

DEBATE

Fareed Yasseen, Ambassador of Iraq to the United States

Reforestation is one of the best mitigation measures we have. Are you considering that? Could you tell us something about what you are doing in that regard? Then the other thing is the sea is a good source of food. What are you doing sea-wise in order to look at food production? Thank you.

Mariam Al Mheiri, Minister of Climate Change and Environment, United Arab Emirates

First of all, forests do not really exist in the UAE, apart from date palms. When we look at date palms one of the issues that we are facing here in the UAE is that a lot of the date palms use a lot of water, so what is being done now is the date palm farms are being looked at through a very different lens to find out what kind of seeds we actually need to be looking at. We are looking at things like genomic analysis of different seeds, as well as how to encourage farmers to look at other crops that they should be focusing on that are less thirsty. We have actually got two types of foods that we are growing enough to fulfill demand in the UAE, namely dates and cucumbers. With dates, we are producing more than 200% of our needs.

The growing of dates is going to change in terms of how it is done. There are going to be laws and regulations coming because it is a very thirsty way of growing. This is probably going to happen in the next few months, and it will aim at making them more efficient. There is also a cultural connection to it. A lot of the farmers grow date palm trees not for commercial use. It is kind of a recreational area. It will always be an important crop that we will grow, but we need to make huge changes in what kind of seeds we will use and how to ensure that we do not produce so much waste. There is a lot of food loss and food waste happening, so the efficiencies will need to be looked at here.

On the aquacultural side or the fish side, we are also people who love fish. I think our fish consumption is more double the global average. I think about 85% of the fish we eat is imported. On the fisheries side, the new Ministry that I have come into does all the regulations on fishing, but what we are trying to do now is look at how aquaculture can contribute more to what we are doing. Some of the initiatives we have taken is that the government has invested in a hatchery, and this will be in operation by the end of the year. This hatchery will supply fingerlings for the aquacultural sector, so looking at local species and also species such as salmon. There is already a fish farm actually growing salmon here in the UAE. Sea bass and sea bream are also on the top, and then come some of the local species.

Aquaculture will therefore be something that you will see pick up now as well. Why is it picking up? Because of technology, because of the RAS systems that have now been developed that

can actually be used inland as well, because we actually do not have seas with depth, so sea cage farming is a little bit more difficult for us.

Marc-Antoine Eyl-Mazzega, Director of Ifri's Center for Energy & Climate

Thank you so much. That was a fascinating presentation and I cannot but suggest for you to visit the OECD in Paris, which has an excellent team working on fisheries and especially aquaculture, and that has been monitoring the policies in aquaculture of its 77 member countries and partner countries, so I am sure there is a lot to discuss there. I would be interested to know this: the UAE is one of the very progressive in the world and you are developing nuclear power as we speak here, and there are a couple of reactors that are going to be commissioned soon, and one is already in operation. This gives you obviously a lot of electricity at some point and so the question is: what are you going to do with all that electricity? You might do hydrogen, but you might also increase the desalination of water in the country. What are the plans in this respect, because it is very electricity-intensive?

My second question relates to the international dimension of the sustainable agricultural hub that you aim to develop here. Israel is obviously a leader here and we have heard and discussed extensively today the Abraham agreement. To what extent is there a strategic partnership in the making with Israel in this? Thank you so much.

Mariam Al Mheiri

Thank you, Marc-Antoine. On the water side, or let us say the desalination side, we have seen huge steps in the UAE to try to make the whole desalination procedure more sustainable and to try to decouple desalination from power generation, so reverse osmosis is now really picking up. Moving forward, all new desalination plants will be using the RO systems, always keeping sustainability at the heart of things. At the end of the day, we are a water-scarce country, so we will be using the desalination process, but as the UAE commences and takes the responsibility of being responsible global citizens, we need to ensure that, whatever we take forward when it comes to producing energy and when it comes to desalination, we are using the right technology to reduce our carbon footprint.

If you have noticed, we have a special envoy for climate change. We have a Ministry for Climate Change. Climate change is really at the top of the agenda for us, and this cascades down to all the stakeholders, to ensure that they are aligned with what we are doing. As we near COP26 there was a gentleman who said, "There is a lot of talk, but how can you make sure that you have the buy-in, how can you make sure that the cost does not go up so high that you actually cannot afford it anymore"? What is really important in my point of view is having those stakeholder engagements.

Because we will be participating in COP26, we have done something called the accelerator program, where we have brought in all the stakeholders from across the country to ensure that everyone is aligned, everyone understands what we need to do, and it is really important to find a balance. We cannot go completely in one direction. It becomes way too expensive, especially when consumers actually understand what costs implications this puts on them. It is about understanding what it means, because doing this transition would be amazing if we could all reach the targets, but we know that the targets are difficult. However, let us say if we

are able to reach some sort of percentage, all of us together, at least it is better than nothing. We are going towards that bright target, and so for us in the UAE the leadership is very keen on making sure that whatever we do we need to think of the economic growth but we also need to ensure that whatever we do we use technology that is sustainable and that has the smallest carbon footprint possible. There is therefore a lot of work being done on technology and innovation when it comes to desalination, for example.

When it comes to Food Tech Valley and Israel, I actually was there a few months ago with a delegation. I have been visiting a lot of countries to try and bring them onboard to Food Tech Valley, and of course Israel being one of the countries with excellent technologies and innovations when it comes to water, how you can grow things with very little water, for me it was my prime country to go to as soon as the Abraham Accords were signed. I thought, "Yes, I can go to Israel now and see what they have", because they have the environment that we have here and they are far from where we are in growing foods in a desert climate. I received over 50 groups of companies from Israel in the past five or six months, and I would say about 80% of them have shown a lot of interest to come and join us in Food Tech Valley.

At the moment, we are going through the master plan and they are very much involved in the workshops that we have. We are looking at things like cellular agriculture – it makes sense for us – growing food in a bioreactor. We want to bring those innovations here because you see the projections of this many billions of people and we need to feed them, that there will be a food gap, and with all the waste we are producing, what innovations can we do to reduce that. Partnerships with so many countries are essential for Food Tech Valley and Israel is definitely in.

Participant

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Mariam Al Mheiri

Thank you. That is a very good question. I actually just opened the Desert Life Sciences Center just a week ago and this is all about genome sequencing of seeds. I was telling people it is fascinating when you actually see and understand the traits of certain seeds to be able to say, "This makes sense to grow in harsh climates like the UAE". This desert science lab has been set up with BGI, which used to be the Beijing Genomics Institute, and this partnership was made because we really wanted to further study crops that can grow in our environment and also understand what crops would be good to grow in closed environments, because it is clearly a different environment.

Having people understand how important GMOs are as a subject is essential because people go with the flow. They think, "Everyone is saying that is not good, so I will say it is not good". It is the same as when you say "organic". Organic and sustainable are also two different things. When something is organic then you know that probably this plant has had a lot more water than another plant or it has had a lot more space, and so education is really important here. For us here in the UAE, we grew up knowing that we bring food from outside, so we have food that are GMOs and we have food that are non-GMOs. Things need to be clearly labeled, so



we do not say we do not want or we do want. We leave it up to the UAE population to choose what they would like.

However, it is also important to educate because, moving forward, there are many situations where it is not possible otherwise. What we are doing in pushing the climate now towards much hotter temperatures is making it even harder to grow certain crops. Things are happening on that front, so how can you make sure you are able to feed the people? You have to always have these kinds of healthy discussions, and I had one of these at New York University. We grouped students and their personal preference did not matter. We said, “This one group is pro-GMO and this other group is against GMOs. You do your research and try to argue with each other”. It got them just to research and educate themselves and then they had to take that position among them. This sparked a really good discussion between the youth to understand the pros and cons. I think it is always important to look at this subject carefully and understand how important it is and how it actually could solve many things if used correctly.

I think the youth are really important when it comes to food systems and agriculture. We know that farmers are on the older side in terms of age and we know that the youth are not interested. It is actually something that is a joke in our culture to say, “Why do you not want to study? Do you want to become a farmer”? What I have done is renaming it. I call them agritechnologists. I tell the youth when I speak to them, “I am not looking for a farmer. I am looking for someone who likes technology and loves food”. They say, “That would be amazing”. And I say, “Yes, an agritechnologist”. I think it is time to spin in a new name and work on the education part at school. I even put together a children’s book for young children to understand what CEAs are, what hydroponics means and so forth to help them to understand that is now the new way and actually farms can be in the middle of the city. Having more women get involved in farming is amazing because women actually are the ones whom I feel are very much about food systems at home, and when they are taking this to the next level – and the kids get so excited about it, too – it is all interlinked together. Thank you for that important question.

Arnaud Breuillac, Senior Advisor to the Chairman & Chief Executive Officer of TotalEnergies

Thank you very much, Your Excellency, for this insightful speech and the very instructive Q&A. I like the new name of agritechnologist.