

**Questions and Answers**  
**IFNEC Webinar #2**  
**SMR Financing – Private and Public Options**

Questions	Raised by	Answers [Answered by]
<p>1. The framework discussed poses SMR Financing versus traditional nuclear plants or Renewables projects -- by fuel source. Could SMR Financing be framed instead based on: A) the type of "market" structure for electricity pricing (e.g., merchant week-ahead pricing, vs 20+-year PPA?), or B) based on the type of Ownership (National, Private sector, Hybrid, or User Consortium)? In the USA, as one example, out of 100 nuclear plants, not one was financed in a "merchant" pricing landscape. When a new project was proposed for Calvert Cliffs in USA (UniStar) back in 2011, it faced "merchant" pricing in PJM. The financing failed. Consider this premise: "Merchant pricing is for gas plants, not nuclear plants." Non? Even a "Contract for Differences" is just a legal somersault to bring a long-term PPA to a merchant market. What does the panel think?</p>	<p style="text-align: center;">Andrew Paterson</p>	<p><b>[Jan Keppler]</b> Fully agree on the point that merchant markets are not appropriate for nuclear. This will not change with SMRs. The question is related to the ratio of fixed costs to variable costs and to the absolute size of the plants. So yes, CFD, PPA, regulated tariff or similar will be needed. The question of ownership is less related to market risk (a PPA will help you regardless of who is the owner), but to construction risk. At this point in time, construction still implies a lot of nondiversifiable residual risk. Only very well diversified LT investors or public stakeholders will be able to carry that risk.</p> <p><b>PMurphy:</b> I don't see any sort of nuclear power functioning well in de-regulated markets, absent a PPA, CfD, or RAB structure. Of course, that is framed within the context of the US and the UK. Other countries could have structures that support nuclear power, given current prices for alternative sources of electricity in those markets.</p>
<p>2. to Jan Keppler : Your statement of an affordability relays to the country with well-developed nuclear infrastructure, What to do other ones?"</p>	<p style="text-align: center;">Evgeny Ivanov</p>	<p><b>[Jan Keppler]</b> The less developed the infrastructure, the more public involvement will be required.</p>
<p>3. Question: What's the percentage of budget allocated for radioactive waste management for SMR? Are there any challenges in cost estimation and financing of waste management (treatment, storage, disposal, etc.) for SMR? Thank you!</p>	<p style="text-align: center;">Jinfeng Li_OECD/NEA</p>	<p><b>[Jan Keppler]</b> Typically the share of RWM in a project's initial budget is very low due to long-term discounting (or accrual if you prefer). The current low interest rate environment will increase this share however. Others will be more knowledgeable whether the RMW share is higher or lower than in Gen 3 project.</p>
<p>4. Jan Keppler - have you considered the option of direct government ownership of nuclear power plants?</p>	<p style="text-align: center;">Edward Kee</p>	<p><b>[Jan Keppler]</b> Government's will need to play a role in developing and building new nuclear power plants. As mentioned RAB and CWP shift some construction risk to the public. Is this sufficient? Possibly not. Direct government</p>

		<p>participation in the financing (and strategic management) of new nuclear projects is the logical next step. One should not approach the question with a manichean yes/no mindset but look at the empirical results of recent projects. The corporate world still needs to prove that they can build plants to budget and on schedule without the commitment, confidence and sense of purpose that public participation can bring. This is not to say that public participation is a panacea. The energy sector moved away from the vertically integrated model with strong government involvement for, partly, good reasons. Efficient management was supposed to be one of them. You will have to base decisions for concrete projects on the track record of the available parties, public or private.</p>
<p>5. How many SMR Projects are on order today? NuScale for Salt Lake City (at INL). HTGR in China? Do we count the specialty reactor (2 x 35 MW) by Russia up in the arctic at Pevek?</p>	<p>Andrew Paterson</p>	<p><b>[G. Kwong]</b> There are over 120 small and medium units (up to 700 MWe) in operation and 17 under construction in the world (as of April 2020).</p>
<p>6. Interm of Consumption Risk, what do you mean by power generated by the project ? Is this during operation or is this the construction power requirement?</p>	<p>Princewill Okpala</p>	<p><b>[Answered during the session, by Yiming Li]</b> I mean the power generated by the nuclear power plants after the nuclear power plants go to operation.</p>
<p>7. Electricity price... 0.435 Yuan or US\$?</p>	<p>Andrew Paterson</p>	<p><b>[Answered during the session]</b> in Chinese Yuan.  <b>[Jan Keppler]</b> If I am doing the calculations roughly right that this would correspond to a wholesale price of about USD 60 per MWh. Is this guaranteed or can it fluctuate? In any case, it is considerably above what we would expect for the costs of coal in China and also above the cost figures that are assumed, for instance by the IEA for China. Does this imply an implicit carbon price?</p>

<p>8. Question: Many thanks to all panelists. For nuclear power plans, there is usually spent fuel fund. A portion of gains from electricity generation will be submitted to the government for central treatment and disposal of high level waste and spent fuel. For SMR, are there mature regulations? What percentage of gains they should submit for waste management?</p>	<p>Jinfeng Li_OECD/NEA</p>	<p><b>[Jan Keppler]</b> See the answer above for Q3.</p> <p><b>AGhori:</b> This is a very good question because IFNEC has been debating the establishment of a MNR (Multinational Repository) for disposing high level waste and spent fuel for nuclear projects in general for several years. With the growth of focus on SMRs, the treatment and handling of these items for SMRs will definitely need to be considered while knowing that the quantum amounts of SMR waste and spent fuel will be comparably smaller. I am not aware of any regulations specifically for SMRs as no SMR technology has yet advanced to that stage of discussions with the responsible Government entities (ie., ONR in the UK) to determine a percentage that needs to be separately earmarked for this purpose.</p> <p><b>PMurphy:</b> Moreover, given the smaller scale of SMRs, the revenue collected to support a repository for spent fuel will be lower in the aggregate, which will make it harder to fund the total cost of such a facility. All of this reinforces, Mr. Ghorí's point about the economic logic for an MNR.</p>
<p>9. covid has shown we can cut back on energy needs. in the Uk national grid are cutting back on large base load to balance system frequency. does this mean even large SMR +300MW is vulnerable? should focus be on EMBEDDED micro nuclear. surely this will encourage large corporates to participate provided construction risk is mitigated.</p>	<p>Biplab Rakshi</p>	<p><b>[Jan Keppler]</b> The question of which technology does well during a crisis, i.e., when demand falls, is not related to size but to the level of short-run variable costs. Thus, renewables with zero short-run variable costs will be the last to be shut down. Next to last is nuclear with low but not zero variable costs. Gas will be the worst affected, which is precisely what we see. Micro-nuclear without refuelling would fall into the zero marginal cost category. However, what looks like an advantage is indeed a disadvantage: having all your costs in fixed costs means you keep running during a crisis to earn little money that is insufficient to ever pay back the capital costs. Gas will just move out with limited losses. That said, the real challenge for micronuclear which has a number of attractions (e.g., allowing for auto-production will isolate you from market risk) will be (total) cost and regulatory approval.</p>

		<p><b>AGhori: Mr. Rakshi</b> – We are living in the strangest of times so current tendencies of electricity usage and attendant cut backs by National Grid, will not be lasting and shouldn't be used as an indicator of what might happen in the future. I do believe SMRs (when they are ready to be synchronized to the UK Grid) will very much be needed due to the retirement of old nuclear and fossil-fuel plants in the UK and the uncertainty surrounding build-out of new nuclear mega-projects in the UK. Yes..micro-nuclear should get attention and will do so once a technology is advanced and viable enough for serious consideration. Even micro-nuclear FOAK projects need Government support, which is forthcoming in the UK unless private sector finance stands ready to understand, accept and finance construction risk.</p> <p><b>PMurphy:</b> Concurring with Mr. Ghori, Government policies would need to support either SMRs or microreactors, given current electricity market conditions. That said, given the applications of SMRs (desal, hydrogen, industrial heat, remote communities, etc.), it would seem that project constructs around these applications could create new models.</p>
<p>10. Aren't there 3 ways of looking at this conceptually, and how would you frame and answer the financing issues : (i) a government sponsored SMR program where they fund the development and construction of an SMR; (ii) SMR supplier who needs to sell sufficient number of his SMRs (e.g. 20 units at \$2 bn = \$40 bn) to reach economies of scale for manufacturing, fuel supply, disposal, political and regulatory approvals; (iii) investor in an individual SMR project: e.g. 100 MW \$2 bn project cost first-of-a-kind. - Hypothesis: Scenario (i) seems</p>	<p>Ruediger (Rudy) Koenig</p>	<p><b>[Jan Keppler]</b> I agree with the three-part structure but the chicken and egg question extends to all three of them. Is there any corporate entity large enough to take a USD 40 billion-bet. If governments really want to support SMR development, they will have to think much harder about the up-front costs of setting up the manufacturing capabilities. Funding the initial construction of an SMR will only prove technical feasibility at the plant-level but not economic feasibility at the fleet-level.</p> <p><b>AGhori:</b> I firmly believe that your (ii) and (iii) would certainly fall into the chicken-and-egg quandary if suppliers and investors were left to fend for themselves! No Supplier can independently</p>

<p>straightforward since its all government. But how about Scenarios (ii) and (iii): are they chicken-and-egg?</p>		<p>fund the attendant costs required to achieve economies of scale capable of producing a fleet of SMRs. Likewise, no Investor can be asked to shoulder the costs on their own because of the risks specific to nuclear that can only be best addressed and mitigated by Governments. That is why we are calling for <b>a partnership between the public and private sectors</b> (as in the UK) that can together deliver solutions to getting the first and subsequent SMRs commercially viable.</p> <p><b>PMurphy:</b> Concurring with Mr. Ghori, re. (ii) SMRs will be a volume business, if vendors are to survive, so the market needs to be structured accordingly. In addition, support is needed to construct the factory to create the hoped-for efficiencies. It will be very hard to construct a specialized factory without a large order book – which creates an opportunity for a government role re. getting the factory going.</p>
<p>11. Many thanks for the all Panelists. My question is for Mr. Amjad : You mentioned WACC (weighted average cost of capital). For an SMR perspective what I understood from your presentation</p>	<p>Melih Danisman</p>	<p><b>[Answered during the session]</b> are you mentioning about the Cost Plus Model instead of a PPA for implement such a SMR project?</p> <p><b>AGhori: Mr. Danisman</b> - I don't recall the exact context in which I mentioned the WACC but I suspect that when I was discussing the different Financing Models that were analysed and proposed by EFWG for consideration by UK Government. I believe WACC has a significant impact on the cost of financing and therefore the ultimate cost of any project and more so in the nuclear space where delays occur all too often.</p> <p>I don't recall advocating a Cost Plus model but I did highlight the RAB Model (which is not Cost Plus) on which I'm more than</p>

		<p>happy to speak further and its potential to be employed in the design, development, and financing of SMRs in the UK.</p> <p><b>PMurphy:</b> PPA or RAB underscore the importance of a long-term, secure revenue stream to support project development and financing, particularly equity investment, given uncertainties within deregulated electricity markets.</p>
12. Does Fusion play a part in the SMR future?	Randall Bradley	<p><b>[G. Kwong]</b> At present, fusion power is still facing many engineering challenges, costs are still high and time lines are long.</p>
13. Question to Mr. Ghori- did you consider that there could be industrial (power consuming investors) included with utilities to SMR investment (aka TVO in Finland) in process securing power uptake?	Kalev Kallemets	<p><b>AGhori: Mr. Kallemets</b> - if you mean a UK Mankala, we did look at it but didn't believe that it could be pulled off in the way that is used in Finland. There are many reasons and I would be more than happy to elaborate further with you off-line as well as my , time spent leading the Advisory team working with TVO on the proposed OL4 NPP, which was unfortunately abandoned. I believe Mankala is a great model and the collective strength of the Mankala and the obligations it puts on each member....in terms of funding any overruns and standing behind any financing, serve as inherent mitigants to nuclear risks, including during construction.</p> <p><b>PMurphy:</b> Industrials could see an investment play if they are tied to the fabrication and/or if they are interested in the process (mining, hydrogen production, industrial heat, "inside the fence" power). Building a model around those scenarios could create investment opportunities.</p>
14. Considering your knowledge, which is the vendor & country moving forward leading SMR, with a realistic approach?	Pablo Florido	<p><b>AGhori: Mr. Florido</b> – There are several SMR vendors that have spent an enormous amount of money (NuScale - US and RollsRoyce - UK) and are now at the stage where respective Governments are providing funding to get the technologies through final design stage. In addition, there are Government-</p>

		<p>sponsored SMRs such as Russia’s Floating SMR, which was connected to the grid in late 2019. Finally there is another SMR being jointly developed by Korea’s KHNP and Saudi Arabia’s K-Care (SMART - 100MWe + thermal applications for desalination purposes and heat/steam production for supply to industrial sectors) which will be manufactured in KSA. There are also SMRs being developed by GE Hitachi, Westinghouse, Moltex and Terrestrial Energy as well as others. I’ve listed several in the presentation I made during the Webinar and should be available to you. If you are unable to find a copy, please feel free to email me or to the IFNEC Webinar coordinators who I’m sure will be happy to send over a copy to you</p> <p><b>PMurphy:</b> I’d also like to mention Argentina’s CAREM reactor, which is under construction. The key is to tie the fabrication process with deployment models that include construction, operation, and financing. It is also important to understand the readiness of the recipient country vis-à-vis the IAEA’s milestones approach.</p> <p><b>G.Kwong:</b> Please note the Jun 23 webinar in which various designs and challenges experienced will be discussed.</p>
<p>15. SMR have lots of advantages, but how to reduce its risks, such as licences risk, new technologies validation risk?</p>	<p>zhan liu</p>	<p><b>[Answered during the session]</b> key question, but it will depend on regulatory environment.</p> <p><b>AGhori: Mr. Liu</b> - I too agree that this is very important question and reaffirms the central role that any Government needs to play to address these regulatory risks. In the UK, there is consensus that the Generic Design Assessment (GDA) process can potentially be shortened for SMRs that are based on technology that has already been approved for larger reactors,</p>

		<p>namely GE-Hitachi’s ABWR; Westinghouse AP1000; and EDF’s EPR. In addition, the UK has offered existing sites that could be used by SMRs in an effort to expedite the time it takes to procure site licenses. Finally, there will need to be close cooperation between specific technology suppliers and the Government to jointly finance the final design validation of a specific technology because the Suppliers cannot bear this cost alone. In return for financial support, the Government could get the IP rights to that technology is one of the recommendations made by the EFWG to UK Government.</p> <p><b>PMurphy:</b> Regulatory harmonization across countries is critical, too. The more standardized things can become, the quicker the technologies can be deployed.</p>
<p>16. While the RAB model worked well for UK monopoly infrastructure; what are the challenges with applying and successful implementation of the RAB model to Nuclear projects with respect to:</p> <ul style="list-style-type: none"> <li>a. TECHNOLOGY - first of a kind technology</li> <li>b. ORGANIZATIONAL MODEL</li> <li>c. ONR/REGULATION</li> <li>d. SUPPLY CHAIN - procurement to comply with owner requirements and ONR approved design/safety cases</li> <li>e. CONSTRUCTION</li> </ul>	<p>Farid Berry</p>	<p><b>AGhori: Mr. Berry</b> – My simple answer is that the UK Government recognized the role it needs to play in each aspect of getting SMR technology’s design completed, developed, financed and deployed as part of it’s strategy to meet climate change goals. The recurring theme is that an SMR FOAK project cannot be completed if left entirely to the “market” and the private sector. The RAB model has a recent precedent in the Thames Tidewater Tunnel Project (TTT) so the thinking is to modify, adjust and tweak this precedent to address project and nuclear specific risks to get a FOAK project to the end line. I believe the UK Government has set out to do just that by releasing funding (albeit small amounts up to now) to Suppliers who meet certain criteria. I’m happy to speak offline with you on the specifics of the RAB Model currently being contemplated for SMR projects in the UK.</p>

		<p><b>PMurphy:</b> I think a lot can also be learned from the US markets that are still regulated, with the use of prudent review and the application of CWIP recovery. Ultimately, a balance needs to be struck, too, between how much can be recovered under the RAB model and what risks are still left with the project developers.</p>
<p>17. I was wondering on what the panelists think of the BOT/BOOT model and whether it is a good model to undertake for an SMR project</p>	<p>Sina Hajarat</p>	<p><b>[Answered during the session]</b> Has to be proven to work at Akkuyu first.</p> <p><b>AGhori: Ms. Hajarat</b> – I have been a Project Finance practitioner for the past 25+ years and am a firm believer in the BOO, BOT and BOOT models for IPPs and other infrastructure projects. However, I <b>DO NOT</b> believe that these models are suitable for projects in the nuclear sector because of the nuclear specific risks that can only be borne by host Governments and cannot be passed on to other project parties. In addition, nuclear projects are part of the national security infrastructure and foreign-ownership is prohibited. The only exceptions I can think of are Hinckley Point C in the UK, owned by EdF and CGN, and Akkuyu in Turkey, which is discussed further below.</p> <p>Would these models be better suited for SMRs? Certainly not for FOAK but perhaps for NOAK projects where a clear structure that addresses all project and nuclear-related risks is proven.</p> <p><b>PMurphy:</b> BOO/BOOT needs to be considered on a country-by-country basis, as some countries will not want foreign ownership and operation of a strategic asset. That said, Akkuyu does become a test case, and we will see how it plays out on a number of fronts, including the desire of the current owners to</p>

		<p>sell down to 51% and the current lack of alignment between Russia and Turkey in places like Syria and Libya. A BOO/BOOT structure, if it has a Govt-to-Govt overlay, depends on the strength and durability of the bilateral relationship. Finally, the T raises issues of when the T occurs, what the pricing is relating to the T, and the ability of the host country to have a viable recipient to effect the T.</p> <p>[Jan Keppler] yes, agree; however, similar constructions have been tried elsewhere even if they were not called BOT for various reasons; it is probably the most sensible way for a newcomer country, even if specifics may vary. Ideally SMR should make for easier transfers between vendor and operator. Yet to be seen.</p>
<p>18. What's the outlook for financing SMRs? Are there more international banks and financial institutions showing interest in financing SMRs?</p>	<p>Festus Brew Quansah</p>	<p><b>AGhori: Mr. Quansah</b> – Unfortunately, there are no banks and international financial institutions knocking down the doors of developers to finance SMRs. As mentioned earlier, there really needs to be a model developed based on participation and support of host governments that addresses risk specific to nuclear projects that will serve as a catalyst to procuring third-party financing. The contemplated RAB model may be one way to get a FOAK SMR to the end line while there may be derivations of the RAB Model or a Hybrid model that could be used to get NOAK SMR projects financed.</p> <p><b>PMurphy:</b> Banks could come in under an ECA cover, but the underlying project structure will need to be sound. Investors might have more interest in a refinancing structure, after commercial operation occurs, but that would again depend on the strength of the project structure/economics.</p>
<p>19. post covid gov. finance is in disarray. how realistic is gov. support behind FOAK SMR? surely we need embeded PPA as only viable route?</p>	<p>Biplab Rakshi</p>	<p>[Answered during the session] Your answer and understanding is spot on, Mr. Rakshi!! Happy to speak further off-line :)</p>

		<b>AGhori: Mr. Rakshi</b> - Your answer and understanding is spot on, Mr. Rakshi!! Happy to speak further off-line. An embedded PPA is a viable route but the Government needs to reaffirm its support for getting SMR technologies and projects deployed in the UK despite the impact on the Treasury due to Covid. Otherwise, I fear for the future of nuclear in the UK.
20. Question to Mr. Murphy	Festus Brew Quansah	N/A
21. To Jan Keppler: You pointed out that liberalized wholesaele markets are a challenge. Why not alter market design to ensure that no supplier is permitted to sell electricity at below cost (including capital cost)?	Greg Kaser	[Answered during the session] Sure, all of those who are serious about decarbonising electricity generation are thinking about alternative market designs. Auctioning off and trading long-term supply contracts for low carbon electricity could allow bidding with average costs and maintain a market element. However, regulation moves in long cycles (20-30 years), but alterantive martket designs will emerge eventually. Necessity is at the origin of change.
22. What about financing for development costs for SMR design? New models can be offered to share the risks?	necati kaya	<p><b>[Answered during the session]</b> Mr. Kaya - this is what's happening in the UK with support for Rolls Royce who is in the final design stage for their UK SMR.</p> <p><b>AGhori: Mr. Kaya</b> - This is what's happening in the UK with support for Rolls Royce who is in the final design stage for their UK SMR. Paul Murphy and I also believe that sharing development costs between corporates such as OGMs (Oil and Gas Majors) is also potentially a route to get SMR development financed. We've laid out the argument in a recent article that was published in World Nuclear News (<a href="https://www.world-nuclear-news.org/Articles/How-oil-gas-majors-could-turn-the-tide-against-glo">https://www.world-nuclear-news.org/Articles/How-oil-gas-majors-could-turn-the-tide-against-glo</a>)</p> <p><b>PMurphy:</b> A strategic investor could take an interest. As Mr.Ghori notes, we see a role for OGMs. And, the more that</p>

		nuclear is considered within a clean growth strategy, the greater the opportunity with new types of financial interest.
23. Does 'fleeting economics' offer advantages for SMRs over larger reactors? -Question to Prof. Klepper	Festus Brew Quansah	<b>[Answered during the session]</b> Yes ... and quicker. [Jan Keppler] one would hope so; however it still needs to be proven and requires considerable up-front investments which come with their own risks.
24. What is your opinion about the influence of EU Taxonomy regulation on financing of nuclear reactors, also SMRs?	Józef Sobolewski	<b>[Answered during the session]</b> Needs to be changed. [Jan Keppler] The inclusion of nuclear in the EU taxonomy has its importance as a political signal. Its actual impact on the financing of nuclear projects is limited.
25. Akira Tokuhiro, Dean and Professor, Ontario Tech University (Canada). Question. What are the advantages and disadvantages of national interests and financial support/risk positioning as opposed to global or regional commercial investment? Can the panelists give examples? This is a general question.	akira tokuhiro	<b>[Jan Keppler]</b> Could be part of an industrial strategy.  <b>Amjad Ghorji: Tokuhiro-san</b> – This is a loaded question as there are multiple answers when it comes to Nuclear sector in general and SMRs in particular. If a country has the financial capability and the ability to absorb all the risks specific to design, development and financing of SMRs then such a commitment should be applauded and rewarded for taking on such risks. However, we haven't seen this happen for years in the larger reactor space but what we have seen instead is collaborations between the likes of GE and Hitachi, Westinghouse and Toshiba primarily to share the technology and spread out costs.  In the SMR space, collaboration seems to be the preferred route (global or regional) as we see Consortia being formed to develop new SMR technology as we see in the Rolls Royce consortium (which has a multi-national mix) as well as the collaboration between GE – Hitachi again (for their BWRX 300 SMR), the collaboration between the KHNP (Korea) and KACARE (KSA) in the development of the SMART Reactor. In addition, both the US and Canadian governments have pledged to support the

		<p>further development of NuScale’s SMR in both Canada and the US. If this response hasn’t answered your question, I would be happy to speak further offline.</p> <p><b>PMurphy:</b> Right now, there are too many technology developers out there. The enthusiasm is great, but the market can’t sustain it. Getting behind 1-3 “national champions” seems to be a sensible approach, so long as there is a market there at the end of the rainbow. More focus needs to be on shaping the market – too much is now focused on it being simply a technology development endeavor. With that in mind, government support can be justified by job creation and tax revenue effects, not to mention the clean energy dividend (both for electricity production and for other applications).</p>
<p>26. Question: One problem in the decommissioning of some nuclear power plants and research reactors is that the actual costs always exceed the original plan. In the current financing structure of SMR, is this issue covered? How could we estimate costs more accurately and cope with increasing costs of decommissioning in the future for SMR?</p>	<p>Jinfeng Li_OECD/NEA</p>	<p>Same to Q3.</p> <p><b>AGhori: Mr. Li</b> – There is no current financing structure for SMRs but that is the ultimate objective....a financing structure that apportions risk to the party that is most capable of absorbing that specific risk. Any financing structure will need to account for decommissioning costs. In the past (on HPC), the CfD discussions also required that a Funded Decommissioning Plan (FDP) was fully developed and needed to be approved to derive the final CfD Strike Price. I imagine a similar exercise will need to be completed for SMRs but I’m not sure how to answer how these costs can be estimated more accurately. Any cost or assumption is thoroughly researched and based on a set of fully-supported existing criteria undertaken by professionals who know what they are doing and have the support and respect of the people requesting these estimates or assumptions. These estimates and assumptions may not prove out to be 100%</p>

		<p>correct in the future but hopefully there will be sufficient cushion to address any shortfalls or all parties can reach agreement to collectively fund the differential.</p> <p><b>G. Kwong:</b> Jinfeng, noting the current SMR deployment status, it is not surprising that not much work on SMR decommissioning. Despite that, if we are talking about SMRs that are based on existing technologies, the ways to improve accuracies of SMR decommissioning would be similar (if not simpler) to large reactor decommissioning, i.e. immediate dismantling will eliminate many uncertainties over the long-term; sharing of decommissioning cost data among decommissioning projects; learn from completed projects regarding lessons learned, best practices; and clear decommissioning requirements and milestones.</p>
27. The carbon pricing is considered that it has very large impact to the market situation of SMR. What do you think about the impact of carbon pricing on future market of SMR? Additionally, when this situation will come?	Rei Kimura	<p><b>live answered.</b></p> <p><b>[Jan Keppler]</b> yes carbon pricing is absolutely essential to ensure the competitiveness of low carbon technologies such as nuclear;</p>
28. Question for Amjad Ghori: what will be the size power of the SMR that you have quoted was FOAK with a cost of 2.5 BGBP	Oscar Mignone	<p><b>AGhori: Mr. Mignone</b> - I'm using 300MW size of SMR. Most SMRs that I'm familiar with are in this range with some having the ability to increase in size to 400MW, ie., Rolls Royce SMR and Westinghouse reactors.</p>
29. NOAK benefits are supposed to be reached with 100 units..... Quite a large factory!	fabienne PEHUET LUCET	<p><b>[Jan Keppler]</b> absolutely, it requires a big market, too, even if NOAK (or break-even) can be reached a bit earlier than 100 units, says 20 or 30.</p>
30. Please write me to kalev.kallemets@fermi.ee. We at Fermi are clearly considering having industrial investors later in the SMR development phase.	Kalev Kallemets	<p><b>PMurphy:</b> Will be happy to do so! We've met already. <a href="mailto:meic.pmjmurphy@gmail.com">meic.pmjmurphy@gmail.com</a>. And congratulations on recent investment by Last Energy.</p> <p><b>AGhori: Mr. Kallemets</b> – I did send you an email. My email address is <a href="mailto:amjad@agiasadvisory.com">amjad@agiasadvisory.com</a>.</p>

31. standardisation: how realistic is this with more than 100 vendors	Biplab Rakshi	<b>[Answered during the session]</b> It is not ... we need to narrow it down
32. There are still different opinions for the nuclear as the clean energy standpoint. How do you estimate the impact from such taxonomoy discussion?	Keiko Chitose	<b>[Answered during the session]</b> Need to get that fixed quickly. Hugely important
33. For Dr. Keppler: Why did the Tech Experts Group for Euro Commission attempt to EXCLUDE nuclear from the "Green Deal" (on the "do no harm" criteria). It looked to outsiders -- and those in Eastern Europe -- like the Germans and Belgians were manipulating the process to feed their internal anti-nuclear agendas, Non?	Andrew Paterson	<b>[Jan Keppler]</b> The inclusion of nuclear in the EU Green Deal has its importance as a political signal. Political decision-making processes are what they are. The actual impact on the financing of new nuclear projects however will be limited.
34. The first of a kind (FOAK) challenge has potential to turn into n'th of a kind (NOAK) advantage when SMR's turn into a commodity. Could there be an inter-generational support scheme to shift part of the initial risks of FOAK towards future benefiterers of NOAK?	Görkem Güngör	<p><b>[Jan Keppler]</b> The timeframes are very long and the numbers very big. Otherwise private investors would take the risk, as they usually do. Your question is getting back to the role of governments and their commitment to</p> <p><b><u>AGhori: Mr. Güngör</u></b> – This is an excellent framework to consider. I've always felt that once a FOAK technology is proven with the assistance from Government sources, it clearly makes sense to require that NOAK projects are less dependent on the same degree of support. As we've discussed, the trick will be to get NOAK technologies as "Bankable" as possible with sufficient EOH (Equivalent Operating Hours) which could then induce debt providers to take construction risk assuming the nuclear risks remain with the parties that are most suited to absorb them. Trust that answers your question.</p> <p><b><u>PMurphy:</u></b> This underscores the importance of government support. Only governments can take this long (and societal view). Only governments can value and capture some of the intangibles like energy security, energy diversity, etc.</p>