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Vienna Sustainable Food Packaging Confex (VSFP) Wrap up

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www.worldpackaging.org

UNIDO Sustainable Food Packaging Confex shines bright

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I was honoured to have been invited as Vice President Sustainability & Save Food for the World Packaging Organisation (WPO) to join over 100 participants from 40 United Nations Member States for the inaugural Vienna Sustainable Food Packaging Confex (VSFP).

The inaugural Vienna Sustainable Food Packaging Confex (VSFP) was held in Austria and was an incredibly hectic and learning-intensive week of conferences, site visits and networking opportunities.

Coordinated by the United Nations Industrial Development Organization (UNIDO), the World Packaging Organisation (WPO), the International Atomic Energy Agency (IAEA), FH Campus Wien and Packforce Austria, the inaugural Vienna Sustainable Food Packaging Confex (VSFP) was developed using the traditional structure of merging a tradeshow with a conference, to ensure two-way learning amongst the attendees and participants. UNIDO believes that facilitating a face-to-face ConFex allows for knowledge sharing through content, community and connections.

I went into the week not really knowing what to expect and I walked away with some key learnings, standout moments and personal highlights that I wanted to share.



DAY ONE: Waste 2 Energy & Atomic Energy

The first day of the VSFP saw the delegation visit the International Atomic Energy Agency (IAEA) in Seibersdorf and the famous Austrian Waste to Energy Plant Wien Energy in Spittelau.

I have to admit that I was buzzing on the bus as I had never been to a Waste to Energy plant, and I was intrigued about why packaging people would be visiting an agency for Atomic Energy. I was not disappointed in either site visit and, I highly encourage everyone to visit both sites if you are ever in Austria.

International Atomic Energy Agency (IAEA): Atoms for Peace



<https://www.iaea.org>

I have a confession. I had never heard of the International Atomic Energy Agency (IAEA) until the site visit, and I was surprised that the majority of WPO Members were also unfamiliar how the agency supports IAEA Member States to conduct food packaging testing and assesses regulatory compliance, safeguard public health and enhance food trade. This lack of knowledge made us all engaged and in awe of not only what we learnt, but what we saw in terms of testing and laboratory equipment.



During the site visit we learnt that the IAEA is the world's centre for cooperation in the nuclear field and seeks to promote the safe, secure and peaceful use of nuclear technologies. The IAEA provides a safe use of nuclear atoms and are called the 'Atoms of peace Agency'. They are the watchdog of the United Nations.



The VSFP participants had the opportunity to hear from Christina Vlachou, Laboratory Head, Food Safety & Control Laboratory, at the Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture, and really understand more about IAEA and some of the amazing work they are undertaking all over the world. The Food Safety and Control Laboratory (FSCL) is located at the FAO/IAEA Agriculture and Biotechnology Laboratories, Seibersdorf.

The Joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture advances and supports the safe and appropriate use of nuclear and related technologies in food and agriculture to increase global food security and sustainable agricultural development worldwide. Nuclear science offers innovative tools to grow stronger, healthier, safer crops and to protect food sources to sustain our lives.



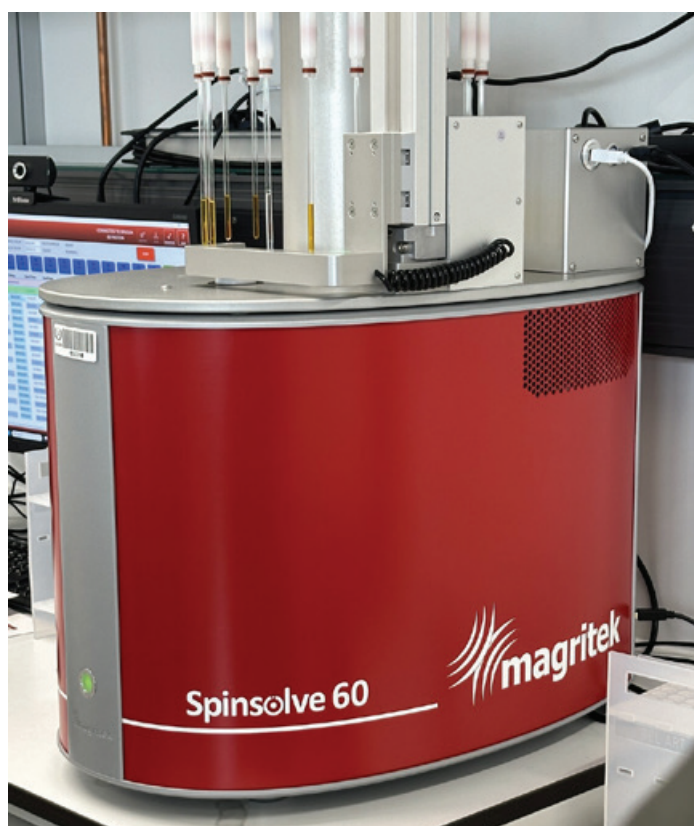
▲ IAEA site visit

The laboratory assists Member States to improve laboratory and regulatory practices and methodologies in the areas of food traceability and authenticity, food safety and food quality to safeguard the health of consumers, help to facilitate international trade and enhance food security.

DAY ONE: Waste 2 Energy & Atomic Energy

The Research & Development focuses on Food Safety, Food Authenticity and Food Origin and helps empower the IAEA Member States to undertake their own research and testing.

Christina also discussed safety challenges in food packaging including food contact materials, organic migrants, additives, printing inks, adhesives, metal nanoparticles, microplastics and new challenges for recycled content and active & intelligent packaging and how IAEA Member State Laboratories can assist with Nuclear, Isotopic and complementary techniques to overcome analytical challenges.



When looking at regulated and emerging hazards IAEA Member States must look at Targeted Testing for known hazards i.e.: intentionally added substances and then non-targeted testing for unknown and emerging hazards.

The testing and laboratory work looks at everything from microplastics in food, chemical contaminants and residues in food, studies using ion mobility spectrometry methods for PFA's, chemical migration from food contact materials and the ability through Isotopic fingerprinting of food to trace food products from provenance through the manufacturing cycle. This is a unique scientific methodology that can be used for food fraud, traceability of food, provenance and food safety.

Some fascinating examples that were showcased during the tour of the laboratories included authenticating the ingredients of Manuka Honey, differentiating between Arabica and Robusta coffee beans, determining the origin of Spices and even looking at the cadmium levels from porcelain jars for yoghurt.

This type of testing is important for premium products that are exclusive to a specific country or region in the world that may be targeted by counterfeiters and food fraud.

Another fascinating area that certainly got the attention of many of the WPO Members in the room was IAEA's research on insects like mosquitoes and the application to sterilise Tse Tse flies and mosquitoes. The research looks at mosquito borne illnesses such as dengue fever, Malaria and Zika Virus. IAEA are also looking at fruit flies in Africa.



<https://www.iaea.org/newscenter/multimedia/videos/nuclear-technique-helps-fight-mosquito-borne-illnesses>



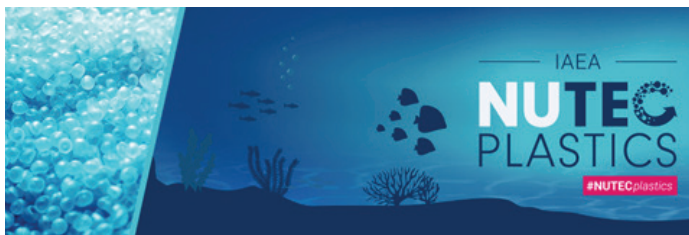
<https://www.iaea.org/newscenter/news/sterile-insect-technique-used-to-suppress-mosquito-disease-vectors-in-florida>

DAY ONE: Waste 2 Energy & Atomic Energy

Radiation Technology to develop biomass materials

The Food Safety and Control Laboratory (FSCL) can also look at regional based projects that harness Radiation Technology in packaging innovations. Radiation Technology can be used from development to preservation of packaging materials such as bio-based, material modification and microbial decontamination or sterilisation. In the space of material modification there is already work being undertaken on solvent-less printing, EB curing, recyclable packaging, energy reduction, thinner films and carbon footprint reduction.

We also learnt that Radiation Technology is already being used within the curing process for packaging materials for heat resistance, shape memory and strengthening the laminates and also in packaging machines for water absorption and heat generation.



IAEA NUTEC Plastics: Controlling Plastics Pollution

Nuclear Technology for controlling Plastics Pollution (NUTEC Plastics) is one of the agency's flagship initiatives that builds on the IAEA's efforts to deal with plastics pollution through recycling, using radiation technology and marine monitoring using isotopic techniques. The project provides science-based evidence to characterise and assess marine microplastics pollution, while demonstrating the use of ionising radiation in plastics recycling, transforming plastics waste into reusable resources.

<https://www.iaea.org/services/key-programmes/nutec-plastics>



Atoms4Food: Growing Food Security

Another IAEA initiative is Atoms4Food which has been developed to assist countries to boost food security and to help them to tackle hunger.

The Atoms4Food initiative seeks to provide countries with ground-breaking country-specific tailored solutions by harnessing the advantages of nuclear techniques, along with other advanced technologies, to enhance agricultural and livestock productivity, improve natural resource management, reduce food loss and waste, ensure food safety, improve nutrition and adapt to the challenges of climate change.



<https://www.iaea.org/services/key-programmes/atoms4food>

After seeing the testing equipment and the laboratories and meeting the passionate team at the joint FAO/IAEA Centre of Nuclear Techniques in Food and Agriculture I am in awe of the potential that this science can bring to reimagining packaging materials, reducing plastics pollution and addressing the challenges globally for food systems transformation.

The science, research and technology is available through the IAEA and many of its Member States across the globe and I recommend that everyone accesses their resources and research from the IAEA website so we can start to see even more transformational change in the years to come.

Fun Fact: During the site visit I googled whether Australia and New Zealand are Member States of the IAEA and both countries are in fact founding members upon its formation in 1957.

<https://www.foreignminister.gov.au/minister/penny-wong/media-release/australia-supporting-iaeas-transformative-work-our-region>



DAY ONE: Waste 2 Energy & Atomic Energy



Spittelau Wien Energie (WtE)

The second site visit of the day was the one I had been waiting for – the Spittelau Wien Energie Waste to Energy plant.

The first thing that you notice as you are nearing the Spittelau Wien Energie plant is its facade.

Spittelau is known as one of the key landmarks of Vienna and is also a work of art created by a very famous artist, Friedensreich Hundertwasser. The plant design is extremely unusual, modern, colourful and has a golden ball on the chimney and a massive artist's hat on the roof top just like Hundertwasser used to wear. The building certainly gets your attention long before you enter the doors of the plant.

As we entered the plant I was intrigued to know more about the processes in the plant as I come from a country that has always shied away from Waste to Energy as a solution. I wanted to better understand what makes Waste to Energy so successful in Austria.



▲ *The Hundertwasser Hat on the rooftop*

The first thing to understand is that the lens on incineration and Waste to Energy is very different in Austria. The government regulations ban dumping of untreated waste, and no residual waste is allowed in landfill. This means that Waste to Energy, or Thermal Waste Treatment plants are seen as critical piece of the waste management puzzle and around 50% of the energy produced in Austria every year comes from waste incineration through biogenic or renewable sources.

According to the staff, Wien Energie - across all of their plants - supplies 2 million people electricity, gas, heating and cooling and 444,000 households every year with district heating.

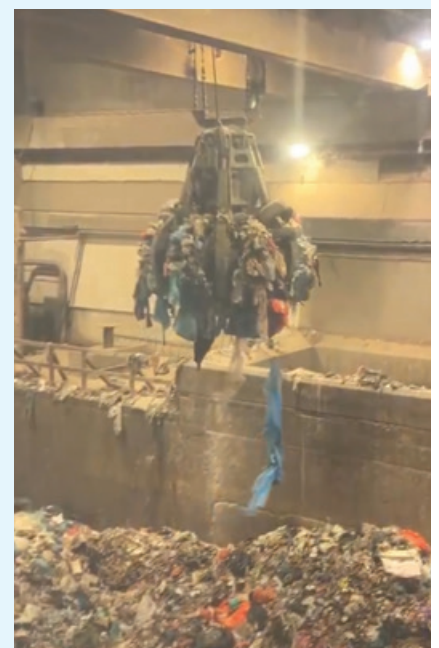
Spittelau accepts approximately 70,000 tonnes of household waste every year to produce green heating and electricity for Vienna. The heating produced at Spittelau alone is enough to heat more than 60,000 households in Vienna every year and over 30,000 households can be supplied with electricity.

The Spittelau plant is 90% below the legal thresholds set for waste incineration plants on a yearly average, making the plant one of the most successful Waste to Energy plants in the world.

We were told that the plants combustion process is monitored and advanced flue-gas cleaning technology prevents any harm from being done to the environment.

The visit to Spittelau Wien Energie plant exceeded my expectations and was one of the highlights of the week. The plant should be seen as an exemplar for other countries that may be considering waste treatment technologies, and I would encourage everyone to go and see it in real life when next in Vienna.

DAY ONE: Waste 2 Energy & Atomic Energy



DAY TWO: Austrian Packaging Day



The inaugural Vienna Sustainable Food Packaging Confex (VSFP) was held in conjunction with the biennial Austrian Packaging Day that is run by FH Campus Wien, the Ministry for Climate Action, Environment, Energy, Mobility, Innovation and Technology and the Federal Ministry of Labour and Economy of Austria.

The Austrian Packaging Day was entitled ‘Sustainable, Circular & Safe Packaging: Global Trends and Local implementation’ and saw over 200 attendees come together to discuss Safety, Circularity and Sustainability.

The Austrian Packaging Day was extremely well-organised, had a high level of technical speakers and the participants were able to deep dive into Sustainable Packaging Design, the importance of data and systems transformation, the Packaging & Packaging Waste Regulations (PPWR), eco-modulation, extended producer responsibility and much more.

I especially liked the mix of industry packaging professionals and University students all coming together to connect and learn about the current and future state of the industry.

I was also proud to have been invited by FH Campus to be the keynote speaker for their biennial Austrian Packaging Day and discuss a Global Perspective on Sustainability through the lens of WPO Members. I also participated in a panel discussion in the afternoon discussing global regulations and the new world for packaging design standards. I will be adding this very special opportunity to my top professional highlights for 2024.



▲ Keynote address as the Austrian Packaging Day

Staatspreis Smart Packaging Awards

At the close of the Austrian Packaging Day, we attended the annual Staatspreis Smart Packaging Awards. The awards were a highlight for me to see what is new and innovative in Austria packaging design.

The Staatspreis Smart Packaging Awards are held biennially, and the state prize recognises innovative and unique, functional sustainable packaging.

Some of the standout packs that were recognised included the Vetropack 0.331 reusable glass beer bottle, the Pawel ‘Smart Unpacking’ reusable transport crate and the Pratopac fibre based composite packaging with accessible design for Claro.

DAY TWO: Austrian Packaging Day

Vetropack 0.331 reusable glass beer bottle



▲ Vetropack reusable beer bottle

Through the Annealing (heat treatment process) Vetropack have designed a smaller and 30% lighter glass beer bottle that will join the existing range of reusable beer bottles that are popular in Austria. By moving to a lightweight glass bottle the solution sees a 25% CO2 reduction from previous designs and uses 75% recycled content. The new 0.33l reusable bottle is based on the well-known 0.5l standard reusable beer bottle, which is already popular among consumers.

Pawel 'Smart Unpacking' Reusable Transport Crate



▲ Pawel Reusable Crates become furniture

When transporting larger items, we often see the crates being disposed of at the end of the logistics cycle. The innovative Pawel reusable logistics crate brings reuse design features to life by enabling the user to create furniture out of the crate, rather than throw it away.

Following intuitive instructions, the crate can be assembled into 1x table, 4 stools and 2 benches and is an extremely creative way to encourage people to reuse traditional packing crates. The design has a printed outer surface that is both a product representation and also the assembly instructions for the second life furniture. The furniture contours are printed on the packaging. This well-thought-out design offers a new life for traditionally disposable packaging. Instead of being thrown away, the material can be converted into high-quality furniture making this unique, smart and reusable.

Pratopac Recyclable and Accessible Paper Based Composite Pack for Claro



▲ Pratopac Fibre based solution for Claro

With a 97% fibre content, the innovative Pratopac fibre-based composite pack has been designed to be recyclable through the paper waste stream in Austria. Created for Austrian environmentally friendly dishwashing liquid and detergent manufacturer Claro, the pack is also made of 76% recycled materials to support the sustainable recycling resource conservation in the country.

Technical features of the pack include the resealable and intuitively openable shaker mechanism that ensures no product waste and accurate portion control and dosing of the contents. The feature is integrated into the pack and is also recyclable through the paper stream.

DAY TWO: Austrian Packaging Day

We also had the opportunity to see some student award winners from the ProPak Austria Young Designer of the Year award program and there was one pack that really stood out.

Dashamp dry shampoo



▲ Dashamp dry shampoo

One of the ProPak Austria Young Designer award winning packs 'Dashamp' dry shampoo also caught my eye.

The winner Inti-Filippa Crespín, came up with a fresh twist on the aerosol based dry shampoo packaging. She looked at the environmental concerns of aerosol pollution and also the packaging material traditionally used in this category. The end result is a creative cardboard pack of 'Dash' that has been designed in the shape of a modern shower head.

It is always wonderful to see packaging trends and design features that are being recognised in other countries, as every region has a unique lens.



▲ Speaking on a panel discussion in the afternoon



DAY TWO: Austrian Packaging Day



DAY THREE: UNIDO Food Systems Conference

The final day of the VSFP was a one-day conference held at the United Nations Vienna International Centre with over 100 participants from 40 United Nations Member states and Board Members from the World Packaging Organisation (WPO).

As we started to enter the security area of the Vienna International Centre I stopped to truly appreciate this very special moment.

As someone who has never been to the United Nations buildings, I was excited to not only be attending the UNIDO Food Systems Conference, but also being invited to be one of the speakers. I was in my element speaking to over 40 countries about the true role that packaging plays in minimising food loss and waste. I then joined a panel discussion with Wageningen University and the questions were coming thick and fast which was positive to see. I do hope that the attendees walked away thinking more about the balance we need to find between packaging and food waste when designing save food packaging.



▲ *My first time speaking at the United Nations*

The other speakers at the UNIDO Food Systems Conference discussed packaging as a tool for global sustainable development, collectively complying with the evolving landscape of packaging, navigating the food Loss & Waste Paradox: Balancing packaging waste and food waste with save food packaging and the final session focussed on how to accelerate the Sustainable Packaging agenda at COP30.

If you have ever visited Stadt Wien, aka the City of Vienna, you will notice that it is a clean city. There is no rubbish, no litter, no overflowing rubbish bins, and the streets are clean and sparkling in the dappled sunlight.



DAY THREE: UNIDO Food Systems Conference



So, when I found out that Mag. Stephan Auer-Stuger, Member of City Parliament-Committee for Climate, Environment, Democracy & Personnel for the City of Vienna was going to present a unique city-based perspective on waste management I was really looking forward to finding out what makes Vienna so unique in a world of litter and over-flowing rubbish bins. This was my highlight presentation on Day Three.



Stadt Wien: A Waste Management Success Story

Interestingly the Department that Waste Management and Recycling sits under is known as MA48. MA48 has 3,000 employees, 1000 vehicles in the fleet and 300 collection vehicles. The infrastructure is 470,000 collection containers, 23,000 rubbish bins with ashtrays, 4,500 collection points, 13 recycling centres and 8 waste management facilities.

The main tasks of MA48 include waste prevention, collection of waste & recyclables, waste treatment, street cleaning, WasteWatcher and waste consulting. The department also covers vehicle fleet, winter services, tow-away services, lost & found, events and public toilets.

Prevention: When looking at the waste hierarchy Prevention is the fundamental focus of the city. Vienna has separate collection of recyclables e.g.: biowaste, textiles, plastics, metals with the key objective to be access to good quality materials for high-quality recycling.

Biowaste: Over 115,000 tonnes of biowaste per annum is moved to composting plants to be converted into high quality compost. Only garden waste and uncooked food waste is permitted in the biowaste bins and no packaging waste is allowed; not even certified compostable packaging.

The non-acceptance of compostable packaging is due to the reprocessing plants detecting the plastics and metals as impurities, which in turn makes the packaging difficult to separate. In addition, the larger composting plants produce compost in 8 to 10 weeks which does not allow sufficient time for compostable packaging to decompose.

As the State of Austria does not accept Food Service and Hospitality waste in their Biowaste bins they have a separate collection system which sees over 25,000 tonnes of catering waste per year turned into biogas and put into the gas grid as biomethane. This links to the Waste the Energy program in the city.

DAY THREE: UNIDO Food Systems Conference

Reuse: 48er-Tandler: The modern second-hand market



The '48er-Tandler initiative is a really interesting program. The department prepares the waste for re-use through the 48er-Tandler municipal reuse shops which is an incredible initiative of the city. The shops have been designed to encourage residents to look at Reuse as a priority waste avoidance opportunity and to become more engaged in recycling.

Vienna opened the first Re-use shop 48er-Tandler almost 10 years ago, and the second one in 2022. The 48er-Tandler shops are designed to buy second hand items such as sporting equipment, furniture, clothing, books, tableware, toys and more.

The two shops have seen 630,000 visitors and customers, over 650,000 re-used items have been sold in the shops and 5,800 tonnes of re-usable items have been dropped off by residents in the Tandler Boxes at the recycling centres across the city.



What I really liked about the 48-er Tandler shops is that they regularly host events where residents can come and repair items they own, such as watches and electrical devices and they even organise clothing-swap days. The lost and found items that are collected from the city are also brought to the shops for re-sale and all proceeds are donated to charities.

Reuse through Away-from-Home consumption

The City of Vienna have also developed programs to reduce packaging waste for away-from-home consumption. The program includes motivating restaurants and catering businesses to procure reusable containers for take-away meals and also encourages consumers to bring their own takeaway containers with them to restaurants.

To assist consumers there is a list of restaurants that offer reusable containers on a city-based website and locations that use, or accept reusable containers have stickers on their venue doors. This initiative has been developed in cooperation with the Austrian Economic Chambers.

Reuse within Vienna Public Events: If more than 1,000 people attend an event on real estate that is owned by the Federal Capital of Vienna the people must be served beverages in reusable containers and food must be served in reusable packaging.

Recovery: Bringing a different lens to Recovery Vienna focuses on Waste to Energy through Energy Recovery (WtE) from residual waste with district heating, electricity and district cooling production.

Disposal: Requirements of the European Union landfill directive means that no waste is legally allowed to be disposed of directly at the landfill site. Any gases that are captured from the landfill are converted into electricity and local heating.

As I boarded my plane for a very long flight home, I reflected on the week of content, connections and community and realised that I had been given a unique opportunity to be a part of the inaugural Vienna Sustainable Food Packaging Confex (VSFP). I experienced so many firsts during this trip that I will cherish. The new learnings and new connections I made are invaluable and I do hope that I am invited back to Vienna in the future.

DAY THREE: UNIDO Food Systems Conference



▲ The largest delegation of WPO Board Members in the WPO office





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