

## **Future Thinking S2 E1: Putting the seafarer first in alternative fuel ship design**

00:00:06.948 --> 00:00:14.248

<v SPEAKER\_2>Hello and welcome to Future Thinking, an Alongside mini-series from NorthStandard, one of the world's leading marine insurers.

00:00:14.848 --> 00:00:22.748

<v SPEAKER\_2>I'm Helen Barden, and in this mini-series, we will, with the help of my guests, be navigating our way through the topic of maritime decarbonisation.

00:00:24.828 --> 00:00:31.488

<v SPEAKER\_2>For episode one, I'm joined by James Forsdyke, Managing Director of the Lloyds Register Maritime Decarbonisation Hub.

00:00:31.908 --> 00:00:33.368

<v SPEAKER\_2>James, welcome to the show.

00:00:33.568 --> 00:00:34.128

<v SPEAKER\_1>Hi, Helen.

00:00:34.128 --> 00:00:35.088

<v SPEAKER\_1>Thanks so much for having me.

00:00:35.508 --> 00:00:47.908

<v SPEAKER\_2>Perhaps we can start, James, by you giving a little bit of your background and your role at the hub and perhaps also explaining the reason why the maritime decarbonisation hub was set up in the first place.

00:00:48.148 --> 00:00:48.908

<v SPEAKER\_1>Sure, thanks.

00:00:48.928 --> 00:00:51.788

<v SPEAKER\_1>So I'll probably start with how we set up the hub.

00:00:52.608 --> 00:00:58.608

<v SPEAKER\_1>So the hub was set up in 2020 with a philanthropic grant from the Lloyds Register Foundation.

00:00:59.728 --> 00:01:05.788

<v SPEAKER\_1>We exist to run programmes of work to support maritime transition to future fuels.

00:01:06.648 --> 00:01:09.608

<v SPEAKER\_1>And we do that across three verticals.

00:01:09.628 --> 00:01:18.348

<v SPEAKER\_1>So we primarily focus on programmes of work that advance our understanding of hazards, risk and safety as it pertains to new fuels.

00:01:18.508 --> 00:01:20.108

<v SPEAKER\_1>That's one programme of work that we do.

00:01:20.648 --> 00:01:43.308

<v SPEAKER\_1>We have a First Movers programme, which is a team that puts together coalitions of industry partners to enable First Movers, whether they're green corridor projects or other projects with government partners or industry partners, to try to remove barriers that are preventing people from starting or from trying to take action against on climate.

00:01:43.608 --> 00:01:44.768

<v SPEAKER\_1>So we have a First Movers team.

00:01:44.788 --> 00:01:50.828

<v SPEAKER\_1>And then the third team is a stakeholder and insights management team.

00:01:50.848 --> 00:02:07.968

<v SPEAKER\_1>So that's the team that makes sure that the things that we come up with, the things that we produce are available to the industry because we believe that we want our programs to create evidence led research that enables the industry to make decisions from transparent access to evidence based insights.

00:02:08.568 --> 00:02:11.928

<v SPEAKER\_1>So that's why we were set up and broadly how we're structured.

00:02:12.068 --> 00:02:20.988

<v SPEAKER\_1>Me personally, I've been first with the Lloyds Register group for the last 18 years or so and recently moved into this direct position at the hub.

00:02:21.788 --> 00:02:29.908

<v SPEAKER\_1>I should say that as of now, all the employees who work in the hub are actually Lloyds Register group employees who have been seconded into the hub.

00:02:30.068 --> 00:02:38.188

<v SPEAKER\_1>So we have a connection with the group, but we are fully independent and accountable to our funders through independent governance.

00:02:38.848 --> 00:02:56.808

<v SPEAKER\_1>But yeah, back to me, I'm a naval architect originally, working with the Lloyds Register group for a long time all over the world, doing lots of different things as a surveyor, building ships in China, repairing them in the Middle East, through to client relationship roles, operational management roles, a whole bunch of things.

00:02:56.828 --> 00:02:58.168

<v SPEAKER\_2>Thanks, James.

00:02:58.228 --> 00:03:02.168

<v SPEAKER\_2>And it's really interesting, I guess, the areas that you're focusing on.

00:03:02.228 --> 00:03:10.148

<v SPEAKER\_2>And I just wonder with the revision last year to the International Maritime Organization's greenhouse gas strategy.

00:03:10.528 --> 00:03:17.168

<v SPEAKER\_2>So now we're kind of working globally towards a net zero target in 2050.

00:03:17.508 --> 00:03:27.248

<v SPEAKER\_2>And we've got these quite challenging indicative checkpoints for 2030 to reduce greenhouse gas emissions by at least 20%, striving for 30%.

00:03:27.268 --> 00:03:34.028

<v SPEAKER\_2>And then for 2040, reduce greenhouse gas emissions by 70%, striving for 80%.

00:03:34.328 --> 00:03:42.888

<v SPEAKER\_2>And I just wonder whether that revision to the greenhouse gas strategy last year has changed the focus or priorities in any way?

00:03:43.188 --> 00:03:58.908

<v SPEAKER\_1>Well, actually, for us, it didn't, because our objectives and the outcomes that we wanted to align our programmes of work to were already more Paris-aligned than the original IMO greenhouse gas strategy.

00:03:59.608 --> 00:04:07.228

<v SPEAKER\_1>So we felt with the first greenhouse gas strategy, that there was already quite a big gap to what it is that we wanted to in the programmes that we were running.

00:04:07.808 --> 00:04:18.148

<v SPEAKER\_1>So I would say that the second one that was updated, or the updated one rather, that actually brought the regulatory frameworks more in line with our own goals within the hub.

00:04:18.588 --> 00:04:26.308

<v SPEAKER\_1>So it didn't change what we were focusing on or how we were setting objectives for what it was that we wanted to achieve with our programmes.

00:04:26.328 --> 00:04:29.708

<v SPEAKER\_1>How we prioritised which programmes we would undertake.

00:04:30.348 --> 00:04:51.248

<v SPEAKER\_1>But what it did do rather helpfully was that it provided our industry partners with whom we collaborate, it provided them a little bit more of regulatory clarity around why they should be donating their expertise to our programmes and why they should be investing their efforts in advancing the programmes that we were putting together.

00:04:51.268 --> 00:04:53.168

<v SPEAKER\_1>So in that sense, it was quite helpful, actually.

00:04:53.368 --> 00:04:59.048

<v SPEAKER\_1>It normalised where our goals were with what the industry was willing to contribute to our work.

00:04:59.528 --> 00:05:08.068

<v SPEAKER\_2>That's great, because I suppose the work that you're doing is very much reliant as well on getting the right engagement and getting the right partners to work with you.

00:05:08.808 --> 00:05:30.748

<v SPEAKER\_2>You were talking about the different kind of focus areas, and with risk and safety being one of the core themes that you have for the hubs work, I just wonder whether you think that risk and safety are going to be sufficiently addressed by the time these future fuels, such as ammonia, are more widely adopted within the industry.

00:05:30.768 --> 00:05:36.528

<v SPEAKER\_1>That's such a good question, because that is something that we think about at the hub all the time.

00:05:37.408 --> 00:05:49.908

<v SPEAKER\_1>And I think it's so it's very natural that we within our industry, we think about these new effectively these new chemicals that will be deployed within our industry as fuels moving forward.

00:05:50.088 --> 00:05:59.388

<v SPEAKER\_1>And we immediately envisage what the risks will be, what the new elements within their handling will contribute to the difficulty of their safe handling.

00:05:59.808 --> 00:06:02.548

<v SPEAKER\_1>But then we'll think about that situation as engineers.

00:06:02.988 --> 00:06:10.328

<v SPEAKER\_1>And I'm conscious of the fact that I'm probably generalizing, Elizabeth, with what it is that I'm saying now that there are there are safety professionals within the industry.

00:06:10.768 --> 00:06:20.028

<v SPEAKER\_1>Certainly within the programs of work that we run that have really mature safety cultures and safety expertise, who might feel like what I'm saying here is a bit of a simplification.

00:06:20.468 --> 00:06:42.028

<v SPEAKER\_1>But if I try to be representative of an industry culture at large, what I think we're seeing is that we are we are cognizant of the risks and we are undertaking programs of research and analysis to identify hazards and to, as systems thinkers, address those hazards as far as practical.

00:06:42.508 --> 00:06:52.248

<v SPEAKER\_1>And then when faced with what is potentially a residual hazard or risk gap, our minds go to, well, we'll train the user.

00:06:52.388 --> 00:07:03.188

<v SPEAKER\_1>We'll train the seafarer that there will be a skills gap that we need to close and that last mile of safety will be achieved through training the seafarer.

00:07:04.108 --> 00:07:05.528

<v SPEAKER\_1>Or even shore-based staff as well.

00:07:05.548 --> 00:07:08.988

<v SPEAKER\_1>It's not exclusively sea-based staff.

00:07:09.788 --> 00:07:19.328

<v SPEAKER\_1>But in that same breath, we will all say as the industry, quite rightly, that we want to put the safety of our people first and that we're very conscious of the safety of our people.

00:07:19.348 --> 00:07:41.688

<v SPEAKER\_1>And when we think about in the Hub what that actually means, we find ourselves really thinking about what we can do to minimise the burden of safe behaviours on the people, to minimise this reliance on asking people to be that last mile of safety and to upskill themselves.

00:07:41.728 --> 00:07:53.068

<v SPEAKER\_1>And that thought process is having a very profound impact on our programmes of research because it's actually broadly atypical to what we see in our industry.

00:07:53.808 --> 00:07:56.968

<v SPEAKER\_1>We see ourselves, as I was saying before, we see ourselves as system thinkers.

00:07:56.988 --> 00:08:01.448

<v SPEAKER\_1>We'll design a system and then we'll work out how the operator will use the system.

00:08:01.788 --> 00:08:37.488

<v SPEAKER\_1>When actually maybe what we should be doing is thinking about these new fuel systems, whether they're bunkering, whether they're fuel handling, whether they're engine management, whatever it is that they may be, we should be thinking of them more and more like human system interfaces and think about what are the standards that we should put in place for making sure that these interfaces address risk and hazard as far as possible and are standardized as far as appropriate so that the global workforce that uses them never actually encounter these risks in the first place.

00:08:38.488 --> 00:09:02.728

<v SPEAKER\_1>I mean, I hope an interesting anecdote or parallel that we've been increasingly using to try to demonstrate this idea with our partners is to try to compare, for example, what it would be if we were an aircraft designer designing a cockpit in a new airplane versus a shipyard designer per se designing an ammonia bunkering station.

00:09:03.268 --> 00:09:18.868

<v SPEAKER\_1>So you could choose to think of both of those scenarios as designing a human system interface that has with it inherent risk, that comes with it the need to manage a process that could have catastrophic outcomes.

00:09:19.528 --> 00:09:42.388

<v SPEAKER\_1>Now, if you're designing that cockpit, your centricity and your design thinking and your design philosophy is human pilot ergonomics interaction with that cockpit, standardisation as far as possible, so that a certified pilot can just lift in and out, no handover, no need to read a manual, they're certified, they know what they're doing, and they just sit in the cockpit and they know what they're doing.

00:09:43.288 --> 00:10:11.648

<v SPEAKER\_1>And then if you've built ships in maritime, if you've lived in that ship design, ship building, certification life, you know that that deck officer going on to a ship that is ammonia-fuelled, what they're first going to have to do is pick up a big manual, they're going to have to talk to the outgoing deck officers, they're going to have to do a bit of handover, they're going to have to understand the particularities of that ship, what the emergency response procedures are, what the firefighting procedures are, et cetera, et cetera, et cetera.

00:10:12.008 --> 00:10:22.868

<v SPEAKER\_1>And we just sort of find ourselves wondering, well, what would putting the human first really actually mean if we leant into human centricity in safe practices in the adoption of fuels?

00:10:23.988 --> 00:10:42.528

<v SPEAKER\_1>Could it mean regulating for a certain minimum standard of human system interface for the ammonia bunkering stations of the future or the engine handling systems of the future so that we really are removing the burden of addressing a skills gap with the user?

00:10:43.228 --> 00:10:57.908

<v SPEAKER\_1>In our programmes of work, we're starting to talk more and more about human safety and less and less about simply risk and safety, because risk and safety would imply that we're just thinking about system led risk, and we're investing in human factors disciplines.

00:10:57.928 --> 00:11:06.708

<v SPEAKER\_1>We're trying to bring that further and further into the fore to say what does that human centricity actually mean to make sure this transition to new fuels is as safe as possible.

00:11:07.148 --> 00:11:22.508

<v SPEAKER\_2>Yeah, I mean, I think that's an extremely important point because we hear a lot about already the kind of tech fatigue and that side of things when it comes to what seafarers are already having to deal with.

00:11:23.048 --> 00:11:30.648

<v SPEAKER\_2>And obviously this energy transition is only going to bring a huge amount more for them to learn and to get to grips with.

00:11:31.108 --> 00:11:40.128

<v SPEAKER\_2>And whilst the kind of digitalisation of the industry, we see it in many ways as being a positive thing.

00:11:40.908 --> 00:11:46.548

<v SPEAKER\_2>All of that, I think, like you say, needs to happen with the seafarer in mind.

00:11:46.728 --> 00:12:04.268

<v SPEAKER\_2>And I suppose leading on from that, do you think that while a lot is obviously said about how important seafarers are to this energy transition, do you think there is the true focus and the kind of true importance being given to that side of things?

00:12:06.728 --> 00:12:12.968

<v SPEAKER\_1>First of all, I think that there is a huge amount of authenticity when the industry talks about valuing seafarers.

00:12:12.988 --> 00:12:20.348

<v SPEAKER\_1>So I don't at all mean to say that subconsciously we don't actually care about seafarers.

00:12:20.368 --> 00:12:21.408

<v SPEAKER\_1>I don't believe that at all.

00:12:21.448 --> 00:12:24.208

<v SPEAKER\_1>So much of the industry comes from a seafaring background.

00:12:25.268 --> 00:12:31.168

<v SPEAKER\_1>So for me, it's not a question of whether we really mean that we want to put the seafarer at the heart.

00:12:31.188 --> 00:12:40.148

<v SPEAKER\_1>I think there's a genuine, very authentic desire to do that because so many of us feel like we can touch that experience with our memories.

00:12:40.168 --> 00:12:46.408

<v SPEAKER\_1>We know what it is and we know that the risk and the essential role that seafarers play and other maritime workers.

00:12:47.928 --> 00:12:54.208

<v SPEAKER\_1>So rather it's a question for me of broadening horizons, looking across industries to see what is the better way of doing it.

00:12:54.828 --> 00:13:04.088

<v SPEAKER\_1>So our focus is to say, look, of course, we all want to put the seafarers first, but in order to really do that, what can we learn from other industries?

00:13:04.488 --> 00:13:14.028

<v SPEAKER\_1>What can we learn from other safety practices that we have not historically applied in maritime in order to achieve that new level of safety?

00:13:14.768 --> 00:13:22.128

<v SPEAKER\_2>And I suppose it's not going to be a short job to get to that point either, because we don't have that history.

00:13:22.148 --> 00:13:26.948

<v SPEAKER\_2>And like you say, it's different in the airline industry.

00:13:27.768 --> 00:13:37.448

<v SPEAKER\_1>Well, if I can, I mean, I build on that, because the people that I've been talking to, one of the, and I'm sure your listeners here might well be thinking the same.

00:13:37.908 --> 00:13:48.988

<v SPEAKER\_1>The first thing that people respond when thinking about the idea is they say, well, you know, keep in mind that in aviation, you've only really got two major manufacturers of aircraft.

00:13:49.008 --> 00:13:55.148

<v SPEAKER\_1>So their ability to standardise is far easier than in maritime.

00:13:55.748 --> 00:14:08.928

<v SPEAKER\_1>And then the second point is that the nature and the behaviour and the interaction of the aviation regulator with the aviation OEMs is very, very different from the way in which the IMO interacts with the OEM base.

00:14:08.948 --> 00:14:12.088

<v SPEAKER\_1>And both of those are very valid points.

00:14:12.108 --> 00:14:20.428

<v SPEAKER\_1>So it's not really a question of saying aviation got it right, we got it wrong, so we're going to just copy and become aviation.

00:14:20.448 --> 00:14:22.948

<v SPEAKER\_1>That's not really what we're advocating for.

00:14:23.288 --> 00:14:29.408

<v SPEAKER\_1>It's rather what are the parcels of best practice that we can import into our industry?

00:14:30.488 --> 00:14:58.268

<v SPEAKER\_1>And I think, you know, if I continue working on that scenario of that ammonia-fuelled ship with an ammonia bunkering station, you know, if we were to think about maybe through the vehicle of Solas or others legislating for a minimum standard of human system interface, we have a window to do that today because the number of ships that are on order in the shipyard for which the designs are being developed can kind of count them on my hand.

00:14:58.588 --> 00:15:11.048

<v SPEAKER\_1>So there's a window of time right now to put in place standards that don't prejudice a disparate or let's say a very dynamic and broad industry.

00:15:11.068 --> 00:15:18.068

<v SPEAKER\_1>It doesn't prejudice them from succeeding because you're over mandating what ships look and feel like.

00:15:18.628 --> 00:15:20.848

<v SPEAKER\_1>We will take away innovation in the industry.

00:15:20.868 --> 00:15:26.068

<v SPEAKER\_1>It will not work well in our model of where our ships come from.

00:15:26.308 --> 00:15:36.228

<v SPEAKER\_1>So it's not what we're advocating for, but it's to just think about where are the areas where we could do it, where they're going to address critical hazards in a way that probably make us better off.

00:15:36.948 --> 00:15:54.248

<v SPEAKER\_2>And if we've got, like you say, this kind of window of opportunity now, which stakeholders in the industry do you think could usefully get engaged on this topic now, perhaps that aren't necessarily already or just dipping their toes in the water?

00:15:54.268 --> 00:16:00.288

<v SPEAKER\_2>Who do you think you need to or the industry needs in terms of a collaboration to get to that point?

00:16:00.368 --> 00:16:08.068

<v SPEAKER\_1>Well, it's going to have to be a meeting of minds of regulators, major OEMs and major ship designers.

00:16:08.148 --> 00:16:10.908

<v SPEAKER\_1>So ship designers, shipbuilders are also OEMs.

00:16:10.928 --> 00:16:16.668

<v SPEAKER\_1>I'm talking second and third order OEMs who support shipyards within their supply chain.

00:16:17.788 --> 00:16:31.868

<v SPEAKER\_1>But it has to be that trifecta of people coming together because it shouldn't just be legislation coming down on the industry with a big stick, but nor should we hope that it will purely be the industry saying, come on, guys, this is the flag to follow.

00:16:31.888 --> 00:16:33.068

<v SPEAKER\_1>Let's just go and do this now.

00:16:33.088 --> 00:16:34.548

<v SPEAKER\_1>It has to be a meeting of minds.

00:16:34.868 --> 00:16:47.908

<v SPEAKER\_1>And when we look at how things like the IMO working group on human factors and watchkeeping is developing, there are nice platforms to interact with through certain very active member states.

00:16:47.928 --> 00:17:01.888

<v SPEAKER\_1>So people like the Singapore MPA, for example, and others, you could quite easily put together a core coalition of people that could start putting some great ideas forward to start making policy proposals to the IMO in the short term.

00:17:01.928 --> 00:17:04.008

<v SPEAKER\_1>And in fact, we're already doing that.

00:17:04.708 --> 00:17:11.408

<v SPEAKER\_1>I'm sat here in Singapore, so the Hub is a global organisation, but I'm based here in Singapore.

00:17:11.428 --> 00:17:14.208

<v SPEAKER\_1>And we talked to the MPA about this idea quite actively at the moment.

00:17:14.788 --> 00:17:16.928

<v SPEAKER\_2>I think it's not just on this point.

00:17:16.948 --> 00:17:32.288

<v SPEAKER\_2>I think in terms of collaboration between industry and policy makers in the energy transition as a whole, that's the story that we keep hearing this need for joined up thinking between industry and those making the regulations.

00:17:32.308 --> 00:17:35.308

<v SPEAKER\_2>So thanks very much, James, for your insight today.

00:17:35.588 --> 00:17:39.328

<v SPEAKER\_2>It's been really interesting talking to you, and I'm really glad you could join us.

00:17:40.868 --> 00:17:41.688  
<v SPEAKER\_2>That's it for now.

00:17:41.728 --> 00:17:51.888  
<v SPEAKER\_2>Do check out the other episodes in the series where we examine the challenges and opportunities for shipping in the energy transition as well as looking at sustainability through a wider lens.

00:17:52.568 --> 00:17:56.528  
<v SPEAKER\_2>In the next episode, I'll be talking to Steena Tiger-Ivo from BIMCO.

00:17:57.188 --> 00:18:03.688  
<v SPEAKER\_2>You'll find the Alongside podcast and this mini-series on the NorthStandard website at [northstandard.com](http://northstandard.com).

00:18:04.188 --> 00:18:08.808  
<v SPEAKER\_2>And wherever you get your podcasts, you can also click follow to ensure you don't miss an episode.

00:18:09.468 --> 00:18:12.328  
<v SPEAKER\_2>So from me, Helen Barden, thanks for listening and bye for now.