarily clear that it is the only mechanism. You observed our session with the previous panel, when we discussed the range of options that exist.

Darren Davidson: A report was issued yesterday—I will share it with you afterwards, because it is really important—that shows 23 different schemes in offshore wind to which projects and investors can potentially go to get support. It is just too complicated, and people do not know. It would be great if the National Wealth Fund provided that early entry discussion to direct us where to go.

James Earl: I will offer a slightly different perspective. We have this real focus as a nation on clean power 2030 over the next five years, and that has really galvanised the sector and provided that level of focus. That is really focused on some of the mature technologies that we talked about earlier, such as offshore wind and solar. There are still big blockers in the way of that, including connections issues, with projects being quoted very long connections timelines, as well as issues around grid capacity and actually having the network in place.

As I said, I represent the gas networks, and the issue, as we see it, is widening the focus so that we are looking at how we can decarbonise and provide economic opportunity, not just through the somewhat narrow lens of electrification and clean power but using all our energy assets, including the gas pipeline network that we have already. We have already paid for it and it is in the ground, and we can put green gases like hydrogen and biomethane through it.

Q121 **John Glen:** So you would not want a sharp distinction between investing in new technologies and removing the blockers and challenges to



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developing existing technologies. You would not want to see a bar on one; you want both to be invested in.

James Earl: Absolutely—both. In terms of gas, hydrogen is seen as a nascent, frontier technology that needs that support, and there are lots of different co-ordination issues in getting hydrogen off the ground, but we are already putting green gas into the network today in the form of biomethane. We have enough biomethane to heat close to 1 million households in this country, but it still has a long way to scale. It can be scaled over 10 times from where we are now. I absolutely see a role to support both those technologies that need to happen but are seen somewhat as of the future and the technologies that are already happening now.

Q122 **John Glen:** We obviously had the UK Infrastructure Bank previously. When you saw the Chancellor's announcement around this, what did you discern to be different from what you saw with the previous entity?

James Earl: The announcement on what, specifically?

John Glen: On the National Wealth Fund. There is a well-rehearsed argument about its similarities to the UK Infrastructure Bank. What do you discern to be different about what the new Government have done with this entity?

James Earl: I do not discern a huge difference from where we were before. It is welcome that it has a clear focus on a specific number of technologies. I would argue, perhaps, that there are others that we could put into the mix. I do not see that it is hugely different from what has been there before, but it is still really important and very much needed, because while there is private capital out there that wants to flow into these projects, it is not easy to do that or to get hold of that private capital in the right way.

John Glen: Thank you.

Q123 **Yuan Yang:** I want to go back to the theme that you raised, Mr Davidson, about the current layout being too complicated, with too many different inroads and not really a one-stop shop or portal that could make things simpler. From our panel of academics earlier, we heard about the importance of the National Wealth Fund institutionally being in the community, among the businesses, gathering information and feeding back information, and having an advisory role. What gaps are there between what exists now, including from the historical UK Investment Bank, and what you would like to see from the National Wealth Fund in terms of the advisory service it provides?

Darren Davidson: It goes back to the point that I was making before. We are actively looking at what investments we need in order to support the energy transition in the UK. We are looking at all our sites, and we are not doing it with Government support to help us. Let us say we are going to build a factory; we do not know how the National Wealth Fund could support us in that. We tend to create the business case ourselves, then



engage with the support. In other European countries, there is a very simple discussion at the start: "We're thinking of doing something like this. Does it work? Is there support available for us—yes or no?" That simple sort of concierge service, right at the start, would really help us. We are constantly looking at investments and saying, "Can Government support us with it?"

We talk about having made £1 billion investment in the past 10 years. The last Government support we had was in Hull, nine years ago, and it was £7 million. Over the past two years, we have worked with various Government Departments. Our Lincoln site is the last gas turbine factory in the UK, and we have been trying to develop that product to operate on hydrogen, to make it hydrogen-ready for the UK market. We have tried unsuccessfully, through the various schemes, for two years to get nearly nowhere on it. There are lots of examples like that, which I have personally been involved in, where we struggle.

Mark Thomas: Those were fantastic comments, and very relevant. May I add my perspective, as a private tech company CEO? A large part of my life is spent fundraising in the private sector, having to talk to lots of people to try to get them to show interest in the company and sign cheques. When you are having, alongside that, to front up to multiple Government Departments because your offering does not neatly fit into DSIT, MOD or DESNZ, that becomes doubly challenging.

I had a previous business, and we used to joke that the business only made sense at Cabinet Office level, when everyone sat around the table and spoke about what they knew about it; then, the full offering became clear and the value creation was more obvious. I like the concept of the NWF as an entry point, which can play that sophisticated role and understand the totality of the offering and where best to place or direct people. I think that could be very helpful.

James Earl: We are moving to a much more strategically planned energy system. That is the intent, anyway. We have got the National Energy System Operator there to help us do that. It is moving ahead with this regional energy system planning approach to try to identify infrastructure needs in different regions and bring that all together into a national plan. Therein lies a bit of an opportunity to use that process to look at investment needs at a more local level. We know where the industry is and we know the challenges that face it to decarbonise. Having that more hands-on, local approach, and using that regional system planning platform, would be great.

Q124 **John Grady:** Just to make sure I have understood this properly, let me summarise that chapter of evidence. I think you are saying that the National Wealth Fund is great, but when you have got your board paper or you are doing an investment agreement, you have got your conditions precedent and you will not release the money and complete until certain CPs are done.

What you are saying is that you have a range of Government actions that



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are not from the National Wealth Fund that need to be completed to get some of these things to fly, be it planning or consenting or some sort of regulatory change, so the National Wealth Fund is only part of the answer; there needs to be some sort of door in Government that you can walk through and say, "This is what we want to do. We want to invest. Can you sort it out, please, because otherwise it just will not fly?"

The National Wealth Fund, by definition, will face the same issue, because it will want to invest, but it will have to turn its mind to whether these other steps by Government are taken to be able to invest, because it has to be an investment that has a fair bet of making a return. Have I understood you guys correctly?

Darren Davidson: Yes, but it also sits with us, as industry, to engage with the National Wealth Fund and try to shape it into what we need. It is not about having you design an organisation and saying, "It's your fault." It is not. From a positive perspective, the National Wealth Fund has engaged with us.

We have a discussion next week about potential reinvestment in the port of Hull, what we can do there and how we can reshape that. There has been that level of engagement, but when we discuss future investment in the UK within Siemens Energy, across all our sites, we never get a feeling of comfort that we will be able to get support, so we tend to make decisions on the basis that we are not going to get support. That is fine, but we could have had far more investment and jobs in the UK with greater engagement from the wealth fund and a bit of concierge to say, "We can help on this, but we can't help on that."

Lola McEvoy: It sounds like what you guys need is an industrial strategy.

Q125 **Dame Siobhain McDonagh:** Mr Davidson, you have covered some of this, but in your written evidence, Siemens Energy stated: "we would urge the Government to ensure that the National Wealth Fund maintains a level playing field between existing investors and new ones, and between UK businesses and companies benefitting from unfair subsidies in their home countries." Would you like to expand on that? What are your best examples of egregious unfair subsidies in home countries?

Darren Davidson: We have been in the UK for approaching 200 years—we are a long-time investor in the UK. We have sites that have been there for 125 or 130 years—Newcastle, Lincoln—and the level of interest in those sites, when it comes to support for expansion, subsidies and improving infrastructure, is almost painful. No one is really interested in them, but when it comes to a new brownfield factory—maybe somebody has taken industrial land and is building a brand-new factory—there is a huge amount of interest.

In the last two years, we have created 1,000 jobs in the UK across all our factories, which is huge, but when it comes to the support we get on future investments, strategy and growth, it is just too difficult. It is very, very difficult. When you look at our European colleagues—Poland or Denmark, for example—there is a very simple discussion at the start. We



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say, "We are thinking of doing this," and they say, "Yes, we can help. Yes, we can support this. We could do this; we could do that." There is a very simple phase gate right at the start of the investment discussions. We do not get that engagement.

Q126 Dame Siobhain McDonagh: Does Siemens need more love? It should be a one-word answer, because you will probably find the Treasury are somewhere listening to this.

Darren Davidson: To be fair, at Siemens Energy we do want a bit of love—we try. It sits with us to engage with the National Wealth Fund and to shape it to suit our needs; we need acceptance from the fund that they are prepared to be the concierge service that we demand. So yes, we do need the love.

Dame Siobhain McDonagh: But they are always after the jazzy new kids on the block.

Darren Davidson: Yes, that is the sense.

Q127 Dame Siobhain McDonagh: Siemens Energy also stated that the National Wealth Fund "will have most impact by focusing on the supply chain and on resolving infrastructure bottlenecks." Can you explain what the infrastructure bottlenecks are? How much of any investment would achieve results quickly?

Darren Davidson: Can you give me more information on that? Are you talking about percentages and things like that?

Dame Siobhain McDonagh: Yes. Obviously, the Government want this to be a success; it is a new, brave idea, and sometimes success needs to come earlier rather than later to keep it going.

Darren Davidson: It is not about millions; we have just created 100 jobs in Newcastle and we really struggled. We were in competition with Serbia, for example, and we had to fight to find a way of getting those jobs in Newcastle. We got zero support, and we tried to find three or four avenues to get some additional funding. We made it happen, but those jobs could have easily gone to Serbia rather than Newcastle. That is the problem we have got.

Q128 Dame Siobhain McDonagh: Are you saying that the Serbian Government would have supported them better?

Darren Davidson: Without a doubt—to the tune of maybe 25% of the investment. I am not saying that realistically that is the level of commitment we need, but we see the same high-level, simple discussions in Poland, Denmark and Germany.

Q129 Chair: On that very point, the Government—and I believe the previous one as well—announced the Office for Investment as a concierge service housed within the Department for Business and Trade. Have you had the opportunity to use that, Mr Davidson? What is your feedback?

Darren Davidson: We do engage with DBT. We have regular discussions—

Chair: With the Office for Investment specifically? It is supposed to be the new red-carpet concierge service—the all-singing, all-dancing, love-giving organisation that you seem to want.

Darren Davidson: I do not think I have, then.

Chair: Please would you, and let the Committee know what your feedback is?

Dame Siobhain McDonagh: Perhaps they will have to set up a date.

Chair: Yes!

Q130 **John Grady:** I have a quick question, because time is marching on—there is a lot of love in this Committee, isn't there?

Mr Thomas, in an earlier session we talked about the risk of the National Wealth Fund coming in for a real kicking if investments do not work out and so on. Another risk that strikes me is that the National Wealth Fund could be criticised for backing companies led by management who have previously managed companies that have not necessarily succeeded.

I guess the counter to that is that backing serial founders and serial management teams is actually an important ingredient for economic growth. That point has been made powerfully by some investors, such as Mr Hogarth in the *FT* last year. What would you say to that type of argument?

Mark Thomas: That is a fantastic question, and obviously very personally relevant. If you are in the US and you have a tech company that fails, it is a badge of honour. I am not saying that is a great thing, but you learn a lot from that process and can take that to a new company, and that next company can hopefully be much more successful as a consequence.

With my previous business, Reaction Engines, we had this sort of traumatic time loss. We went from being the exemplar technology pioneer that was keeping the UK at the cutting edge of hypersonics, and had successfully commercialised that technology, to administration last year. That came quite rapidly after a series of events.

First Light selected me for precisely that reason: you learn a lot through that experience, in every sense, including about building strategic partnerships, commercialising technology, and taking forward big strategic projects. You also learn what you need to do to avoid the same thing happening to another business—if that is possible, because it is not entirely in your control. It is one of those natural experiences in the tech world.

Also, the founders will move on and the businesspeople will come in to take on the company at a certain point in its lifecycle. That should not be seen as an embarrassment factor. The real ingenuity behind the business



was needed at the outset, but the commercial reality is that the business is going to be playing in a highly competitive environment. It is going to have to stand on its own two feet, raise money and ultimately turn a revenue.

The sad fact about Reaction is that we had a full order book and a sales pipeline. As I said, we were leading the world in hypersonics—a capability that is absolutely needed, as was evident in the strategic defence review that has just been published. We just had a cash problem and were unfortunately unable to find a solution from our strategic investors to what was a short-term cash issue. The reality of these businesses is that that will bite occasionally.

Q131 Lola McEvoy: Thank you for sharing that very personal story, Mr Thomas. I cannot imagine how difficult it was for you, leading that. Do you think there was any space for the state to step in with these new PuFIns—as we have heard they are called? Could you outline your experience so far of engaging with the different PuFIns that are available, and what you think could be done better?

Mark Thomas: That is a great question. Fusion is a very interesting scene. It is fantastic that the UK is backing fusion, and it was a significant announcement that £2.5 billion is going into fusion, but it is going into one way to do fusion: magnetic confinement and tokamaks. That makes complete sense, because it builds on decades of experience in the UK Atomic Energy Authority, but there are many other solutions to the problem. On the world stage, Governments and private investors are supporting other approaches, to spread that bet, because they understand that the gains are being made in other areas.

The reality of the situation for First Light is that we have not had any public support to date, because of the focus on the other approach. I believe we should do, and I absolutely think that the National Wealth Fund is an ideal place for us to go for it, because it is a strategic imperative—the world has woken up to it.

We are slow on the uptake but we have some incredible capability here in the UK. Once again, we have leading capability that we just need to shine a light on. Given the right support, we could really take this forward. But we have predominantly raised money in the private sector. We have not turned to the public purse yet, but I think we are actually at that point now.

Q132 Lola McEvoy: That is really interesting. We seem to be really good at these globally leading technology innovations, but find a bit of a gap in the next stage towards getting it to be hugely commercially viable.

We heard from the last panel that support from the National Wealth Fund is not always about the amount of money; it is also about the signal to the market, and to other industries, that a project is viable. It is about the de-risking and promotion provided by a public investment. What is the balance for your organisation?



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Mark Thomas: The signal to the market is the absolute highest priority. It is a strategic sector—strategic technology—so why would your home nation not be backing it? That is what private investors would want to understand, see and interrogate. The quantum is less critical, and it is actually a good thing that the National Wealth Fund is able to write smaller cheques than its predecessor, because that is going to foster a huge amount of innovation, activity and success, particularly from the SME community.

Q133 Lola McEvoy: Excellent. Mr Earl, we heard the recent Government announcement about £500 million going into hydrogen, which must have been music to your ears. What needs to follow that in order to get money crowded in and to support businesses themselves to be able to invest? A lot of this is about the Government setting a priority and then—as Mr Davidson outlined—businesses can spend their own money to grow, but they need that security. How much do you think the balances would affect your organisation?

James Earl: The really big challenge you face in hydrogen is trying to line up different elements of the value chain all at the same time. We could keep putting injections of money in, but it has to be put into the right place with the right support. We are not just trying to get hydrogen produced; we have to get it transported from where it is produced to where it is needed, get it stored and kept aside for when we actually need to use it and, really importantly, we also need sources of demand—off-takers—who are willing, and have the confidence, to take the risk on that new technology.

I completely welcome the announcement of further funding to move hydrogen forward. It is really important for hydrogen to be a major part of what the National Wealth Fund does, because it really needs that support. It needs a bit of a guiding hand, as well as the injection of cash, to get all those things to move forward at the same time.

Q134 Lola McEvoy: Whose role is that?

James Earl: It has primarily been Government's role in the past, and primarily the Energy Department's role. I mentioned the National Energy System Operator earlier, and their role in the strategic planning of the system. They are still a relatively new organisation. The sands are shifting, and we are still trying to work out exactly how things should be delivered, but there is definitely a role for them to be advising Government and saying, "This is how the system should be planned," and helping Government to do that as well.

Q135 Chair: Thank you very much. It has been very interesting to hear from the frontline in terms of businesses and your interaction with the National Wealth Fund. I also think I am hearing that other parts of Government—whether it is the Office for Investment, the British Business Bank, Great British Energy or Innovate UK—are relevant. This requires a simple yes/no answer from each of you: are we clear enough about the difference for your businesses and who you need to call?

Darren Davidson: No.

James Earl: No.

Mark Thomas: No.

Chair: That could not be clearer. I appreciate your evidence this afternoon. We will move on to the next panel.

Examination of Witnesses

Witnesses: Phil Chambers, Shaun Spiers and Dr Martin Turner.

Chair: Welcome to the third panel of the Treasury Committee this afternoon. We are going to hear from some other sectors of the economy and from the Green Alliance. Without any more ado, will you please introduce yourselves?

Dr Turner: Good afternoon. I am Martin Turner, director of policy and external affairs at the UK Bioindustry Association.

Shaun Spiers: Hello. I am Shaun Spiers, executive director of Green Alliance.

Phil Chambers: Hello. My name is Phil Chambers and I am chief exec at Orbex, a space-rocket company.

Q136 **Yuan Yang:** I have a few questions on the theme of natural capital. One of the top questions I get when I go to primary school assemblies is about what the Government are doing to preserve nature. I also hear that from my constituents, who live by, walk along and enjoy the Thames and its various waterways.

Mr Spiers, could you break down the concept of natural capital? In particular, we are talking today about the National Wealth Fund, which is inheriting the the structure of the UK Infrastructure Bank, which previously had a mandate to invest in natural capital and in nature markets, but it is unclear whether the National Wealth Fund will continue to do so. Could you also comment on that change?

Shaun Spiers: Obviously there was quite a campaign to get natural capital included in the definition of infrastructure for the UK Infrastructure Bank, which I am sure Mr Glen remembers, and we were really pleased with the outcome. I think there has been a little bit more hesitance about whether natural capital is included in the remit of the National Wealth Fund. The paper produced yesterday made it pretty clear that it is, as a subsidiary aim.

What would be really important to catalyse this market would be to have it really clearly in legislation. There is quite a steep mountain to climb. The Government set a target of £500 million of private investment in nature by 2027, and over £1 billion by 2030. It currently stands at under £100 million, so there is a need to get nature markets working. The National Wealth Fund can play a part by investing in natural capital, but the signal

we give by putting it in legislation will be really important to a fragile, nascent market.

Q137 Yuan Yang: For listeners who are not familiar with the terms, Mr Spiers, could you break down by what you mean by natural capital and nature markets? Could you give some examples of tangible benefits that the National Wealth Fund could create by investing in those areas?

Shaun Spiers: There is clearly an interrelationship between climate and nature. You cannot tackle the climate crisis without tackling the nature crisis, so there will be things like peat land restoration, reafforestation and biodiversity.

We are one of the most nature-depleted countries in Europe. The first investment that the National Wealth Fund made was in a rewilding project in the highlands. Then there is the huge focus at the moment on water quality. A lot of the investment that is currently going into nature from the private sector is through water companies, and that is about to ramp up considerably.

There is a lot to be done in flood protection and improving water quality. There are multiple benefits from stacking—getting the carbon, the biodiversity, the water and the access benefits. If you can create a market in which these things feed off each other, it becomes much more viable.

Q138 Yuan Yang: How would you like to see the National Wealth Fund take those issues into account?

Shaun Spiers: We would like it to be in legislation. We would like a duty on the National Wealth Fund to consider the impact of its investments on nature and natural capital, as recommended by your colleagues in the Environmental Audit Committee.

It seems a bit ridiculous that the National Wealth Fund can make investments that make the problem worse and make the Government's nature targets less achievable, so that should be baked into its investment strategy. There was a reference yesterday in the Government's 10-year infrastructure plan to taking account of the impact of infrastructure on climate and nature, and that should be standard for all bodies.

Q139 Yuan Yang: One last question on this theme. Mr Spiers, you mentioned that, on the one hand, there is the negative impact—the unintended consequences—of other National Wealth Fund activity on nature. The conversation on natural capital investments that are more beneficial is about investing in nature services can support the overall aims of the National Wealth Fund. Are there any beneficial areas that you can highlight?

Shaun Spiers: As I say, there is the investment in peat restoration, tying in with the landscape recovery part of the environmental land management programme. There is a lot of private money going into restoring landscapes, improving access, improving biodiversity and improving carbon sequestration. There is a whole lot of stuff that the wealth fund could be investing in. I suppose it comes in the context of

Professor Dasgupta producing his huge, comprehensive report that said that, ultimately, all our wealth depends on natural capital, and we are depleting it at an unsustainable rate, so there is an economic imperative in the longer run to restore natural capital, in addition to all the benefits, such as primary schools doing riverside walks and having a more liveable country.

Q140 Chair: Mr Spiers, you mentioned that the first investment the National Wealth Fund made was in a rewilding site in Scotland. We heard from the first panel how important it is that the National Wealth Fund receives back its loans or guarantees over time. What are the economics of the rewilding site, and how can it repay the National Wealth Fund?

Shaun Spiers: It probably comes down to the whole issue of stacking—multiple benefits, drawing on carbon markets and so on. I might have to write to you to clarify this, but I think the investment was secured on the land, anyway, so that if the rewilding project failed, they had a stake in the land. I think I am right in saying that.

Q141 John Grady: This is for Mr Chambers— it is lovely to see you here. Despite being in one of the leading space companies in Europe, your written evidence sets out that you struggled to access long-term investment. Why?

Phil Chambers: I think it is difficult for most new space companies, particularly in the launch sector, to get commercialisation without significant Government support. This was true of SpaceX, with over 66% of their funding so far coming from the US Government. It has been true of all the other European launchers, from Ariane, historically, to the new space companies where we have seen France, Germany and Spain invest more than the UK in launch.

That is perfectly normal in this so-called valley of death, where you have developed the technology to a state where you need to ramp up and start manufacturing, and build factories and a spaceport, but you have not yet reached your commercial operations where you start to generate revenues. That is the business model of a space launch company, but it is also typical of some life sciences companies and other deep technology companies. That is really where you need arm's length bodies like the National Wealth Fund to step in where the private sector cannot or will not. That is what we would like to see.

Q142 John Grady: Do you think the National Wealth Fund, from what you have seen of it, is the answer to the issue that you have posed?

Phil Chambers: I think it certainly can be. There was a document published yesterday, which seems to be a change in approach. There was reference to more support for advanced manufacturing, to space and to taking more risk. Historically, we have been unsuccessful, as I mentioned in my written evidence, in receiving moneys from the UK Infrastructure Bank. The reasons cited were around sector—as in, “We do not support space; it is not in the mandate”—and risk level, “We think it is too risky.” But if the UK wants to have a sovereign launch capability and space



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strategic assets, which arm's length public body will fund that? Given the ticket size and the new focus that was set up by the Chancellor in the 19 March letter, which has now been responded to, it looks like a great match to me.

Q143 **John Grady:** You have investment from the SNIB, the Scottish National Investment Bank. Is there anything that the National Wealth Fund should learn from that organisation?

Phil Chambers: SNIB obviously have a Scottish focus, so we had a foot in the door there as we are based in Forres in Morayshire. I think SNIB is certainly less risk averse and more willing to take earlier stage technology risks, and bets on deep technology that can have a big impact in the longer term. We therefore saw SNIB actually lead the series C round into Orbex and then subsequently contribute to the two financings that have happened since then.

Q144 **Chair:** SNIB is the Scottish National Investment Bank—just to clarify for our audience out there.

Lola McEvoy: It's a PuFin.

Shaun Spiers: That's my territory.

Q145 **John Grady:** You have received £20 million from the UK Government directly. Given what you said about SpaceX and this valley of death that companies at this stage inhabit, is equity funding the right way to go, or do we need to look at more grant funding?

Phil Chambers: Both are good options. In the very early days, grant funding is obviously very useful for technology development. I agree with the previous panel. I do not think the public should take all the risk here, and I definitely think the public should share in the upside. We aim to make this company commercially successful, and we want to pay the money back to the taxpayer, that is for sure, with profit. So we are not just looking for handouts. We are perfectly comfortable with both equity and debt funding. I think that is appropriate for the stage we are at.

Q146 **John Grady:** My final question picks up on your metaphor of a valley of death. The risk for a National Wealth Fund or anything of this type is that it is criticised for making investments that do not work out. One risk might be as follows, and I am interested in your views on it: when people are looking at what went wrong with investments, they say, "You picked a company founded by someone for whom investments did not work out in the past." There is a difference between the US investment approach and the UK investment approach to such matters. Do you think there is a risk that we do not back founders, repeat founders and repeat entrepreneurs enough in the UK as compared with, say, the US?

Phil Chambers: I think there is a risk, because probably the best predictor of success is that you have been successful before. I previously founded a company called Peakon. We created over 100 jobs in the UK and we ended up selling that company to a large American company called Workday six years later, so we definitely had success. I think that the

National Wealth Fund should probably be up front about the fact that some of these businesses will fail. There is an expected failure ratio. It's fine to say, "Look, these are the maths: we invest in 100 companies and we expect this many to succeed and this many to fail." That is a normal way in which venture capital funds and private equity funds operate.

Q147 **John Grady:** Looking at learning about the potential criticisms of the National Wealth Fund, Ian Hogarth, who is a tech investor in the UK, has written about the fact that failure is very important as well. Failure means you become a more successful founder. So do you think there is a risk that, in having autopsies on what has gone wrong, people alight on criticising the choices of founders unreasonably? I ask because there is a concern that the National Wealth Fund will be criticised for making investments that do not work out.

Phil Chambers: I don't think the National Wealth Fund should be criticised for making investments that do not work out. You need to take a long-term view; you need to look at the overall return on capital and jobs created, and the strategic initiatives that the UK said it wanted to support and are supported, and capabilities that are therefore created in the UK, like a sovereign launch capability. It is more of a holistic picture, I would say, than pointing fingers and saying, "This company failed." Yes, some companies will fail, and we need to learn from those things, but I can tell you one thing for sure: if we don't invest in sovereign launch in the UK, it will fail. That is the alternative.

Q148 **Bobby Dean:** Dr Turner, I will turn to you now, and we will play back some of those questions to you as well, but in your evidence you spoke about private investors sometimes being reluctant to invest in infrastructure in your industry because of the uncertain market conditions. Can you explain to us how the National Wealth Fund might be able to help to solve that problem?

Dr Turner: We represent the life sciences and biotech industry. By "biotech" I mean something broader than just human health sciences; I mean technologies or sectors that are or in the future could be underpinned by engineering biology, which is the engineering of biological systems to do things that they do not usually do. We think this has fundamental promise for the world in the future, but it is a fairly nascent technology.

These companies are developing products at the cutting edge of their field. As a result, the infrastructure that they need might be large fermentation facilities or pilot plants for their technologies. Those facilities themselves need to be pretty cutting edge and experimental, and potentially risky as well, so the private sector at the moment is not funding the facilities. There are SMEs in the UK that are having to look abroad to scale up their technologies, so the National Wealth Fund, as a close-to-market investment bank of sorts, could invest in those facilities for use by the broader sector.

Q149 **Bobby Dean:** Of course, the National Wealth Fund is also looking at

meeting the Government's own objectives. Do you think there will be alignment with what you are trying to do as well?

Dr Turner: Looking at the Government's missions, you have growth, an NHS fit for the future, and clean energy. Engineering biology has the potential to support all those missions, so yes, it is fully aligned, I think.

Q150 **Bobby Dean:** I am thinking about how the National Wealth Fund could provide you with capital. There are lots of different options out there—we have talked about guarantees and equity stakes. Is there any preferred method for you, or are you open-minded?

Dr Turner: I am open-minded. Having a selection of tools at their disposal would be helpful.

Q151 **Bobby Dean:** We had quite a discussion about equity during the first panel. You do not fear that it would put off private investors? Do you think that it is a good way for the Government to make an investment?

Dr Turner: As long as the National Wealth Fund acts with the speed and decision-making powers that a private investor would, so as not to slow down deals and keep everything moving quickly, we are fine with it.

Q152 **Bobby Dean:** We asked other panellists earlier about the differences between British Business Bank and National Wealth Fund. Is it clear to you which one you should be going to? Do you think that the National Wealth Fund is the right fit for you?

Dr Turner: To an extent NWF is a new kid on the block. The British Business Bank has been around longer and Innovate UK even longer. It is important to have a continuum of funding for whatever stage of business a company is in, from start-up to fully commercial. It is clear that Innovate UK to British Business Bank to National Wealth Fund is what the Government intend to do, and that makes total sense. The key thing is making sure that there are no gaps between them and that there is a good hand-off from the previous one.

Q153 **Lola McEvoy:** On that point, Dr Turner, obviously that is in contrast with the previous panel's experience and understanding of the different PuFins. Could you elaborate on some of your members' experiences with those different institutions? How have they found the feedback loop? There are the big Green Book reforms about how the Treasury makes its investment decisions on public projects. One of the reforms is looking at transparency so that people understand the feedback. In your sector, how have people found the experience?

Dr Turner: All those PuFins that I mentioned are quite different. Our members' experiences of them are fairly different but are all very positive. We are big supporters of Innovate UK and British Business Bank, and are hoping to be big supporters of National Wealth Fund as well, once it gets up and running. You mentioned feedback and transparency; that is important. The sad truth is that none of those institutions are given enough capital to be able to invest into all the good opportunities that come to them. But even when they cannot make that investment for one



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reason or another—usually because, even though it is great quality, they do not have enough money to do it—the feedback that they can provide or the link-up to another potential investor is helpful.

Q154 Lola McEvoy: That is interesting. In terms of them not having enough money, in your sector you have a lot of people competing for this public investment. We hear about pipeline, that there is not enough to invest in in the UK, and that our pension funds are only 3% invested in the UK—all these problems. Do you think that in the bioindustry, which you are going to explain a bit more about after this question, people are well versed and applying quite a lot for funding?

Dr Turner: They are. The majority of funding for our sector comes from private investors, particularly foreign investors. About half of investors in UK life science venture capital deals are American. There is no shortage of good investment opportunities, and those American investors are expert. We know that the American life sciences sector is excellent.

Those guys know what they are doing, and they are investing, but in the UK, we have pension funds and VC funds that are not investing into these companies, or at least do not have, for the VC funds, a big enough cheque book to be able to invest into these companies. When they get to a point of scale up, which is where British Business Bank and National Wealth Fund are looking to support companies, generally, they are having to go abroad.

Q155 Lola McEvoy: I have heard that quite a lot. That means that the company becomes more and more owned by a separate country, even though it was made here. What is the difference between those American investors and our British investment landscape?

Dr Turner: The key thing is just the scale of capital that the American venture capital firms have versus the British ones. There are some absolutely brilliant British life science venture capitalists in the UK. They know what they are doing, but because the pension funds have not historically been willing to put their money into VC funds, those VC funds cannot write big enough cheques.

Q156 Lola McEvoy: That is very interesting. I have CPI in my constituency of Darlington, which is a brilliant organisation. Can you tell the Committee about the technologies you were talking about so that we have more of a picture of the sort of things your industry is innovating on?

Dr Turner: Sure. I was talking about life sciences and engineering biology. Engineering biology is an underpinning technology: a bit like AI, it can be applied to loads of different industries. Life sciences are generally referred to as human health—medicines, medical devices, diagnostics and that type of thing. However, we have members applying engineering biology to the textiles industry, for instance for synthetic versions of silk so that you are not killing loads of silkworms—vegans are big supporters of an alternative—and to agriculture, for precision-bred crops that do not use as much land or water and reduce the demands on the natural

environment. You can use less land and less water to get the same output, which leaves more land for peat restoration projects and forestry.

Q157 Lola McEvoy: Do we have the demand in the country for those kinds of products?

Dr Turner: Not at the moment. They are fantastic products, but they are at an early stage and we have a lot of old industries that do not really want their business models being disrupted. But the fact is that we need to change these industries for sustainability reasons and to stay ahead economically in a global environment.

Q158 Lola McEvoy: Mr Chambers, earlier you mentioned the UK Infrastructure Bank. Can you tell us a bit about the experience and the feedback it gave you when you applied for that capital and other investment?

Phil Chambers: We began a conversation in June of last year. That ran for about four months. It is not unusual at our stage for it to take a while but, to build on the point about speed, it is important to run at the speed of the private sector because every month of delay costs a lot of money. Initially, there was a very positive dialogue, particularly with the overall mandate of the infrastructure bank at the time being around green technologies—we are building a virtually carbon-neutral rocket running on biopropane—and levelling up, as it was called at the time. We were like, “Okay, we are providing over 170 highly skilled jobs in northern Scotland, so we are a great match.”

The two things that came out at the end of that process were the ones I mentioned. There was the mismatch in sector—we do not really invest in space. I think the phrase used was, “To the edge of the fairway, not directly down the middle.” Then, there was discomfort around the technology readiness. That was addressed in yesterday’s document, which, I would say, talked about trying to take more risk on nascent technologies like space launches.

Q159 Lola McEvoy: We heard from Mr Thomas of First Light Fusion on the last panel that a positive impact of state funding is the signal to market. For a business at your stage, how much is it about the signal to market versus the absolute “keep the lights on” cash?

Phil Chambers: The signal is incredibly important. It is about knowing what the strategy is: does the UK want to have a sovereign capability in this technological domain? We could talk about space launch, fusion or bioreactors.

Private investors want to know that that will be Government policy, and that it will be Government policy for a while, and therefore they will want to crowd in the capital. It sends a very strong signal. It is therefore incredibly positive that DSIT decided to make the investment in March. It is a long-term game. We will not just be building a micro-launcher; we also want to build a bigger launcher in the future.

Q160 Lola McEvoy: I have one final question, which is also for Dr Turner. For the Committee’s and my benefit, what would be a reasonable reply rate

for finding out about an application to a PuFin? We talked about the speed of the private sector—what would be a reasonable timeline for a PuFin to achieve once you have applied compared with the private sector?

Phil Chambers: Maybe I can give a roundabout answer. It is about being clear on what the mandate of each individual PuFin is. There are some key questions that have not come up today. Do we lead rounds or not? Are we capable of pricing and saying, "This company is worth this much money and we are prepared to put the first money in"? That really helps to crowd private capital in. In our conversation with the BBB, and particularly the subsid British Patient Capital, they said, "Come back to us when you have found a private lead investor." They cannot lead rounds. They want to build the capability to do that, which was stated in National Wealth Fund document from yesterday.

Obviously, you need to have sector experience to do that. As an investor, I would not be able to go and invest in a bioreactor without doing some research on it because I do not know anything about them. However, we do have public bodies in the UK that are experts. For instance, the UK Space Agency has the capability for due diligence on a company like Orbex because it has space experts on their staff. We can lean on other Government agencies and bodies to allow our public funding bodies to have the expertise that they need to be able to make the investments and lead the investments.

The capability to lead is important. Once you know the mandate, you can very quickly decide, "Okay, is this a good match for my company, or actually is it outside of the scope, and therefore I can go and look elsewhere?" The problem is, when you do not have the clarity, you can waste a lot of time talking to someone who ultimately cannot actually do it.

Lola McEvoy: Time is of the essence, facing the valley of death. Dr Turner, what do you think?

Dr Turner: I would echo a lot of those points, particularly the one about expertise. It is important to ensure that it has expertise in-house, and that it is also leveraging the expertise that exists across Government.

In terms of speed, you do not send in a letter and wait six months with these things; they are a continuous conversation. That expertise is really important, so that you can have initial conversations, and there might be an immediate no or there might be a "Yes. Let's look at this further." Then the due diligence will build up, and at some point there might be a yes or a no.

Being very transparent about when that is going to be would be really helpful. Private investors sometimes move really quickly, but sometimes they will move quite slowly; it is often driven by the market. If there is a lot of investment activity at the moment, supply and demand means that people will move quickly. The National Wealth Fund will need to be able to keep up with that as well.



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Q161 **Lola McEvoy:** Given your experience with all the different institutions, what do you think is reasonable to mirror how quick investors and venture capital firms are in America? What do you think is a reasonable target, when you are on the record, for these institutions to be able to turn around an application?

Dr Turner: I do not have the knowledge to say what would be reasonable.

Q162 **Lola McEvoy:** Mr Spiers, I am conscious that I have talked exclusively to these two gentlemen. Do you have anything you would like to add on this? You mentioned stipulations in procurement around nature when we are making public investments. Is there anything else around the different PuFins? How would you like it to work?

Shaun Spiers: I do not have anything to add on that. I would just like to correct myself on the highlands rewilding: a £12 million bridging loan was secured on the land, and the National Wealth Fund's interest was partly to generate data that would be useful for future investment. Sorry for getting that wrong.

Q163 **Chair:** It has been very interesting to hear from you, Dr Turner; it is refreshing to hear from someone who knows how to navigate through these different institutions. It has been very valuable to be reminded of the value of natural capital. I have a final question for Mr Chambers. How does ARIA fit in with your need for capital? Is it the Ministry of Defence or Technology?

Phil Chambers: I saw the CEO speak the other day at a private capital event. I believe it is much earlier stage and more for advancing things that are around TRL levels 1 to 3.

Q164 **Chair:** You have not been to see it?

Phil Chambers: We have not yet.

Chair: Very interesting. I appreciate that you are not confused, Dr Turner, but I confess that I am confused by the difference between all these different sources of funding. It has been very enlightening to hear from you and from your first-hand experience of the organisations. Thank you very much for giving evidence to the Committee.