Title: Enhancing the UK's nuclear third-party liability regime through accession to the Convention on Supplementary Compensation (CSC)

IA No: BEIS034(F)-22-NPID)

RPC Reference No: Not Applicable

Lead department or agency: BEIS

Other departments or agencies: Department for International Trade (DIT), Government Actuary's Department (GAD)

Impact Assessment (IA)

Date: 06/06/2023

Stage: Final

Source of intervention: International

Type of measure: Primary legislation

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Summary: Intervention and Options

RPC Opinion: Not Applicable

Cost of Preferred (or more likely) Option (in 2019 prices)			
Total Net Present Social Value	**Business Net Present Value**	**Net cost to business per year**	**Business Impact Target Status**
£0m	£0m	£0m	Not a regulatory provision

What is the problem under consideration? Why is government action or intervention necessary?

There are concerns amongst private sector developers and participants in the UK's nuclear supply chain about the UK's current nuclear third-party liability arrangements and the potential for unlimited claims from countries outside of the current Paris-Brussels regime. (Section 1 provides descriptions of the various regimes). Failure to address these concerns could significantly impact on the ability to deliver future nuclear projects with private sector investment. This could make it very difficult for new nuclear projects - both gigawatt-scale and Small Modular Reactors (SMRs) - to proceed, threatening the UK's ability to achieve key government objectives as articulated through the Prime Minister's Ten Point Plan and the commitment to Net Zero by 2050. Government intervention is necessary as the policy solution identified is for HMG to extend our liability regime to better protect nuclear investors and participants not covered by the existing regime.

What are the policy objectives of the action or intervention and the intended effects?

The policy objectives are to: give private sector developers increased confidence in investing in new nuclear projects; offer participants in the UK's nuclear supply chain protection from additional claims from non-Paris-Brussels countries; and reduce negative impacts on the costs and timings associated with essential projects. Although it will be difficult to measure the success of our intervention in a quantifiable way, we expect to receive qualitative evidence that our actions have: positively impacted developers' decision to invest in the UK; improved the conditions for the supply chain: and reduced negative impacts on the costs and timings of essential projects.

What policy options have been considered, including any alternatives to regulation? Please justify preferred option (further details in Evidence Base)

Five options have been considered.

1. "Do nothing" option of continuing with the UK's current liability arrangements. Whilst not allowing us to achieve the policy objectives above, it has been retained as a useful counterfactual against the impacts.
2. The provision of unlimited HMG indemnities to companies upon request.
3. Preferred option: Accede to the Convention on Supplementary Compensation for Nuclear Damage (CSC), an international treaty which offers additional protections to countries not protected under the UK's current nuclear third-party liability regime.
4. Ratify the Joint Protocol between the Paris and Vienna Conventions which would apply the channelling and capping principles to additional countries, which do not play an active role in the UK's nuclear sector.
5. Ratify the Joint Protocol and accede to the CSC simultaneously which would take longer than Option 3.

Will the policy be reviewed? There are no plans to review the policy. However, if an incident were to occur it is likely a review of UK nuclear liabilities would occur.

Is this measure likely to impact on international trade and investment?		Yes		
Are any of these organisations in scope?	**Micro** Yes	**Small** Yes	**Medium** Yes	**Large** Yes
What is the CO_2 equivalent change in greenhouse gas emissions? (Million tonnes CO_2 equivalent)		**Traded:** NA	**Non-traded:** NA	

I have read the Impact Assessment and I am satisfied that, given the available evidence, it represents a reasonable view of the likely costs, benefits and impact of the leading options.

Signed by the responsible: _____ Date: 06/06/2023

Summary: Analysis & Evidence — Policy Option 3

Description: Accede to the Convention on Supplementary Compensation (CSC)

FULL ECONOMIC ASSESSMENT

Price Base Year 2019	PV Base Year 2021	Time Period Years 10	Net Benefit (Present Value (PV)) (£m)		
			Low: 0	**High:** 0	**Best Estimate:** 0

COSTS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Cost (Present Value)
Low				
High				
Best Estimate	0		0	0

Description and scale of key monetised costs by 'main affected groups'

Accession to the CSC will create a contingent lability on HMG and therefore the taxpayer. This would only be affected in the event of an incident in a contracting party after exceeding the 300m SDR[1] operator liability limit. Under present conditions, the potential UK liability would be around £7.5m, and we do not expect significant divergence from this in the short to medium term[2]. To date there have been no calls on this fund. Any liability would not sit on the balance sheet as it is a remote risk, but the wider potential impact of such an event would be large. Due to the small likelihood of such an event occurring, monetised costs have been assumed to be zero.

Other key non-monetised costs by 'main affected groups'

Accession to the CSC would not provide any additional protection from claims made by countries that are not party to any treaty enforcing the channelling and capping principles. If such a claim were made, this could cost UK businesses as well as HMG. However, accession to the CSC does significantly reduce the potential risk of unlimited claims being made.

BENEFITS (£m)	Total Transition (Constant Price)	Years	Average Annual (excl. Transition) (Constant Price)	Total Benefit (Present Value)
Low				
High				
Best Estimate	0		0	0

Description and scale of key monetised benefits by 'main affected groups'

If, following UK accession, a nuclear accident occurred in the UK which exceeded operator liability, we could draw on the around £120m international fund[3] to make compensation payments to affected CSC countries, including the UK itself. Due to the small likelihood of such an event occurring, monetised benefits have been assumed to be zero.

Other key non-monetised benefits by 'main affected groups'

Accession to the CSC would apply the channelling and liability capping principles to those which play or could play a significant role in the UK's nuclear sector. Section 1 provides a full list of CSC contracting parties. Accession would offer greater confidence to private sector investors to invest in new nuclear projects and decommissioning activities, by removing the barrier to investment presented by the lack of protection against unlimited claims from CSC countries.

Key assumptions/sensitivities/risks	Discount rate (%)	N/A

The key assumptions are 1) the CSC would function alongside the Paris and Brussels Conventions; 2) the contingent liability assessment is based on current membership of the CSC, with our contributions being based on installed capacity and current UN contributions. The key risks are 1) joining the CSC would not mitigate against possible claims from countries not party to any treaty enforcing the channelling and capping principles; 2) investors may be reluctant to invest in nuclear projects if there are delays in the Parliamentary process; and 3) the insurance industry may choose to increase operator's insurance premiums due to accession (see paragraph 84).

BUSINESS ASSESSMENT (Option 3)

Direct impact on business (Equivalent Annual) £m:			Score for Business Impact Target (qualifying provisions only) £m: NA
Costs: 0	**Benefits:** 0	**Net:** 0	

1 SDR – special drawing rights. A unit of account operated by the IMF as a weighted average of certain currencies (inc. GBP). 1 SDR = 1.03 GBP 02/02/2022.
2 The UK CSC contribution is dependent on installed capacity, SDR-GBP exchange rate and UN contributions at the time of incident. Calculated Feb 2022.
3 The total fund is dependent of CSC membership at the time of an incident, and contracting parties installed capacity and UN contributions.

Contents

Evidence Base

Section 1: Overview

1.1 Background

1. There are three international nuclear third-party liability regimes:

    - The 1960 Paris Convention and 1963 Brussels Supplementary Convention (the Paris-Brussels regime).
    - The 1963 Vienna Convention.
    - The 1997 Convention on Supplementary Compensation for Nuclear Damage (the CSC).

2. These regimes ensure that the victims of a nuclear incident have access to adequate compensation, as well as supporting investor confidence in a global industry where incidents tend to be characterised by very low probability but potentially extremely high impact. All three regimes have similar principles: ensuring adequate compensation for victims (who only need to prove harm, not fault); protecting the supply chain by channelling all liability to the operator with claims being heard in the country in which the incident occurred; and capping the operator's overall financial liability. Further information on the details of the different international nuclear third-party liability regimes can be found in Annex A. Meanwhile, Annex B provides a full list of contracting parties to the various international nuclear third-party liability regimes at present.

3. The UK is currently only party to the Paris-Brussels regime, which it implements domestically through the Nuclear Installations Act 1965. This regime establishes a largely western European framework for compensating victims of nuclear incidents. On 01 January 2022, the 2004 protocols to amend the Paris and Brussels Supplementary Conventions came into force in the UK. This increases the operators' maximum liability from €140m pre ratification to €700m in 2022 rising to maximum of €1.2bn[1] over five years. The Brussels Supplementary Convention provides an additional €300m as part of an international pool which all contracting parties contribute to and can access.

4. The Vienna Convention establishes a similar international framework for compensating victims of nuclear incidents. Its principles are much the same as the Paris Convention and its contracting parties include many eastern European countries, Russia, much of South America and Saudi Arabia[2]. There is a Joint Protocol between the Paris and Vienna Conventions. It extends reciprocal benefits to a party of the other Convention, provided both parties have also ratified the Joint Protocol. The Joint Protocol ensures that only one of the two conventions will apply, and the amount of liability is determined by the convention to which the state of the liable operator is party. The UK is a signatory to the Joint Protocol but is yet to ratify it. There are currently no plans to ratify the Joint Protocol for the reasons outlined in Section 3.4, although this remains an option for the future.

5. The CSC aims at establishing a minimum national compensation amount and an international pooling mechanism for providing additional compensation funds as required. The CSC is open to countries that are party to either the Paris or Vienna Conventions, or have equivalent national

[1] The 1986 Chernobyl nuclear accident demonstrated the need to increase the amounts of liability and to broaden the types of damage that were provided for in the existing liability regime. In response to that need, a major international modernisation effort was undertaken, with the intent of ensuring that victims in all countries affected by a nuclear accident would be accorded equitable compensation for damage suffered. See https://www.oecd-nea.org/jcms/pl_20382/2004-protocol-to-amend-the-paris-convention

[2] Vienna countries: Argentina, Armenia, Belarus, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, Czech Republic, Egypt, Estonia, North Macedonia, Hungary, Jordan, Kazakhstan, Latvia, Lebanon, Lithuania, Mauritius, Mexico, Moldova, Montenegro, Niger, Nigeria, Peru, Philippines, Poland, Romania, Russia, Saint Vincent and the Grenadines, Saudi Arabia, Senegal, Serbia, Slovakia, Trinidad and Tobago, Ukraine, Uruguay.

legislation. Key members include the US, Canada and Japan, all countries which play a significant role in the UK's nuclear industry.

6. Table 1 below lists the contacting parties to the CSC at present and information on their nuclear reactors. Information on the UK has also been provided for context. This list is subject to change as countries can accede at any time and as nuclear reactors begin and end generation.

Table 1: CSC contracting parties and number of nuclear reactors, as of January 2022.[3]

Country	No. of existing reactors	No. of reactors under construction
Argentina	3	1
Benin	0	0
Canada	19	0
Ghana	0	0
India	23	6
Japan	33	2
Montenegro	0	0
Morocco	0	0
Romania	2	0
United Arab Emirates	2	2
United States of America	93	2
Total	**175**	**13**
United Kingdom	11	2

1.2 Problem under consideration

7. There are concerns amongst private sector developers and participants in the UK's nuclear supply chain about the UK's current liability arrangements and the potential for unlimited claims against them from countries outside the current Paris-Brussels regime. Section 8.4 provides evidence of these concerns. This concern has been heightened since the Fukushima nuclear incident in Japan in 2011. Following that, claims were brought in the USA directly against the operator and the supply chain. As Japan was not party to an international convention at that time (though it acceded to the CSC in 2015), the claimants successfully argued that the channelling and capping principles of the regimes did not apply. A US court agreed to hear the claims and these cases took over 10 years to conclude (all dismissed) and are thought to have cost millions of dollars in legal fees. Since Fukushima, there has been no other large-scale nuclear incident, but investors remain concerned about extra-territorial liabilities.

8. This lack of protection from unlimited claims from non-Paris or Brussels countries is a barrier to potential investment in new nuclear. This was a key reason why investors would not commit to the Wylfa Newydd project during the 2018/2019 negotiations. Failure to address these concerns would therefore have a significant impact on the ability to deliver future nuclear projects with private sector investment and could make it more difficult for a project like Sizewell C to proceed. Investors may choose to A) not invest; B) delay investment; or C) invest, but in doing so, incur significant costs due to the high associated risk. Without this measure, extra risk would be introduced into the capital raising process.

[3] This information is from the IAEA Power Reactor Information System (PRIS) database. Correct as of 18/01/2022. Argentina, Benin, Ghana, Montenegro, Morocco, Romania and the UAE are parties to the 1997 Vienna Convention. Canada, India, Japan and the USA are parties whose legislation complies with the Annex to the CSC.

9. Furthermore, suppliers from outside of the Paris-Brussels regime (particularly the US) have requested unlimited indemnities from HMG as they are not protected by Paris-Brussels should a claim be brought in their countries. HMG has refused as we do not want to set a precedent or take on the additional risk, but this has resulted in considerable delays and financial impacts on decommissioning projects. For example, not providing Government intervention in a Nuclear Decommissioning Authority (NDA) project resulted in significant costs to NDA and a delay to an essential decommissioning project (see paragraph 94).

1.3 Rationale for intervention

10. Government intervention is required to secure potential private investment in new nuclear developments, and to offer security to current and future participants in the UK's supply chain and decommissioning activities. Under the existing regime, operators are not protected from claims from non-Paris-Brussels countries. Without government intervention, we expect that private sector investors would be unwilling to participate in the UK's nuclear sector, which would undermine our efforts to decarbonise the GB power sector in line with the government's net zero goals, while retaining essential security of supply and keeping electricity affordable for consumers.

11. With the exception of the 'do nothing' option, the policy options we have identified as potential solutions all require some form of Government intervention, either via the provision of ad hoc HMG indemnities, or via legislative changes to enable us to accede to or ratify additional international liability treaties. These options are set out in more detail in Section 3.

12. Legislative change would be required to enable accession to the CSC. Primary legislation will therefore be needed to make the necessary changes to the Nuclear Installations Act 1965. As well as completing the legislative changes, we would still need to complete the accession process, which we estimate would take at least 12 months. Note that the policy landscape is exceptional: the UK has not acceded to an international nuclear liability treaty since the 1960s and, as the situation currently stands, the UK would be the first country to be party to both Paris-Brussels and the CSC.

13. Secondary Legislation is also required to enable the UK's accession the CSC, to allow the UK to accept future amendments to the CSC, to exercise an option under the CSC and to deal with any other matters arising out of the implementation or operation of the CSC. Any Secondary Legislation laid under these powers shall be subject to the affirmative process.

14. Although the Nuclear Installations Act 1965 already provides Ministers with the power to ratify the Joint Protocol between the Paris and Vienna Conventions, we would still need to complete the ratification process, which we estimate would take at least 12 months.

Section 2: Policy objective

15. As outlined above, there are concerns amongst private sector developers and participants in the UK's nuclear supply chain about the UK's current nuclear third-party liability arrangements. The objective of this intervention is to alleviate those concerns by:

- Expanding the number of countries to which the channelling and liability capping principles would apply, including to the US, Canada and Japan, which play a significant role in the UK's nuclear sector. This would offer protection for operators from claims from more non-Paris-Brussels countries;
- Giving private sector developers maximum confidence in investing in new nuclear projects

- Offering current and future participants in the UK's nuclear supply chain greater protection from claims (by ensuring all claims are channelled to the operator in line with the principles of the international liability regimes); and
- Reducing the risk of increased costs and timings associated with essential nuclear projects by enabling companies to fulfil contracts without requesting unlimited Government indemnities.

16. All of the interventions considered below (with the exception of Do Nothing) attempt to achieve these objectives via a form of Government intervention, providing a solution which requires no action on the part of developers or suppliers.

17. The nature of these objectives are such that it will be difficult to measure the success of our intervention in a quantifiable way. Whilst the first two objectives are natural outcomes of acceding to the CSC, the issue of investor confidence is not something that can be measured in a SMART manner. The success of this objective will be identified through qualitative evidence which we would expect to provide the following indicators of success:

    - Qualitative evidence from private sector developers that our intervention directly impacted on their decision to invest in a new nuclear project in the UK;
    - Qualitative evidence from participants in the UK's nuclear supply chain that our intervention has enabled them to fulfil contracts/do business without risk of claims against them (as claims are channelled to the operator);
    - Qualitative evidence from the UK nuclear industry that our intervention has helped prevent issues with suppliers requesting unlimited indemnities, which could result in increased costs and timings associated with essential projects.

18. It should also be noted that some of the benefits of accession would only crystallise in the event of a major accident in the UK. The likelihood of such an event occurring is considered to be extremely low and decreasing; supporting a view that safety standards at nuclear power plants (which are most likely to cause a major accident) have been improving.

19. This policy could help enable future new nuclear projects in the UK, supporting the Government's ambition to decarbonise the GB power sector, consistent with achieving net zero greenhouse gas emissions by 2050, articulated through the Prime Minister's Ten Point Plan, the Energy White Paper (EWP) and the Net Zero Strategy, while retaining essential security of supply and keeping electricity affordable for consumers. It would also support the Government's Levelling Up agenda. Whether large-scale, Small Modular Reactors or nascent advanced technologies, new nuclear can support jobs and growth at both national and regional levels. A new nuclear power station such as Sizewell C would create thousands of new jobs in the local area during construction and operation, thousands more across the UK supply chain, and boost skills and British businesses across every corner of the country.

20. We consulted with the Better Regulation Unit within BEIS who confirmed that the policy measure is out of scope of the better regulation framework. The measure falls within the statutory exclusion of 'grants or other financial assistance on behalf of a public authority' section 22(4)(c) of the SBEE Act, in which the full text notes '...the giving of grants or other financial assistance by or on behalf of a public authority'. RPC opinion is therefore not required.

Section 3: Descriptions of options considered

Option 1 - Do nothing

21. We continue with the UK's current liability arrangements. These offer operators protection from unlimited claims from Paris-Brussels countries and also protect the supply chain from any claims (all claims channelled to the operator).

22. However, the current situation does not offer any protection from claims from non-Paris-Brussels countries. Not intervening in any way was a contributing factor to investors being unwilling to commit to the Wylfa project. It has also resulted in financial increases and delays to essential decommissioning activity.

23. No intervention is likely to result in private sector investors being less willing to participate in the UK's nuclear sector, including in potential gigawatt-scale projects such as Sizewell C. This would undermine the power sector's ability to decarbonise by 2035 (subject to security of supply) as outlined in the Net Zero Strategy.

Option 2 - Provide unlimited HMG indemnities to companies upon request

24. HMG agrees to provide businesses (operators, supply chain participants) with unlimited protection from claims from non-Paris-Brussels countries. These would be provided upon request from companies which play an essential role in the UK's nuclear sector (e.g. where a company is the only one that produces a certain component required for an essential project).

25. However, this would result in HMG taking on all risk of any claims from non-Paris-Brussels countries, something we would want to avoid. HMG has refused to provide unlimited indemnities in the past, both because of the risks involved, and to avoid setting a precedent elsewhere in the sector or in other areas.

Option 3 - Accede to the Convention on Supplementary Compensation (CSC)

26. The preferred option is accession to the CSC. This would require primary legislation to amend the Nuclear Installations Act 1965, as well as the UK completing the accession process.

27. In order to join the CSC, it is necessary to be party to the Paris Convention (or the Vienna Convention), or to have equivalent liability regimes in place. Therefore, acceding to the CSC and leaving the Paris-Brussels regime is not a viable option.

28. Accession would increase the number of countries to which the channelling and liability capping principles apply, including to countries which play or could potentially play a significant role in the UK's nuclear sector (e.g. the USA, Canada and Japan). See Table 1 above for the full list of contracting parties. This would offer potential private sector participants much greater confidence in investing in the UK's nuclear projects. In fact, accession to the CSC is very likely to be a requirement for potential private investment in new nuclear developments, as well as for many participants in the UK's supply chain and decommissioning activities. This option would therefore reduce excessive extra risk in the capital raising process.

29. The CSC would operate alongside our current liability regime (Paris-Brussels) and provide an additional international fund to which the UK would contribute in the event of an incident in a contracting party state. Should the incident occur in the UK, we could draw down from the fund.

30. Secondary Legislation is also required to enable the UK's accession the CSC, to allow the UK to accept future amendments to the CSC, to exercise an option under the CSC and to

deal with any other matters arising out of the implementation or operation of the CSC. Any Secondary Legisation laid under these powers shall be subject to the affirmative process.

Option 4 - Ratify the Joint Protocol between the Paris and Vienna Conventions

31. The UK is already a signatory to the Joint Protocol and HMG have publicly stated that it is considering ratification. We have not specified any timescales, but it would require primary legislation to amend the Nuclear Installations Act 1965, followed by the ratification process.

32. Ratifying the Joint Protocol would increase the number of countries to which the channelling and liability capping principles apply. It would offer reciprocal benefits between Paris countries and Vienna countries. Essentially this means that should an incident occur in the UK (a Paris member state), which affected a Vienna member state, and both states had ratified the Joint Protocol, victims in the Vienna member state could make a claim as if they were a Paris member state. Similarly, if an incident occurred in a Vienna member state that affected the UK (a Paris member state), victims in the UK could make a claim as if they were a Vienna member state.

33. However, the Vienna Convention's contracting parties include many eastern European countries, Russia, much of South America and Saudi Arabia. These countries do not currently as much of a significant role in the UK's nuclear sector as the CSC countries do, and therefore it would not currently be as beneficial to ratify the Joint Protocol over acceding to the CSC.

Option 5 - Accede to the CSC and ratify the Joint Protocol simultaneously

34. Combine Options 3 and 4 to achieve maximum protection for the UK's nuclear sector. This would take longer to complete and would involve considerable Parliamentary time. This runs the risk of investment decisions on future nuclear projects needing to be taken before both of these actions were complete, thus not actually offering the protection and confidence to investors as they make their investment decisions.

Section 4: Monetised and non-monetised costs and benefits of each option

35. GAD produced some analysis in June 2020, which demonstrates that the probability of a nuclear incident occurring would be low[4] based on historical data. This is supported by the fact that there have been no calls on the CSC international fund to date. This analysis is based on nuclear incidents that would likely exceed the 300m SDR of operator liability and therefore require international contributions to the CSC international fund. The frequency of events reduces as more recent periods are considered, supporting a view that safety standards at nuclear power plants (where a major accident is most likely to occur) have been improving. This therefore demonstrates that the probability of an event is very low, reducing the likelihood of HMG incurring significant costs as a result of accession (although, if a nuclear event did occur, the wider potential impact would be large).

36. The impacts of a nuclear incident are, however, very dependent on, among other things, the type of incident, the weather conditions at the location and how quickly it is brought under control. As such, nuclear incidents are highly individual and not easily modelled. Therefore, most of the costs and benefits of acceding to the CSC are unquantifiable and are assumed

[4] Based on data from historical events, the report concluded a 1 in 1,000 return period (i.e., a frequency of 0.1% per power-generating site-year) for an event that could result in liability. Given the very low volume of incidents, this value is highly uncertain.

to be zero for the headline figures produced in this Impact Assessment. The sections below outline illustrative costs and benefits only.

4.1 Option 1 - Do nothing

Benefits to operators and UK supply chains

37. If we continue with the UK's current liability arrangements, UK operators and supply chain participants would be protected from unlimited claims from Paris-Brussels countries.

Cost to operators and UK supply chains

38. If a nuclear incident happened in the UK, operators would be liable up to €1.2bn under the Paris-Brussels regime. As claims are channelled to the operator, the supply chain would be protected.

39. However, UK businesses would continue to have no protection from unlimited claims from non-Paris-Brussels countries. Furthermore, countries such as Japan and the US, that play or could play an active role in UK's nuclear sector, are not protected from unlimited claims from non-Paris-Brussels countries and therefore are unlikely to be willing to invest further. These claims could be costly, as demonstrated by the Fukushima accident, which is thought to have cost Tepco and General Electric (the operators of Fukushima) millions of dollars in legal fees, despite the claims being ultimately dismissed.

40. Under Option 1, there would be no familiarisation costs to UK businesses, as the existing regime would remain in place.

Benefits to HMG/taxpayer

41. If a nuclear incident occurred in the UK, we would be able to draw on the international fund worth €300m under the Brussels Convention, if the €1.2bn operator liability had been exceeded.

Costs to HMG/taxpayer

42. HMG would contribute €35m to the international fund (worth €300m) under the Brussels Convention in the event of an incident in a contracting country (or the UK itself) that exceeds the €1.2bn operator liability. This burden would fall on the taxpayer. There is an existing remote contingent liability in place for this.

43. HMG would also be exposed to unlimited claims from non-Paris-Brussels countries under the existing regime. Private sector investors would still lack confidence to invest in UK nuclear due to this lack of protection, potentially impacting our ability to successfully deliver future nuclear projects.

4.2 Option 2 – Provide unlimited HMG indemnities to companies upon request

Benefits to operators and UK supply chains

44. This would be industry's preferred option as it would provide a watertight solution for claims. For this reason, this option would likely leverage the most confidence from private sector investors. Supply chain participants and operators would be protected against unlimited claims; however, the conditions of the indemnities would vary depending on the terms agreed by the government.

Cost to operators and UK supply chains

45. Operators would still be liable up to €1.2bn under the Paris-Brussels regime, as mentioned above. There would be no familiarisation costs to UK businesses as no additional burden would be placed upon them.

Benefits to HMG/taxpayer

46. This option would provide private sector developers and investors with confidence to invest in UK nuclear, addressing their concerns under the existing regime. This would therefore help encourage the development of new nuclear in the UK, supporting the Government's ambition to reach net zero greenhouse gas emissions by 2050.

Costs to HMG/taxpayer

47. HMG would take on all risks of any claims from non-Paris-Brussels countries. The scale of this cost could be huge, especially if several claims were made and claims had to be contested. This burden would fall on the taxpayer, for the sake of protecting the sector from unlimited claims. This option would offer no incentive to the market to manage its risks as HMG would simply provide unlimited indemnities to companies upon request, which could cause costs to spiral. This option also raises subsidy control implications[5].

48. If unlimited indemnities are provided in the nuclear sector, this could also set a precedent for the UK Government to provide unlimited indemnities in other sectors, resulting in an even greater burden on the taxpayer.

Wider benefits

49. This option would help to support the Government's objectives of decarbonising the power sector, consistent with achieving net zero by 2050, as it would encourage investment in nuclear, a low carbon source of energy.

4.3 Option 3 – Accede to the CSC

50. Accession to the CSC is BEIS' preferred policy option. Note that, further to the cost and benefits outlined below, subsequent impacts on the costs for operators and UK supply chain may occur as the result of any Secondary Legislation. Any Secondary Legislation laid under these powers shall be subject to the affirmative process and any impacts on the costs for operators and supply chain will be considered as part of the process.

Benefits to operators and UK supply chains

51. UK operators and supply chain participants would be protected from unlimited claims from Paris-Brussels countries as well as CSC contracting parties, such as Canada, US and

[5] Otherwise known as state aid.

Japan. These countries play, or could play, an active role in the UK's nuclear sector. Accession to the CSC would enable greater access to the international supply chain, some of which cannot be easily replicated in the UK.

52. This option, although second to Option 2, is preferred by potential investors compared to the remaining options. It is therefore highly likely to also leverage confidence from private sector investors and developers.

Cost to operators and UK supply chains

53. Operators would still be liable up to €1.2bn under the Paris-Brussels regime, as mentioned above.

54. Acceding to the CSC would require UK operators to ensure the minimum compensation amount is available (300m SDR) for a nuclear incident in the UK. We already meet this criteria as the Paris-Brussels regime requires us to impose a maximum liability of €1.2bn on the operator (which is greater than the 300m SDR), topped up by public funds depending on the operator's level of liability[6]. Therefore we do not expect any additional burden of liability on operators.

55. We also do not expect there to be any familiarisation costs to UK businesses for acceding to the CSC, we do not expect any additional liability to be placed on operators.

Benefits to HMG/taxpayer

56. Accession to the CSC would protect nuclear operators and HMG from needing to provide financial cover for unlimited claims from contracting parties of the CSC, which avoids the extensive cost burden on the taxpayer under Option 2, although we note that accession does not provide protection from non-Paris-Brussels or non-CSC countries.

57. Furthermore, if a nuclear incident happened in the UK, we would be able to draw on the CSC's international fund, which would be worth around £120m, if the operator's liability had been exhausted.[7] The CSC international fund and the Brussels international fund do not come into force sequentially; they can be used at the same time, but they are dealt with separately depending on where the claims come from.

58. As under Option 2, accession to the CSC would provide private sector investors with confidence to invest in UK nuclear, encouraging the development of new nuclear projects, which in turn helps to support the Government's ambition to decarbonise the power sector, consistent with achieving net zero greenhouse gas emissions by 2050.

Costs to HMG/taxpayer

59. Based on current installed capacity, exchange rates, UN contributions and assuming no other country leaves or joins the CSC, the UK's contribution to the international fund would be around £7.5m[8] per incident, if the operator's liability had already exceeded 300m SDR.

[6] Note that although HMG is liable for the difference, the sites prescribed as intermediate or low have significantly lower liability limits because they pose significantly less risk and are extremely unlikely to have the type of incident that would result in claims in excess of their liability limits. Therefore, the possibility of HMG needing to make up the difference to €1.2bn is extremely low.
[7] As of February 2022, the international fund currently amounts to 102m SDR (£105m). This rises to 113m SDR (£116m) with the UK's participation.
[8] This figure is based on current UN contributions and installed capacity. As we cannot predict when an incident would occur, our calculations must be based on our current contributions. Our actual contributions at the time of an incident could be different as it would be dependent on our installed capacity at that point.

This burden would fall on the taxpayer. However, there have been no calls on the CSC international fund to date. Should the UK accede to the CSC the international fund would amount to around £120m. HMG would also still be exposed to claims from countries that are not party to any treaty enforcing the channelling and capping principles.

Wider benefits

60. Accession to the CSC would also support the Government's objective decarbonising the GB power sector, consistent with achieving net zero by 2050, as it would encourage investment in the UK's nuclear sector by CSC contracting parties.

4.4 Option 4 – Ratify the Joint Protocol between the Paris and Vienna Conventions

Benefits to operators and UK supply chains

61. The benefits to UK operators and supply chain participants would be similar to those under Option 1. However, UK businesses would also be protected against claims from member countries of the Vienna Convention.

Cost to operators and UK supply chains

62. This option would still not provide protection against claims from CSC contracting parties such as the US or claims from non-treaty countries. The Vienna Convention's contracting parties include many countries which play a less significant role in the UK's nuclear sector than the CSC countries do.

63. Operators would still be liable up to €1.2bn under the Paris-Brussels regime, as mentioned above, and similarly, there would be no familiarisation costs to UK businesses.

Benefits to HMG/taxpayer

64. The benefits to HMG would be the same as under Option 1, that is being able to draw on the international fund worth €300m under the Brussels Convention, if the operator liability had exceeded €1.2bn. The Paris Convention extends the liability regime to other countries with an equivalent and reciprocal regime, so this may offer a route for claims to be channelled from Vienna Convention countries in any case without having to ratify the protocol.

Costs to HMG/taxpayer

65. The costs to HMG/taxpayer would be the same under Option 1. HMG would contribute approximately €35m to the international fund in the event of an incident in a contracting country (or the UK itself) that exceeds operator liability. This burden would fall on the taxpayer.

66. Many private sector developers and investors would continue to lack confidence to invest in UK nuclear due to the lack of protection from claims from affected parties in CSC contracting parties and other countries not party to any convention. This would impact our ability to successfully deliver future nuclear projects.

Wider costs

67. This option would do less to support the Government's objectives for nuclear power, as it would protect UK businesses from claims from contracting parties of the Vienna Convention (who have signed the Joint Protocol), but not the countries that are most interested or keen to invest in the UK's nuclear sector. Options 2,3 and 5 do provide this protection. Therefore, investment in this low carbon source of energy is less likely.

4.5 Option 5 – Accede to the CSC and ratify the Joint Protocol simultaneously

Benefits to operators and UK supply chains

68. Option 5 provides the most protection to UK businesses without HMG providing unlimited indemnities, protecting them from claims from Paris-Brussels, Vienna and CSC contracting parties.

Cost to operators and UK supply chains

69. Operators would still be liable up €1.2bn under the Paris-Brussels regime as mentioned above.

70. However, this option runs the risk of investment decisions on future nuclear projects needing to be taken before one or both of the actions are complete. It may take time for confidence to grow if the domestic legislation and treaty ratification processes take too long and hence protection may not be offered in time. Investment decisions may be postponed.

71. Under Option 5, there would also be no familiarisation costs to UK businesses as no additional burden is placed upon them.

Benefits to HMG/taxpayer

72. Option 5 would provide maximum protection for nuclear operators and HMG needing to provide financial cover against claims globally. HMG would be highly unlikely to need to provide unlimited indemnities, as is the case under Option 2.

73. As under Options 2 and 3, acceding to the CSC and ratifying the Joint Protocol simultaneously would provide private sector investors with confidence to invest in UK nuclear, addressing their concerns under the existing regime.

74. Furthermore, if a nuclear incident happened in the UK, we would be able to draw on the CSC international fund which would be worth around £120m, if the operator's liability exceeded 300m SDR. We would also be able to draw on the international fund worth €300m under the Brussels Convention, if operator liability had exceeded €1.2bn.

75. The Paris Convention extends the liability regime to other countries with an equivalent and reciprocal regime, so this may offer a route for claims to be channelled from Vienna Convention countries in any case without having to ratify the protocol.

Costs to HMG/taxpayer

76. Acceding to the CSC and ratifying the Joint Protocol would take a long time to complete and would involve considerable parliamentary time (although this could possibly be mitigated if we were to propose a joint set of amendments). As mentioned, investment decisions may be postponed if the process takes too long, impacting the UK's nuclear programme and emissions targets.

77. There may still be concerns raised by investors around claims from non-treaty countries, although investors are highly likely to accept that the UK's liability regime has been strengthened by acceding to the CSC and ratifying the Joint Protocol.

78. As mentioned under Option 3, the UK government's contributions to the CSC fund would be around £7.5m per incident, if the operator's liability had already exceeded 300m SDR. Our contributions to the international fund under the Brussels Convention would also remain the same if the UK ratified the Joint Protocol at the same time.

79. We are prioritising accession to the CSC as those member states are the ones most likely to invest in the UK's nuclear sector at present. However, in the future, should it look likely that investment from Vienna/Joint Protocol countries is being limited by the UK not ratifying the Joint Protocol, we would look to ratify the Joint Protocol, subject to Ministerial agreement and Parliamentary time.

Wider benefits

80. This option would also support the Government's objective of decarbonising power consistent with achieving net zero by 2050, as it would encourage investment in the UK's nuclear sector by contracting parties of both the CSC and the Vienna Convention.

4.6 Summary

81. Table 2 below provides a summary of the non-monetised and monetised costs and benefits of each of the policy options outlined above.

Table 2 – Monetised[1] and non-monetised costs and benefits summary

Policy Option	**Monetised Costs and Benefits**			**Non-Monetised Costs and Benefits**		
	Cost - Operator Liability	Benefit – International Fund	Cost - HMG/taxpayer	Benefits - Wider	Benefits – Operators and HMG	Cost – HMG/taxpayer and operators
Option 1 - Do nothing	€1.2bn under Paris-Brussels, if the nuclear accident happened in the UK.	UK nuclear incident: HMG could call on an international fund worth €300m under the Brussels Convention (if the €1.2bn operator liability has been exceeded).	HMG will contribute €35m to the international fund under the Brussels Convention in the event of an incident in a contracting country (or the UK) that exceeds €1.2bn operator liability.	Supports the Government's net zero ambitions.	Protection against unlimited claims from Paris-Brussels countries.	Potential costs from claims from member countries of the CSC, Vienna Convention and non-treaty countries.
Option 2 - Provide unlimited HMG indemnities to companies upon request	Same as Option 1.	Same as Option 1.	Same as Option 1. However, the non-monetised costs under this option are significant.	Option 2 does the most to support the Government's net zero ambitions as it provides maximum confidence to investors.	Protection against all claims however conditions of the indemnities may vary depending on the terms agreed by HMG/HMT.	Taxpayers could face unlimited costs under this option.

[1] Note that, for the summary of this Impact Assessment, monetised costs and benefits are assumed to be zero due to the small likelihood of such an event occurring.

Policy Option	Monetised Costs and Benefits			Non-Monetised Costs and Benefits		
	Cost - Operator Liability	Benefit – International Fund	Cost - HMG/taxpayer	Benefits - Wider	Benefits – Operators and HMG	Cost – HMG/taxpayer and operators
Option 3 - Accede to the CSC	€1.2bn under Paris-Brussels, if the nuclear accident happened in the UK. Operator liability under CSC is 300m SDR, which is lower than €1.2bn under Paris-Brussels (meaning that we do not expect operator liability to be increased by accession to CSC).	Same as Option 1. Additionally, for a UK nuclear incident, HMG could draw on the CSC international fund which would be worth ~£120m, if the operator's liability has been exhausted.	Same as under Option 1. The UK would also contribute around £7.5m under current assumptions per incident to the CSC international fund, if the incident has already exceeded 300m SDR.	Option 3 does more than Option 1 to support the Government's net zero ambitions but less than Option 2. This is because investors will have relatively higher confidence than under Option 1 to invest in UK nuclear, but less than if unlimited indemnities were provided.	Protection against claims from CSC contracting parties on top of Paris-Brussels.	Potential costs from claims from non-treaty countries and member countries of the Vienna Convention, although the risk is significantly reduced.

Option 4 - Ratify the Joint Protocol between the Paris and Vienna Conventions	Same as Option 1.	Same as Option 1.	Same as Option 1.	Same as Option 3.	Protection against claims from Paris-Brussels and Vienna countries (assuming both have signed the Joint Protocol).	Potential costs from claims from CSC members and non-treaty countries.
Option 5 - Accede to the CSC and ratify the Joint Protocol simultaneously	Same as Option 3.	Same as Option 3.	Same as Option 3.	Same as Option 3.	Protection against claims from CSC, Paris-Brussels and Vienna countries.	Adequate protection may not be provided within the required timescales for investment in new nuclear projects, due to considerable parliamentary time to complete both actions. Still no protection from non-treaty countries but risks are significantly minimised.

Section 5: Direct costs and benefits to business calculations

82. We do not expect there to be any direct costs to businesses since accession to the CSC will create a contingent liability on HMG and therefore the taxpayer. The liability will not sit on the Government balance sheet as it is a remote risk. Furthermore, accession does not increase the operator's liability. We already meet the minimum compensation amount (300m SDR) under the Paris-Brussels regime by imposing a maximum liability of €1.2bn on the operator. We therefore expect the net cost to businesses per year to be zero.

83. We also do not anticipate there to be any direct benefits to businesses since all benefits to businesses will be indirect and dependent on the level of private sector confidence leveraged.

84. Subsequent impacts on direct costs and benefits to business calculations may occur as the result of any Secondary Legislation. Any Secondary Legislation laid under these powers shall be subject to the affirmative process and any changes to the costs for operators and supply chain shall be considered as part of the process.

Section 6: Risks and assumptions

6.1 Assumptions

85. The main policy assumptions are:

- The CSC would sit alongside the Paris and Brussels Conventions, as in order to join the CSC, it is necessary to be party to the Paris Convention (or Vienna Convention), or to have the equivalent liability regimes in place.

86. The main assessment assumptions are:

- A cap on operators' liability limits of €1.2bn under the current Paris-Brussels liability regime and Nuclear Installations Act 1965. This change came into force on 1 January 2022.
- The assessment has been completed based on current membership of CSC and current contributions (calculated using IAEA calculator). As it is impossible to predict when a nuclear incident could occur, we can only use the current figures to make the assessment, although our contribution would be based on our installed capacity and UN contributions at the time of an incident, and the overall size of the fund would be dependent on the membership of the CSC at the time of an incident.
- We assume that announcing the UK's plan to accede to the CSC should boost investor confidence, providing the UK with a greater ability to leverage private sector capital and enabling greater investment in new nuclear.

6.2 Risks

87. The main risks are:

- Delays in obtaining Parliamentary time or in the Parliamentary process once the Bill is in train will postpone the point at which the UK is able to accede to the CSC and protection is provided to investors and businesses. In the meantime, investors may be reluctant to invest in new nuclear projects and UK businesses may incur similar costs to those experienced by the NDA. However, we expect that even announcing that the UK intends

to accede (which we will be able to do once we have Ministerial agreement) should significantly boost investor confidence, even without formal accession having taken place.

- Joining the CSC would not mitigate against the possibility of claims arising from countries that are not party to any treaty enforcing the channelling and capping principles. It would however deal with a great majority of concerns and would in effect ensure the channelling and capping principles were applied for the key players in the global nuclear supply chain.
- Although accession to the CSC would not impose additional liability on nuclear operators, there is a risk that the insurance industry may choose to increase operators' annual insurance premiums as a result of accession. It is unknown how much premiums might increase by, if at all, and, as the overall operator liability would not increase, we would not expect insurance premiums to increase significantly. However, it should be noted that if one insurer were to increase their premium pricing, it is very likely the rest of the commercial market would follow suit.

Section 7: Impact on small and micro businesses

88. We do not anticipate any additional burden on small and micro business. As under the current regime, operators are still liable up to €1.2bn under Paris-Brussels and 300m SDR under CSC and claims will be channelled to the operator only. Accession to the CSC creates a contingent liability on HMG and therefore the taxpayer, not on business. There will therefore be no disproportionate burden on small and micro businesses. We also do not anticipate there to be any future scenarios which could result in a disproportionate burden on UK businesses.

89. This policy will positively impact small and micro supply chain businesses, as it provides them with protection against claims from CSC contracting parties (however all UK businesses are protected under this policy regardless of size). The policy aims to bring business to UK supply chains and encourage capital investment which enables the completion of planned nuclear projects. The net impact of this policy on small and micro businesses will therefore be positive.

90. Note that in practical terms, if an incident was significant enough to trigger claims from CSC countries, it is extremely unlikely to have occurred at one of the intermediate or low-level risk sites, as the activities undertaken at those sites are extremely unlikely to cause an incident of that scale (hence their classification as low/intermediate risk). The operators of these sites tend to be smaller businesses, but they have appropriate financial cover in place to cover their liabilities under the existing Paris-Brussels arrangements anyway and would not require additional cover under CSC. The UK's two biggest operators, EDF and NDA, operate standard risk sites, where an incident that triggered CSC claims would be most likely to take place (although the risk even then remains very low), but again, those businesses have appropriate financial cover in place under Paris-Brussels and would not require additional cover under CSC.

Section 8: Wider impacts

8.1 Assessment of equalities impact

91. The measures in this impact assessment do not raise any issues relevant to the Public Sector Equality Duty under section 149(1) Equality Act 2010 because the decision to accede will have an equal impact on all nine relevant groups. Accession to the CSC would not have adverse impacts on any of the groups with protected characteristics.

92. Operators would continue to be liable for up to €1.2bn, if the nuclear accident happened in the UK, under the Paris-Brussels regime and therefore no additional financial cover would be required under the CSC. As mentioned, accession to the CSC creates a contingent liability on HMG and therefore the taxpayer, irrespective of protected characteristics.

8.2 Greenhouse gas assessment

93. We cannot currently quantify the impact that accession to the CSC would have on greenhouse gas emissions. It is not possible to isolate and quantify how accession to the CSC influences investment in UK nuclear and the corresponding impact this has on carbon emissions from the UK's power sector. However, we can predict that accession to the CSC would indirectly help to reduce emissions by encouraging the development of low carbon nuclear in the UK.

94. We do not believe that the proposals will directly lead to a direct change in emissions of greenhouse gases, as the CSC relates to compensation for nuclear damage. However, as mentioned in paragraph 14, the policy aims to enable greater participation in new nuclear, supply chains and decommissioning activities in the UK. As nuclear is a low carbon energy source, greater investment in nuclear would therefore suggest lower emissions.

95. Therefore, there is potential for this policy to indirectly reduce greenhouse gas emissions from the power sector, assuming that accession to the CSC encourages greater investment from its member countries in UK nuclear. This would also support the UK Government's objectives to reach net zero by 2050, as mentioned in paragraph 18.

8.3 Environmental assessment

96. Acceding to the CSC would allow us to access an additional international fund on top of the Paris-Brussels fund, in the event of an incident exceeding operator liability, worth around £120m (assuming UK accession). This additional fund could be used for any valid claim, including those related to environmental clean-up following a nuclear accident. However, we cannot quantify the environmental impact of acceding to the CSC since there is no way to predict if there will be any calls on the CSC international fund and what claims this fund might be used to pay.

8.4 Assessment of impacts on decommissioning processes and UK organisations

97. Acceding to the CSC would also benefit the UK's decommissioning programme. The Nuclear Decommissioning Authority (NDA) has found that some overseas suppliers of specialist equipment required for decommissioning work have requested unlimited liability indemnities to keep supplying equipment to cover any potential claims that may be brought in a non-Paris-Brussels party country. To date, HMG has not provided such indemnities but devising solutions to this issue has led to considerable additional costs for the NDA. Accession to the CSC would therefore avoid cost increases, such as the one described above, for those involved in nuclear decommissioning activities, by expanding the number of countries to which the channelling and capping principles apply.

98. Over the next decade, all but one of our existing nuclear plants will come offline. This will lead to an increase in nuclear decommissioning activity. The NDA and others involved in

decommissioning activities may therefore face further cost increases, without government intervention.

99. We have not quantified the impact that accession to the CSC will have for the UK's nuclear decommissioning programme given the uncertainties around the costs to businesses of changing suppliers.

8.5 Innovation impacts

100. Under the current arrangements, the UK is potentially exposed to unlimited claims from countries outside of the Paris-Brussels regime. Accession to the CSC would help raise confidence amongst private sector developers and participants in the UK's nuclear supply chain, by expanding the channelling and capping principles.

101. If the concerns of industry were left unaddressed, this could have serious ramifications for the construction and operation of new nuclear in the UK (gigawatt-scale and SMRs). The advanced nuclear sector has the potential to create high-skilled jobs and export opportunities through the innovation of SMRs and AMRs (Advanced Modular Reactors). SMRs are potentially less expensive to build than traditional nuclear power plants because of their smaller size, factory based modular build and more flexible deployability. Both AMRs and SMRs adopt next-generation technologies and their role in achieving net zero greenhouse gas emissions by 2050 is becoming increasingly recognised. If industry's concerns are left unaddressed, it could make it financially unviable for these innovative projects to proceed.

102. Providing a solution to this issue is seen as essential, not only to potential investors, but also to the supply chain, much of which has its domicile in the USA or Japan, two countries not currently covered by the UK's current liability arrangements.

103. We cannot currently quantify the impact that accession to the CSC will have on innovation, as we cannot isolate and quantify our policy's impact on investor confidence. However, we know that private sector developers have concerns regarding the existing liability arrangements, and therefore predict that it will have a positive impact on innovation and the progression of the UK's nuclear programme.

Section 9: A summary of the potential trade implications of measure

104. We do not believe the policy will directly impact trade and investment, as the policy measure relates to compensation for third-party nuclear damage. However, we expect there to be impacts indirectly. For this reason, BEIS and DIT concluded that a qualitative assessment of trade implications should be provided.

105. Acceding to the CSC should boost international trade with CSC contracting parties, benefiting both existing and new nuclear, as well as those involved in decommissioning activities. It would enable British companies to obtain essential parts for nuclear activities from CSC contracting parties, such as the US, who have previously agreed not to trade in certain circumstances under the existing regime. We expect businesses across the UK to benefit from the increase in international trade, particularly those located close to new and existing nuclear sites such as Sellafield, Hinkley and Sizewell.

106. As mentioned, private sector investors and developers currently lack the confidence to invest in the UK's nuclear sector under the existing arrangements. This is due to a lack of protection against potentially unlimited claims from non-Paris-Brussels countries. This lack of protection is a significant barrier to potential investment in new nuclear projects. We expect that acceding to the CSC would overcome this barrier, providing potential investors with greater confidence to invest in UK nuclear.. Annex C presents some data provided by the Department for International Trade (DIT) using FDI Markets[1] which demonstrates the opportunity to increase investment into the UK nuclear sector.

Section 10: Monitoring and evaluation

107. It will be difficult to measure the impact of our intervention in a quantifiable way. Nevertheless, we would expect to receive qualitative evidence from private sector developers that our intervention directly impacted on their decision to invest in a new nuclear project in the UK; from participants in the UK's nuclear supply chain that our intervention has enabled them to fulfil contracts/do business without risk of claims against them; and from the UK nuclear industry that our intervention has helped prevent issues with suppliers requesting unlimited indemnities, which could result in increased costs and timings associated with essential projects.

108. As the recommended intervention is accession to an international treaty there is no expectation that the intervention would be reviewed or amended in the future, unless it were proven to have had a negative impact on the areas outlined above, which is improbable.

109. It is worth noting that there is no subscription cost associated with our intervention which might have been subject to an annual review of such expenses by the Department. BEIS reviews all of its contingent liabilities on a bi-annual basis. This is primarily a financial process although the supporting narrative is also reviewed. Through this process, monitoring of the exact level of the CSC liability will be undertaken, given the variable nature of it.

110. A review of the impact of our intervention will be part of broader reviews of nuclear policies such as the Nuclear Sector Deal or any Final Investment Decision for the Sizewell C project.

111. It remains an option to ratify the Joint Protocol in the future, thus increasing even further the number of countries to which the channelling and liability capping principles apply, should those countries (e.g. Russia, Saudi Arabia, South/Central American countries) happen to take on a more significant role in the UK's nuclear supply chain. We are prioritising accession to the CSC as those member states are the ones most likely to invest in the UK's nuclear sector at present. However, in the future, should it look likely that investment from Vienna/Joint Protocol countries is being limited by the UK not ratifying the Joint Protocol, we would look to ratify the Joint Protocol, subject to Ministerial agreement and Parliamentary time.

Section 11: Preferred option and implementation plan

11.1 Preferred option

[1] https://www.fdimarkets.com/

112. The preferred option is to accede to the CSC. Primary legislation is required to make the necessary changes to the Nuclear Installations Act 1965 to implement the requirements of the CSC. Secondary Legislation is also required to enable the UK's accession the CSC, to enable the UK to accept future amendments to the CSC, to exercise an option under the CSC and to deal with any other matters arising out of the implementation or operation of the CSC. Any Secondary Legislation laid under these powers shall be subject to the affirmative process. There is no requirement for consultation as this is not standard practice in relation to international treaties.

113. Acceding to the CSC would allow us to achieve our policy objectives of giving private sector developers greater confidence in investing in new nuclear projects; offering participants in the UK's nuclear supply chain protection from claims; and reducing the risk of increased costs and timings associated with essential projects by enabling companies to fulfil contracts without requesting unlimited Government indemnities. By addressing the concerns amongst private sector developers regarding the lack of protection against unlimited claims, we would remove a barrier to investment as well as a risk in the capital raising process. Accession would furthermore provide protection to UK operators and supply chain participants against legal claims from non-Paris Brussels countries which play, or could play, an active role in the UK's nuclear sector.

114. As mentioned, this policy would help to support the UK Government's ambition to decarbonise the power sector, consistent with achieving net zero emissions by 2050, by encouraging investment in low carbon nuclear, which is a fundamental part of the UK's energy mix.

11.2 Implementation plan

115. Alongside making the necessary changes to the Nuclear Installations Act 1965, we will start the formal accession process, working with the International Atomic Energy Agency and the depositary body for the CSC to accede. It is difficult to provide an accurate assessment of how long the process will take but it is very likely to be upwards of 12 months.

116. HMG announcing that the UK is going to accede and the legislative process of amending the Nuclear Installations Act 1965 being underway/complete should significantly boost investor confidence, even without formal accession having actually taken place.

117. Secondary Legislation is also required to enable the UK's accession to the CSC, to enable the UK to accept future amendments to the CSC, to exercise an option under the CSC and to deal with any other matters arising out of the implementation or operation of the CSC. Any Secondary Legislation laid under these powers shall be subject to the affirmative process. This may occur prior to accession, or following accession.

Annex A – Details of the international nuclear third-party liability regimes

1. There are three international nuclear third-party liability regimes, as set out below. These regimes ensure that the victims of a nuclear incident have access to adequate compensation, as well as supporting investor confidence in a global industry with a considerable risk profile.

2. All the international regimes have similar principles:

i) to ensure adequate compensation for damage caused to persons, property and the environment by a nuclear incident;
ii) to make sure that nuclear operators, who are in the best position to ensure the safety of their nuclear installations and transport activities, assume full responsibility for any breach of duty giving rise to damage (while not being exposed to an excessive liability burden); and
iii) to ensure that those associated with the construction, operation or decommissioning of nuclear installations (such as builders or suppliers) are exempt from liability for any such breach.

3. In addition, these regimes ensure that a claimant only has to prove harm, not fault; all claims are heard in the country in which the incident occurs; and the overall operator obligation is capped. Some of the regimes create international pooling mechanisms among contracting parties which provide additional compensations funds for victims if required.

4. States that are not party to any of the conventions may have liability legislation that provides equivalent compensation arrangements as under the conventions.

The Paris Convention and Brussels Supplementary Convention[2]

5. The Paris and Brussels Conventions establish a largely western European framework for compensating victims of nuclear incidents. The UK is party only to this regime. Under Paris-Brussels, operators are currently liable up to £140m in the event of an incident. As a result of lessons learned from the Chernobyl nuclear incident, in 2004, the signatories of Paris Brussels agreed amendments to the regime, which, since ratified on 1 January 2022, has seen operators' liability limits increase to €1200m. The Brussels Supplementary Convention provides an additional €300m as part of an international pool which all contracting parties contribute to and can access.

6. The UK's domestic nuclear third-party liability regime is implemented through the Nuclear Installations Act 1965 and is based on the Paris and Brussels Conventions. In preparation to ratify the 2004 Protocols on 1 January 2022, the UK has completed the necessary legislative changes – the Nuclear Installations Act 1965 was prospectively amended by the Nuclear Installations (Liability for Damage) Order 2016.

The Vienna Convention[3]

7. The Vienna Convention establishes a similar international framework for compensating victims of nuclear incidents. Its principles are much the same as the Paris Convention and its contracting parties include many eastern European countries, Russia, much of South America and Saudi Arabia.

8. Note that there is a Joint Protocol which provides a bridge between the Paris Convention and the Vienna Convention. It extends reciprocal benefits to a party of the other Convention, provided both parties are also parties to the Joint Protocol. The Joint Protocol ensures that only one of the two conventions will apply and the amount of liability is determined by the convention to which the state of the liable operator is situated. The UK is a signatory to the Joint Protocol but has not ratified it.

[2] Paris-Brussels countries: Belgium, Denmark, Finland, France, Germany, Greece, Italy, Netherlands, Norway, Portugal, Slovenia, Spain, Sweden, Switzerland, Turkey, UK.
[3] Vienna countries: Argentina, Armenia, Belarus, Benin, Bolivia, Bosnia and Herzegovina, Brazil, Bulgaria, Cameroon, Chile, Croatia, Cuba, Czech Republic, Egypt, Estonia, North Macedonia, Hungary, Jordan, Kazakhstan, Latvia, Lebanon, Lithuania, Mauritius, Mexico, Moldova, Montenegro, Niger, Nigeria, Peru, Philippines, Poland, Romania, Russia, Saint Vincent and the Grenadines, Saudi Arabia, Senegal, Serbia, Slovakia, Trinidad and Tobago, Ukraine, Uruguay.

The Convention on Supplementary Compensation[4]

9. The Convention on Supplementary Compensation aims at establishing a minimum national compensation amount and an international pooling mechanism for providing additional compensation funds as required. To date there have been no calls on the CSC international fund. The Convention is open to countries that are party to either the Paris or Vienna Conventions, or have equivalent national legislation. Key members include the US, Canada and Japan, all countries which play a significant role in the UK's nuclear industry.

[4] CSC countries: Argentina, Benin, Canada, Ghana, India, Japan, Morocco, Montenegro, Romania, United Arab Emirates, United States.

Annex B – Current contracting parties of international nuclear third-party liability regimes[5]

Paris-Brussels	Vienna Convention	Joint Protocol	Convention on Supplementary Compensation
Belgium	Argentina	Benin (VC)	Argentina
Denmark	Armenia	Bulgaria (VC)	Benin
Finland	Belarus	Cameroon (VC)	Canada
France	Benin	Chile (VC)	Ghana
Germany	Bolivia	Croatia (VC)	India
Greece	Bosnia and Herzegovina	Czech Republic (VC)	Japan
Italy	Brazil	Denmark (PC)	Morocco
Netherlands	Bulgaria	Egypt (VC)	Montenegro
Norway	Cameroon	Estonia (VC)	Romania
Portugal	Chile	Finland (PC)	United Arab Emirates
Slovenia	Croatia	France (PC)	United States
Spain	Cuba	Germany (PC)	
Sweden	Czech Republic	Ghana (VC)	
Switzerland	Egypt	Greece (PC)	
Turkey	Estonia	Hungary (VC)	
UK	North Macedonia	Italy (PC)	
	Hungary	Latvia (VC)	
	Jordan	Lithuania (VC)	
	Kazakhstan	Netherlands (PC)	
	Latvia	Norway (PC)	
	Lebanon	Poland (VC)	
	Lithuania	Romania (VC)	
	Mauritius	Saint Vincent and the Grenadines (VC)	
	Mexico	Slovakia (VC)	
	Moldova	Slovenia (PC)	
	Montenegro	Sweden (PC)	
	Niger	Turkey (PC)	
	Nigeria	Ukraine (VC)	
	Peru	United Arab Emirates (VC)	
	Philippines	Uruguay (VC)	
	Poland		
	Romania		
	Russia		
	Saint Vincent and the Grenadines		
	Saudi Arabia		
	Senegal		
	Serbia		
	Slovakia		
	Trinidad and Tobago		
	Ukraine		
	Uruguay		

[5] "PC" or "VC" indicates that a state is a party to the Paris Convention or the Vienna Convention respectively. https://www.oecd-nea.org/jcms/pl_29284/joint-protocol-relating-to-the-application-of-the-vienna-convention-and-the-paris-convention-joint-protocol

Annex C – FDI Markets data

1. Using FDI Markets and searching for the sub-sector 'Nuclear Electric Power Generation', we can observe that the level of inward FDI[1] in the sub-sector has been relatively low over the past decade, between January 2011-December 2020. Only 10 international companies have invested in UK nuclear projects during this period. There is greater capital investment from Paris-Brussels countries than CSC contracting parties over the period. Following accession, we would expect to see higher inward FDI from CSC contracting parties. However, given the low number of projects, it would be very difficult to estimate a clear trend over time with this data.

[1] Note, the database focuses on greenfield FDI (where new physical projects or operations are being established) and that some of the CAPEX figures are estimates by the FDI Markets, rather than from validated courses.