Scientific organization:
IWWG - International Waste Working Group

VENICE 2026

23-25 NOVEMBER 2026
HOTEL MONACO & GRAND CANAL / VENICE, ITALY

11th INTERNATIONAL SYMPOSIUM ON ENERGY FROM BIOMASS AND WASTE

SYMPOSIUM GUIDEBOOK

SYMPOSIUM STRUCTURE / STRUTTURA DEL SIMPOSIO

DAY 1 - MONDAY 23 NOVEMBER 2026			
9:00 - 10:15	OPENING SESSION Chiar: Raffaello Cossu, University of Padova (it)		
10:45 - 12:00	FOCUS SESSION I / RE-Think Waste: Redesign, Repair, Recycle, Recover, Repower... Repository?		
12:15 - 13:30	A1 / Combustion, emissions and process efficiency	B1 / Pretreatments and feedstock selection	C1 / Life cycle thinking and assessment
13:30 - 15:00	Lunch break		
15:00 - 16:15	A2 / Optimization of incineration processes	B2 / Modelling, optimisation and systems analysis	C2 / Workshop - Sustainable electronics: reuse, recycling & LCA I
16:45 - 18:00	A3 / Advanced gasification & syngas valorisation	B3 / Anaerobic processes: efficiency and optimization	C3 / Workshop - Sustainable electronics: reuse, recycling & LCA II
18:30 - 21:00	SOCIAL EVENTS / Wine testing and Theatre Show *(performed in italian)*		

DAY 2 - TUESDAY 24 NOVEMBER 2026			
9:00 - 10:15	A4 / Pyrolysis of plastics and composites	B4 / Specific biomass management	C4 / Workshop - Carbon, nutrient & energy recovery pathways I
10:45 - 12:00	A5 / Environmental challenges of waste-to-energy	B5 / Hydrogen production and valorisation	B5 / Workshop - Carbon, nutrient & energy recovery pathways II
12:15 - 13:30	A6 / Biomass thermal conversion and smouldering	B6 / Perspectives of biogas utilisation	C6 / Sustainable aviation fuels (safs)
13:30 - 15:00	Lunch break		
15:00 - 16:15	A7 / Biofuels and bioproducts conversion Technologies	B7 / Enhanced energy recovery from biological processes	C7 / Workshop - IWWG Thermal treatments task group sandpit I
16:45 - 18:00	A8 / Pathways & perspectives for biofuels and bioproducts	B8 / Education and public awareness in waste-to-energy	C8 / Workshop - IWWG Thermal treatments task group sandpit II
21:30 - 00:00	SOCIAL EVENT / Karaoke Sing-Along Night		

DAY 3 - WEDNESDAY 25 NOVEMBER 2026			
9:00 - 10:15	A9 / Advanced thermal waste valorisation	B9 / Specific circular economy streams	C9 / Workshop - IEA bioenergy task 33: biofuels & biochemicals I
10:45 - 12:00	A10 / Hydrothermal processes	B10 / Circular valorisation of industrial waste streams	C10 / Workshop - IEA bioenergy task 33: biofuels & biochemicals II
12:15 - 13:30	A11 / Biochar production and use	B11 / Italian session - Rifiuti e salute: presentazione libro	C11 / National case studies
13:30 - 15:00	Lunch break		
15:00 - 16:15	A12 / Carbon capture and utilisation	B12 / Workshop - PFAS in thermal treatment systems	
16:45 - 18:15	CLOSING SESSION & Final remarks / Where does energy recovery fit in the Circular Economy?		
20:00 - 00:00	SOCIAL EVENT / Casino Casanova Venetian Gala		

POSTER SESSION - FROM 23 TO 25 NOVEMBER 2026	
9:00 - 18:00	POSTER PRESENTATIONS

THERMAL TREATMENT | BIOLOGICAL TREATMENT | BIOFUELS | ENERGY RECOVERY | VARIOUS TOPICS

VENICE 2026

11th INTERNATIONAL SYMPOSIUM ON ENERGY FROM BIOMASS AND WASTE / **20 Years Anniversary**

23-25 November 2026, Hotel Monaco and Grand Canal, Venice, Italy

SCIENTIFIC ORGANISATION:

iwwg

MANAGING ORGANISATION:

EUROWASTE SRL

With the scientiflc involvement of:

University of Kyoto (JP)
University of Padua (IT)
The University of Queensland (AU)
University of Rostock (DE)
Sultan Qaboos University (OM)
Tongji University (CN)

Promoted by:

Bioenergy Europe
ESWET - European Suppliers of Waste-to-Energy Technology
EWABA - European Waste-based & Advanced Biofuels Association
FEAD - European Waste Management Association
IEA Bioenergy
IWMSA - Institute of Waste Management of Southern Africa
JSMCWM - Japan Society of Material Cycles and Waste Management
KSWM - Korea Society of Waste Management
WtERT® Global Waste-to-Energy Research and Technology Council
GITISA - Italian Group of Environmental and Sanitary Engineering
AIAT - Italian Association of Environmental and Planning Engineers
Tavolo di Roma - A think thank on waste management strategies

Under the patronage of:

MINISTERO DELL'AMBIENTE E DELLA SICUREZZA ENERGETICA

REGIONE VENETO

ISPRA

Sistema Nazionale per la Protezione dell'Ambiente

ENEA

Partner Journal:

detritus | Multidisciplinary Journal for Circular Economy and Sustainable Management of Residues
OPEN ACCESS JOURNAL

WELCOME TO VENICE 2026
BENVENUTI AL VENICE 2026

Dear Delegate,
we are excited to welcome you at Venice 2026 - 11th International Symposium on Energy from Biomass and Waste, celebrating 20 years togheter!
Please find here below some key info about the conference and the exciting social events that will take place during the Symposium.

Coffee Breaks
Coffee breaks will be served twice per day to all registered participants in the Campiello Hall of the Hotel Monaco & Grand Canal (ground floor).

Meals and lunch options
It will be possible to have lunch at the restaurant of the Hotel Monaco and Grand Canal, at the special price of €38 which includes a main course (first or second one), coffee and water. Alternatively, it is possible to eat à la carte with a 20% discount on the restaurant prices (lunch or dinner). Should you be interested, you can contact the Hotel reception to book your place upon your arrival or at least a few hours before lunch (see lunch menù page 15)

Evening Social Events
Monday 23rd November - Wine Tasting & welcome reception / page 26
h. 18:30-20:00 - Hotel Monaco and Grand Canal
A prestigious selection of italian wines will be served during the evening. *Free event for symposium delegates. Booking is not required.*

Tuesday 24th November - Karaoke Sing-Along night (page 38)
h. 21:30-00:00 - Salone del Ridotto, Hotel Monaco and Grand Canal
Come along and connect with fellow attendees through music, laughter and fun. Whether you love singing your favorite hits or simply enjoy a group sing-along, this is the perfect opportunity to unwind, share a few laughs, and create memorable moments together.
Free event for symposium delegates and accompanying persons.

Wednesday 25th November - Casino Casanova Venetian Gala / page 50
h. 20:00 - Hotel Monaco and Grand Canal
Let's celebrate the closing night of the Symposium with a special Gala Dinner and an immersive Venetian Casino Night! The evening begins with a welcome cocktail, followed by traditional casino tables, an elegant dinner, and music & entertainment.
DRESS CODE: Venetian Mask!
50% of the price is included in the Symposium entrance fee. The remaining 50% will be paid by each delegate (€ 75,00 + VAT 22%).
Please note that **reservation is mandatory to attend** (**by Tuesday 24 November)**. You can book your place directly at the registration desk.

We hope you enjoy the Symposium!
The Organising Secretariat

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SUM 2027: 10th Multidisciplinary Symposium on Circular Economy and Urban Mining 66
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VENICE 2026: Celebrating 20 years
VENICE 2026: 20 anni di storia

The production of energy from alternative sources, and its role in mitigating climate change, is one of the key strategic levers for the sustainable development of society. This is especially true today, as geopolitical tensions and energy dependence have moved to the top of the international agenda.
A wide range of biomass and waste streams can contribute to energy production and to reducing reliance on fossil fuels, through biological, chemical and thermal processes. Biomass and waste-to-energy technologies are developing rapidly. Yet, despite growing interest, their implementation in many countries remains limited.
This year the Venice Symposium reaches its 11th edition and celebrates its 20th anniversary. Since its first edition, it has grown into the leading international event in the field. For two decades it has been the scientific hub where researchers, industry, policymakers and practitioners from around the world have met to present, discuss and shape the advances that have transformed energy recovery from biomass and waste. Many of the sector's key developments, from early pilot experiences to today's mature technologies and integrated circular-economy approaches, have been debated and refined in Venice Symposia.
Building on this legacy, Venice 2026 will focus on the latest advances in technologies for energy recovery from biomass and waste. It will also encourage open, multidisciplinary discussion on the challenges and opportunities ahead.

La produzione di energia da fonti alternative, e il suo contributo alla mitigazione dei cambiamenti climatici, rappresentano una delle principali leve strategiche per lo sviluppo sostenibile della società. Questo è vero soprattutto oggi, in un momento in cui le tensioni geopolitiche e la dipendenza energetica sono diventate una priorità dell'agenda internazionale.
Un'ampia varietà di biomasse e rifiuti può contribuire alla produzione di energia e alla riduzione dell'uso di combustibili fossili, attraverso processi biologici, chimici e termici. Le tecnologie per il recupero energetico da biomasse e rifiuti sono in rapido sviluppo. Tuttavia, nonostante il crescente interesse, in molti Paesi la loro applicazione rimane ancora limitata.
Quest'anno il Venice Symposium giunge alla sua 11ª edizione e celebra i 20 anni dalla sua nascita. Fin dalla prima edizione si è affermato come l'evento internazionale di riferimento del settore. Per due decenni è stato l'hub scientifico in cui ricercatori, industria, decisori politici e operatori di tutto il mondo si sono incontrati per presentare, discutere e orientare i progressi che hanno trasformato il recupero di energia da biomasse e rifiuti. Molti degli sviluppi chiave del settore sono stati discussi e perfezionati a Venezia, dalle prime esperienze pilota fino alle tecnologie mature di oggi e agli approcci integrati di economia circolare.
Forte di questa eredità, Venice 2026 si concentrerà sui più recenti progressi nelle tecnologie per il recupero di energia da biomasse e rifiuti. Il Symposium promuoverà inoltre un confronto aperto e multidisciplinare sulle sfide e sulle opportunità future.

SYMPOSIUM CHAIRS
PRESIDENTI DEL SIMPOSIO



Raffaello Cossu
University of Padova (IT)



Ala'a Al-Muhtaseb
Sultan Qaboos University (OM)



Thomas Astrup
Ramboll Denmark (DK)



Dezhen Chen
Tongji University (CN)



William Clarke
University of Queensland (AU)



Michael Nelles
University of Rostock (DE)



Masaki Takaoka
University of Kyoto (JP)

SCIENTIFIC SECRETARY



Marco Schiavon
University of Padova (IT)

SCIENTIFIC COMMITEES
COMITATI SCIENTIFICI

INTERNATIONAL ADVISORY BOARD / COMITATO SCIENTIFICO INTERNAZIONALE

- Muhammed ALAMGIR, *University Grants Commission of Bangladesh (BD)*
- Umberto ARENA, *University of Campania "Luigi Vanvitelli" (IT)*
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- Mariachiara ZANETTI, *Polytechnic University of Turin (IT)*

ORGANISING SECRETARIAT
SEGRETERIA ORGANIZZATIVA

ORGANISING SECRETARIAT



Gioia Burgello
Symposium Manager
Eurowaste Srl



Elena Cossu
General Manager
Eurowaste Srl / Arcoplan



Francesca Fava
Administration
Eurowaste Srl



Anna Artuso
Graphics & website
Arcoplan Studio



Marzia Pisoni
Comunication & Social Media Management



Federico Illuminati
Editorial Manager
Detritus Journal

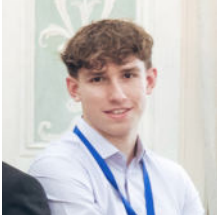
+ ON SITE STAFF



Hamad Gohar
University of Padova (IT)



Ioannis Moukazis
University of Crete (GR)



Edgar Ritzkowski
IWWG - International Waste Working Group



Sara Deidda
Venice 2026 Official photographer

VENICE 2026 Organising Secretariat:
Eurowaste Srl / Via Beato Pellegrino 23, Padova, Italy / tel. + 39 049 8726986
info@eurowaste.it / www.eurowaste.it / www.venicesymposium.it

CHAIRS & SPEAKERS AT A GLANCE
INSTRUCTIONS

	SESSION CHAIRS	SPEAKERS
On arrival	**Go to the Speakers' Desk** Collect the speakers' CVs and any last-minute programme changes.	**PowerPoint not sent yet?** Go to the Speakers' Desk - at the latest during the session before yours.
15 min before the start	**Report to the conference room** Meet the speakers of your session.	**Meet your Chair** Find the Chair in the room where your session takes place.
During the session	**Keep speakers seated** All speakers stay at the table for the entire session.	**Stay at the table** Be present from the first minute to the very end. **No advertising.** Mention your affiliation or company very discreetly.
When time runs out	**Stick strictly to the timetable** Extremely important: delegates plan their attendance across parallel sessions.	**Don't rush - Go to the conclusions** Skip the rest and jump straight to your conclusions. **Tip:** prepare one summary slide of your conclusions.

One rule for everyone: respect the timetable, so delegates can move between parallel sessions on time.

PRESIDENTI E AUTORI IN SINTESI
ISTRUZIONI

	PRESIDENTI	RELATORI
All'arrivo	**Recarsi allo Speakers' Desk** Ritirare i CV dei relatori e le eventuali variazioni dell'ultimo minuto al programma.	**PowerPoint non ancora inviato?** Rivolgersi allo Speakers' Desk, al più tardi durante la sessione precedente alla propria.
15 min prima dell'inizio	**Raggiungere la sala** Incontrare i relatori della propria sessione.	**Incontrare il Presidente** Il Presidente si trova nella sala in cui si svolge la sessione.
Durante la sessione	**Tenere i relatori al tavolo** Tutti i relatori restano seduti al tavolo per l'intera sessione.	**Restare al tavolo** Essere presenti dal primo all'ultimo minuto della sessione. **Niente pubblicità**. Citare affiliazione o nome dell'azienda con discrezione.
A tempo scaduto	**Rispettare rigorosamente gli orari** Fondamentale: i congressisti organizzano la propria presenza tra le sessioni parallele.	**Niente fretta: passare alle conclusioni** Saltare il resto e andare direttamente alle conclusioni. **Consiglio**: preparare una slide di sintesi delle conclusioni.

Una regola per tutti: rispettare gli orari, così i congressisti possono spostarsi in tempo tra le sessioni parallele.

SYMPOSIUM STRUCTURE
STRUTTURA DEL SIMPOSIO

The scientific programme of Venice 2026 is structured in 3 parallel tracks.
The presentations are organised in Oral sessions, Workshops and Digital Posters for a total of 40 sessions during which about 150 presentations will be delivered.
Oral sessions last 75 min and include 4 or 5 presentations and a Discussion. Workshops are focused on controversial issues in Waste to Energy; they include few introductory short papers for seeding the debate among participants. Posters will be available digitally, allowing download of the individual posters and discussion with the Authors in the Oppio room.
In addition to these traditional sessions, the Symposium includes two plenary Focus Sessions dedicated to specific themes of high public interest. A moderator, along with a panel of experts in the field, will introduce the topic and guide the discussion among the experts and the audience.

Il programma scientifico del VENICE 2026 comprende circa 150 presentazioni distribuite in 3 sessioni parallele.
Le presentazioni sono state organizzate in sessioni orali, workshop e poster. Le sessioni orali avranno una durata di 75 minuti, con 4/5 presentazioni seguite da un momento di discussione con il pubblico. I workshop saranno incentrati su temi controversi del Waste to Energy e includeranno brevi presentazioni introduttive per aprire il dibattito tra i partecipanti. La sessione poster sarà accessibile digitalmente nella Sala Oppio.
Oltre alle sessioni tradizionali, il programma del Venice 2026 prevede due momenti di confronto in seduta plenaria: le Focus Sessions, dedicate a temi specifici di alto interesse pubblico.

CONFERENCE ROOMS / SALE CONGRESSUALI

Session A:	Salone del Ridotto - first floor
Session B:	Corte Room - first floor
Session C:	Vallaresso Room - first floor
Digital Posters:	Oppio Room - first floor

USEFUL INFORMATION
INFORMAZIONI UTILI

WHAT'S INCLUDED IN YOUR REGISTRATION
COSA E' INCLUSO NELLA VOSTRA REGISTRAZIONE

- Access to all Symposium sessions and workshops
- Coffee breaks
- Conference Proceedings
- Conference material
- Wine tasting and welcome cocktail
- Karaoke Sing-Along night
- 50% discount on the cost of the Casinò Casanova Gala Dinner & Masquerade Party
- Wi-Fi Internet access

- *Accesso a tutte le sessioni del Simposio*
- *Coffee break*
- *Atti del Simposio*
- *Materiale congressuale*
- *Degustazione vini e cocktail di benvenuto*
- *Serata Karaoke Sing-Along*
- *50% di sconto sul costo della Serata di Gala Casinò Casanova e Festa in maschera*
- *Connessione Wi-Fi*

REGISTRATION DESK / BANCO REGISTRAZIONI

The Registration Desk will be open in the Conference Centre with the following schedule:

- Monday 23rd November: 8:30 - 9:00, 10:30 - 13:30, 15:00 - 18:00
- Tuesday 24th November: 8:30 - 13:30, 15:00 - 18:00
- Wednesday 25th November: 8:30 - 13:30, 15:00 - 18:00

Il banco segreteria per la registrazione al Simposio e per tutte le altre informazioni sarà aperto presso il Centro Congressi ai seguenti orari:

- *Lunedì 23 Novembre: 8:30 - 9:00, 10:30 - 13:30, 15:00 - 18:00*
- *Martedì 24 Novembre: 8:30 - 13:30, 15:00 - 18:00*
- *Mercoledì 25 Novembre: 8:30 - 13:30, 15:00 - 18:00*

MEALS
PASTI

LUNCH OPTIONS / POSSIBILITA' PER I PRANZI

It will be possible to have lunch at the restaurant of the Hotel Monaco and Grand Canal, at the special price of €35,00 which includes a main course (first or second one), coffee and water. Alternatively, it is possible to eat à la carte with a 20% discount on the restaurant prices.
Please contact the Hotel reception to **book your place upon your arrival or at least a few hours before lunch**.

Sarà possibile pranzare presso il ristorante dell'Hotel Monaco e Grand Canal, al prezzo speciale di € 35,00 che comprende una portata principale (primo o secondo), caffè e acqua. In alternativa, è possibile consumare alla carta con uno sconto del 20% sui prezzi di listino del ristorante.
***Si prega di contattare la reception dell'Hotel al vostro arrivo o al più tardi qualche ora prima del pranzo**.*

LUNCH MENU / MENU' PRANZI

Monday 23 / *Lunedì 23*

- Beef fillet, Rhum, pepper and black truffle
  Filetto di manzo al Rhum, Pepe e Tartufo nero
- Glass of Wine and Mineral water / *Flute di Vino e Acqua*
- Coffee / *Caffè*

Tuesday 24 / *Martedì 24*

- Roasted sea bass with cedar and stewed escarole
  Branzino arrostito al cedro con scarola stufata
- Glass of Wine and Mineral water / *Flute di Vino e Acqua*
- Coffee / *Caffè*

Wednesday 25 / *Mercoledì 25*

- Veal fillet, woodland mushrooms an autumn purée
  Filetto di vitello, con funghi e purea autunnale
- Glass of Wine and Mineral water / *Flute di Vino e Acqua*
- Coffee / *Caffè*

DINNER / CENA

It will be possible to have dinner at the restaurant of the Hotel Monaco and Grand Canal. Symposium delegates are entitled to a 20% discount on the restaurant prices.

E' possibile prenotare la cena presso il ristorante dell'Hotel Monaco e Gran Canal. Ai partecipanti del Simposio e loro accompagnatori, sarà applicato uno sconto del 20% sui prezzi di listino.

MEMBERS'AREA
AREA RISERVATA

All accepted papers are available for download (PDF documents) from the website members' area (available upon login to registered participants only).

Tutti i paper accettati sono disponibili per il download (file PDF) nell'area riservata del sito ufficiale del Simposio (accesso con login solo per i partecipanti).

SOCIAL PROGRAMME
EVENTI SOCIALI SERALI



MONDAY / 23 NOVEMBER / H. 18:30
WELCOME RECEPTION & WINE TASTING
Hotel Monaco, ground floor

Get the Symposium off to a great start and meet old and new friends in the beautiful setting of Hotel Monaco. A prestigious selection of Italian wines will be served during the evening.
Free event for symposium delegates. Page 26



MONDAY / 23 NOVEMBER / H. 20:00
SPETTACOLO TEATRALE
Hotel Monaco, Salone del Ridotto

Di Joël Pommerat, con la regia di Raffaello Cossu, va in scena la Compagnia dei Beati Pellegrini! *(Performed in Italian)*
Evento gratuito per i partecipanti al simposio e accompagnatori. Page 26



TUESDAY / 24 NOVEMBER / H. 21:30
KARAOKE SING-ALONG NIGHT
Hotel Monaco, Salone del Ridotto

Grab the mic, sing your favorite hits, and let the fun begin! Join fellow attendees for a night of music, laughter, and unforgettable moments.
Free event for symposium delegates and accompanying persons. Page 38



WEDNESDAY / 25 NOVEMBER / H. 20:00
CASINO CASANOVA VENETIAN GALA
Hotel Monaco, Salone del Ridotto

DRESS CODE: Venetian Mask!
The evening will feature a welcome aperitif followed by an elegant gala dinner with historic casino tables, and a masquerade party with music & dancing. **Reservation is mandatory!** Page 50

DAY 1 / MONDAY
NOVEMBER 23

MONDAY NOVEMBER 23
MORNING

OPENING SESSION / SALONE DEL RIDOTTO / 9:00-10:15

Chair / *Presidente:* Raffaello Cossu (IT)

WELCOME ADDRESSES / *SALUTI DI BENVENUTO*

- Raffaello COSSU, *University of Padova (IT)*
- Thomas ASTRUP, *Ramboll Denmark (DK)*
- Dezhen CHEN, *Tongji University (CN)*
- William CLARKE, *University of Queensland (AU)*
- Michael NELLES, *University of Rostock (DE)*
- Cristina TROIS, *University of Stellenbosch (ZA) - IWWG President*
- Paolo RUSSO, *Tavolo di Roma (IT)*

COFFEE BREAK / 10:15-10:45

FOCUS SESSION / SALONE DEL RIDOTTO / 10:45-12:00

RE-THINK WASTE: REDESIGN, REPAIR, RECYCLE, RECOVER, REPOWER... REPOSITORY?

Is there anything the world should rethink about waste management?

Moderator: Raffaello Cossu (IT)
Panelists & Invited speakers:

- Michael NELLES, *University of Rostock (DE)*
- Jurate KUMPIENE, *Luleå University of Technology (SE)*
- William CLARKE, *University of Queensland (AU)*

Over the past decades, waste management has gained a whole vocabulary of "RE-" words. We have learned to redesign products so they last longer and can be taken apart, to repair instead of replace, and to recycle materials back into production. Where materials can no longer be recycled, we recover energy from them. Through biogas, biomethane and waste-to-energy, waste now also helps to repower our energy systems and strengthen Europe's energy independence. Yet every circular system still needs a safe final destination.
The question mark after Repository is deliberate. Landfills and final sinks are rarely part of the circular economy story, but they remain part of the reality.

This opening session invites researchers, industry, policymakers and practitioners to step back and challenge established priorities.

- Are we pursuing the right goals?
- Are some "RE-" words better slogans than solutions?
- What could different regions of the world learn from one another?
- Which RE- matters most?

MONDAY NOVEMBER 23
MORNING

Negli ultimi decenni la gestione dei rifiuti ha costruito un intero vocabolario di parole che iniziano con "RE-". Abbiamo imparato a riprogettare i prodotti perché durino di più e si possano smontare, a riparare invece di sostituire, a riciclare i materiali per reimmetterli nei cicli produttivi. Quando i materiali non si possono più riciclare, ne recuperiamo l'energia. Con il biogas, il biometano e il waste-to-energy, oggi i rifiuti contribuiscono anche a rafforzare i nostri sistemi energetici e l'indipendenza energetica dell'Europa.
Eppure ogni sistema circolare ha ancora bisogno di una destinazione finale sicura. Il punto interrogativo dopo Repository non è casuale. Le discariche e i "pozzi finali" compaiono raramente nel racconto dell'economia circolare, ma restano parte della realtà.

Questa sessione di apertura invita ricercatori, imprese, decisori pubblici e operatori del settore a fare un passo indietro e a mettere in discussione le priorità consolidate.

- *Stiamo perseguendo gli obiettivi giusti?*
- *Alcune parole "RE-" sono più slogan che soluzioni?*
- *Che cosa possono imparare l'una dall'altra le diverse regioni del mondo?*
- *Quale RE- conta di più?*

MONDAY NOVEMBER 23
MORNING

SESSION A01 / SALONE DEL RIDOTTO / 12:15-13:30
COMBUSTION, EMISSIONS AND PROCESS EFFICIENCY

Chair / *Presidente:* Masaki Takaoka (JP)

D. Panepinto, M. Zanetti, P. Urso, V. Tedesco (IT)
Energy recovery, emission mitigation and resource efficiency in the expansion of a waste-to-energy facility

T. Turzynski, S. Polesek-Karczewska, P. Hercel, P. Baginski, A. Andrearczyk, D. Kardas (PL)
Development and thermodynamic optimization of a small-scale regenerative air Brayton cycle fueled by green methanol

M. Zanetti, G. Campo, D. Panepinto, M. Ravina, B. Ruffino, G. Zanzi (IT)
PFAS management in municipal sewage sludge: environmental monitoring and full-scale assessment of thermal oxidation in a fluidized bed furnace

S. Umegaki, Y. Kimoto, H. Harada, M. Takaoka (JP)
Effects of CO_2 concentration in municipal solid waste incineration on high-temperature corrosion of boiler heat transfer tubes

C. Dettori, G. Tilley (IT)
Boosting efficiency with antifouling treatment at WtE plants

SESSION B01 / CORTE ROOM / 12:15-13:30
PRETREATMENTS AND FEEDSTOCK SELECTION

Chair / *Presidente:* Michael Nelles (DE)

A. Fahlén Hammar, L. Andreas, J. Kumpiene (SE)
Choosing the right blend: multi-objective optimization of co-digestion

S. Hirakawa, Y. Kaizu, K. Furuhashi (JP)
Stabilizing high-nitrogen anaerobic digestion of chicken manure by pH control: implications for fertilizer substitution and transport burden

A. Omanakuttan, K. Benyounis, J. Stokes (IE)
Pretreatment effects on the anaerobic digestion of grass for biogas production

Md.T. Islam, A. Huda, S. Ahmed (BD)
From waste to cooking fuel: biogas recovery from faecal sludge treatment systems in Rohingya Refugee Camps, Bangladesh

F. Illuminati (IT)
From feedstock characterization to scale-up challenges: operational constraints in compost heat recovery systems using agri-food

LUNCH BREAK / 13:30-15:00

MONDAY NOVEMBER 23
MORNING

SESSION C01 / VALLARESSO ROOM / 12:15-13:30
LIFE CYCLE THINKING AND ASSESSMENT
Chair / *Presidente:* Thomas Astrup (DK)

H. Schindler, L. Merfort, V. Lenz, S. Majer, D. Thrän (DE)
Policies for sustainable forest bioenergy in the EU: the Renewable Energy Directive, the role of carbon pricing and implications for wood-cascading in the bioeconomy

F. Ardolino, F. Parrillo, M. Monaco, U. Arena (IT)
Environmental assessment of energy and material recovery strategies for infectious healthcare waste

M. Loaiza Agudelo, F.M. Zúñiga Ortiz, E.A. Ariza Echeverri, J.W. Calderón Hernández (CO)
Artificial Intelligence for the prediction of the energy potential of residual biomass in Colombia

Y. Abera, C. Trois (ZA)
The WROSE model as an evidence-based decision-support tool for sustainable waste management planning and policy in South Africa

M. Pasetto, G. Giacomello, B. Bora, M. Jamshidi, F. Tabarin, R. Cimicata, M. Zaghet (IT)
Environmental assessment of asphalt mixtures containing recycled shingle production waste: a circular economy approach

LUNCH BREAK / 13:30-15:00

MONDAY NOVEMBER 23
AFTERNOON

SESSION A02 / SALONE DEL RIDOTTO / 15:00-16:15
OPTIMIZATION OF INCINERATION PROCESSES

Chair / *Presidente:* Mariachiara Zanetti (IT)

A. Gyorfi, A. Dolgosné Kovács, B.L. Alpek, Cs. Leitol (HU)
Effects of particle size fractionation on the main quality characteristics of RDF/SRF

F. Xu, L. Yin, D. Chen (CN)
Co-incineration of industrial organic waste in MSW incinerators: combustion performance analysis and dynamic furnace temperature prediction

M. Qiu, D. Chen (CN)
Performance and iron transformation of Fe-MgO-biochar catalyst in MSW volatile steam reforming: a laboratory-scale comparative study between fixed-bed and fluidized-bed reactors

K. Stark, E. Peters, M. Schnell, P. Quicker (DE)
Decentralised sewage sludge incineration in a double whirl twin stage incinerator: pilot-scale demonstration, energy integration and resource recovery potential

SESSION B02 / CORTE ROOM / 15:00-16:15
MODELLING, OPTIMISATION AND SYSTEMS ANALYSIS

Chair / *Presidente:* Aristide Giuliano (IT)

Y. Ge, J. Tao, Z. Wang, L. Mu, W. Guo, Y. Shi, Z. Cheng, B. Yan, H. Su, G. Chen (CN)
Optimization of Gompertz model with machine learning towards applicable and accurate simulation of anaerobic digestion

M. Occhinegro, I. Bortone, L. Alibardi, F. Todaro, M. Notarnicola (IT)
From mechanistic to symbolic modelling in anaerobic processes

E. Ngobeni, C. Trois (ZA)
Systems evaluation of organic waste collection pathways for waste-to-energy production in fresh produce markets

X. Wang, B. Yan, S. Zhou, Y. Ge, Z. Wang, X. Lu, G. Chen (CN)
Coupling carbon conversion with nutrient circularity mitigates environmental trade-offs in crop-livestock waste valorization

M. Eronen, A-M. Tuomala, V. Puhakka (FI)
Renewable energy nodes for climate change mitigation using food processing residues

COFFEE BREAK / 16:15-16:45

MONDAY NOVEMBER 23
AFTERNOON

SESSION C02 / VALLARESSO ROOM / 15:00-16:15

WORKSHOP - SUSTAINABLE ELECTRONICS: REUSE, RECYCLING AND LCA I

Chair / *Presidente:* Karoline Owusu-Sekyere (DE)

Organised by: Leonie Dahlmann, Christina Dornack, Roman Maletz, Karoline Owusu-Sekyere, Harshali Shankar Yeram / *Institute of Waste Management and Circular Economy, TU Dresden (DE)*

The workshop presents research from the "Responsible Electronics in the Climate Change Era" (REC2) Cluster of Excellence at the TU Dresden and highlights innovative approaches to advancing circularity and sustainability in emerging electronics.
Participants will explore:

- Integrating recycling into device design through predictive approaches that enable more sustainable electronics across their life cycle.
- Developing circular economy frameworks for design-for-reuse, with a focus on future electronic material flows and component-level reuse.
- Establishing reuse factors and materials libraries for emerging materials and micro- and nanoelectronics, supporting sustainability assessment and decision-making during early-stage technology development.

By connecting resource management, circular economy strategies, and sustainable electronics innovation, the workshop aims to foster interdisciplinary discussion on how responsible innovation can reduce environmental impacts while improving resource efficiency across the electronics value chain.

Agenda:

- Opening Remarks and Introduction
- *F. Brück (DE)*
  Experimental research in biowaste processing
- *A. Białowiec, M. Valentin (PL)*
  Modeling inoculum and substrate dynamics in continuous flow anaerobic reactors
- *H.-S. Tscherney, H. Rohn (DE)*
  Life Cycle Assessment of biowaste fermentation to ensure sustainability
- Discussion and Q&A
- Closing Remarks

COFFEE BREAK / 16:15-16:45

MONDAY NOVEMBER 23
AFTERNOON

SESSION A03 / SALONE DEL RIDOTTO / 16:45-18:00
ADVANCED GASIFICATION AND SYNGAS VALORISATION

Chair / *Presidente:* Umberto Arena (IT)

C. Cord'Homme (FR)
Alternative thermal treatment for municipal solid waste: waste-to-energy or waste-to-molecules experience!

L. Lombardi, C. Boccia, A. Maragkaki, E. Maragkaki, G. Daskalakis, T. Kamperidis, R. Muñoz, M.R. Rodero, A. Lazari, S. Saxioni, K. Karakitsou, E. Georgakopoulou, G. Polychroniou, D. Tamvakis, V. Lolou, A. Papamavrou, T. Lolos, C. Tsompanidis, T. Manios (IT)
Integrated gasification and biological biomethanation for enhanced carbon recovery from organic waste: the LIFE-W2B concept

F. Parrillo, F. Ardolino, G. Calì, A. Pettinau, C. Masala, U. Arena (IT)
Oxygen–steam gasification for Waste-to-X syngas production in a pilot-scale fluidized bed reactor with integrated catalytic hot syngas cleaning

C. Masala, D. Fenu, G. Calì (IT)
Waste-to-hydrogen from non-recyclable plastic waste via gasification: conceptual scale-up and techno-economic assessment

N. Cerone, F. Zimbardi, L. Contuzzi, G. Zito, U. Calice, C. Florio, G. Santilli, M. Carnevale, C. Ragone, V. Valerio, A. Villone (IT)
Valorisation of lignocellulosic waste via pilot-scale two-stage catalytic tar cracking for clean syngas production

SESSION B03 / CORTE ROOM / 16:45-18:00
ANAEROBIC PROCESSES: EFFICIENCY AND OPTIMISATION

Chair / *Presidente:* William Clarke (AU)

E. Lee, P. Sokunthea, J. Shin, K.J. Min, K.Y. Park (KR)
Process stability of food waste leachate anaerobic digestion against fog shock loading through sludge recirculation

S. Nilsson Påledal, E. Nordell, J. Moestedt (SE)
Lessons learned from more than 25 years of laboratory- and full-scale anaerobic digestion: the role of iron chloride and trace elements in process stability

H.J. Shin, Y.B. Seo, Y.M. Yoon (KR)
Water potential as a mechanism of cation-mediated inhibition in anaerobic digestion: effects on methane production and microbial community responses

WELCOME RECEPTION AND WINE TASTING / 18:30-20:00

MONDAY NOVEMBER 23
AFTERNOON

SESSION C03 / VALLARESSO ROOM / 16:45-18:00

WORKSHOP - SUSTAINABLE ELECTRONICS: REUSE, RECYCLING AND LCA II

Chair / *Presidente:* Karoline Owusu-Sekyere (DE)

Organised by: Leonie Dahlmann, Christina Dornack, Roman Maletz, Karoline Owusu-Sekyere, Harshali Shankar Yeram / *Institute of Waste Management and Circular Economy, TU Dresden (DE)*

This session continues the hands-on activity and discussion from the previous workshop session.

Agenda:

- *K. Owusu-Sekyere (DE)*
  Framework for circular material reuse and design-for-reuse concepts addressing future electronic material flows
- *H. Shankar Yeram (DE)*
  Closing the loop on automotive microelectronics: current challenges, regulatory drivers, and circular pathways for End-of-Life chips
- Summary of key insights and discussion, identification of future research priorities, and opportunities for collaboration across academia, industry, and policy

WELCOME RECEPTION AND WINE TASTING / 18:30-20:00

MONDAY NOVEMBER 23
SOCIAL EVENTS

WINE TASTING AND WELCOME RECEPTION
DEGUSTAZIONE VINI E COCKTAIL DI BENVENUTO
Hotel Monaco and Grand Canal, h. 18:30 - 20:00

Kick off the Symposium with an evening of networking in a relaxed atmosphere. Local wineries will showcase fine Italian wines, sharing the stories and traditions behind each selection. Enjoy tasting the wines alongside a light buffet while building new professional connections.

Inizia il Simposio con una serata di networking tra colleghi e amici in un'atmosfera rilassata. Cantine locali presenteranno una selezione di pregiati vini italiani con storie e tradizioni del territorio. Degusta i vini accompagnati da un delizioso buffet e crea nuovi legami professionali.

GRADIS'CIUTTA
Giasbana 32/a, San Floriano del Collio (GO)
Tel. +39 0481 390237
info@gradisciutta.com / www.gradisciutta.eu

SPETTACOLO TEATRALE / ITALIAN EVENT
LA RIUNIFICAZIONE DELLE DUE COREE / La Compagnia dei Beati Pellegrini / Regia di Raffaello Cossu
Hotel Monaco, Salone del Ridotto, h. 20:00 - 21:00



Una serie di quadri narrativi indipendenti compongono una sorta di mosaico dell'amore contemporaneo, tenuti insieme da un unico filo rosso: l'incontro tra due persone che, all'inizio, si riconoscono, con affinità che si esaltano ed emozioni che si amplificano.
Ci si sente "come due metà perdute che si ritrovano, come se Corea del Nord e Corea del Sud aprissero le loro frontiere e gente separata da anni potesse finalmente riabbracciarsi".
E poi... il bel giocattolo si rompe.
Così scorrono sul palco frammenti di amori: coniugali, amicali, filiali, platonici, asettici, sognati, traditi, fraintesi, desiderati, impossibili.
Un miscuglio di situazioni in cui lospettatore può riconoscersi, osservando la realtà che ogni giorno ci attraversa.

DAY 2 / MONDAY NOVEMBER 24

TUESDAY NOVEMBER 24
MORNING

SESSION A04 / SALONE DEL RIDOTTO / 9:00-10:15
PYROLYSIS OF PLASTICS AND COMPOSITES

Chair / *Presidente:* Hamad Gohar (IT)

M. Zhang, S. Liu, R. Li, Z. Hu, X. Wang (CN)
Continuous rotary kiln pyrolysis of retired wind turbine blades: temperature effects on product characteristics and recycled glass fiber quality

S. Chen, R. Feng, Y. Hu, Y. Feng (CN)
Pyrolysis valorization of end-of-life wind turbine blades in China: recycling facility planning and pilot-scale rotary kiln assessment

M. Zhang, R. Li, S. Liu, R. Ruan, X. Wang (CN)
Pyrolysis of plastic waste and its co-pyrolysis with cotton fabric: temperature dependent product evolution and safety implications for deflagration control

D. Sorino, L. Bartolucci, S. Cordiner, F. Lombardi (IT)
Universal differential equations for mixed plastic pyrolysis modeling

SESSION B04 / CORTE ROOM / 9:00-10:15
SPECIFIC BIOMASS MANAGEMENT

Chair / *Presidente:* Raffaello Cossu (IT)

D. Mulu Gebeyehu, M. Mekuyie, C. Trois, A. Dell'Orto (ZA)
Climate change resilience of smallholder farmers through food waste valorization into biofertilizer: a circular approach

A.P.C. Ribeiro, L.M.D.R.S. Martins, A.O. Figueiras (PT)
From BSF exuviae to Chitosan: a sustainability perspective

L.M.D.R.S. Martins, A.P.C. Ribeiro, A.O. Figueiras (PT)
Unlocking the potential of insect biomass waste: Chitin and Chitosan valorisation in the circular bioeconomy

B.L. Short, C. Palazón, C. Garrido Pérez, J.A. Perales Vargas-Machuca, M.D. Macías-Sánchez, J. Ruiz (ES)
Winery wastewater valorisation through microalgae: nutrient removal and biomass production

COFFEE BREAK / 10:15-10:45

TUESDAY NOVEMBER 24
MORNING

SESSION C04 / VALLARESSO ROOM / 9:00-10:15
WORKSHOP - CARBON, NUTRIENT, AND ENERGY RECOVERY PATHWAYS I

Chair / *Presidente:* Annett Pollex (DE)

Organised by: Annett Pollex - *Working Group Climate Resilient Water-Energy-Food Systems at DBFZ German Biomass Research Center (DE)*

Biomass and waste conversion can generate more than energy: thermochemical processes such as pyrolysis provide biochar and heat energy, while a wide range of biomass and organic waste streams can be valorized for nutrient recovery and agricultural use. Biochar offers a particularly promising link between energy and material recovery, combining heat energy utilization options e.g. for district heatingn with carbon sequestration and use cases as soil amendment.
Biofertilizers are increasingly gaining attention as resilient bioeconomy approaches. Produced from locally available biomass residues, and organic waste streams, they can help to close nutrient cycles, reduce resource dependency, and restore soil fertility. In particular, they can counteract soil degradation caused by continuous nutrient extraction and declining soil organic carbon, while supporting integrated soil fertility management and food security.
When combined with biochar, the resulting biochar-based organic fertilizers can contribute to reduced soil acidification, limited nutrient leaching and enhanced long-term carbon sequestration. Carbon financing mechanisms that enable smallholder revenue-sharing, such as the Artisan C-Sink certification, can further improve economic viability in particular in the Global South.

The workshop will discuss challenges, enabling conditions, and successful implementation examples of integrated biomass- and waste-based resource recovery systems. It will explore how different biomass and waste streams, conversion technologies, and end-use pathways can be combined to maximize resource recovery and create locally appropriate circular systems.

COFFEE BREAK / 10:15-10:45

TUESDAY NOVEMBER 24
MORNING

SESSION A05 / SALONE DEL RIDOTTO / 10:45-12:00
ENVIRONMENTAL CHALLENGES OF WASTE-TO-ENERGY

Chair / *Presidente:* Lidia Lombardi (IT)

T. Shishida, A. Yonezawa, R. Zhang, H. Harada, M. Takaoka (JP)
Effect of CO_2-rich atmosphere on formation of dioxins under O_2/CO_2 combustion of municipal solid waste

S. Andersson (SE)
WtE fly ash detoxification and zinc recovery

I. Verginelli, G. Costa, L. Acampora, A. Bruni, S. Scotti, S. Malvezzi, C. Mensi (IT)
Analyzing the environmental compatibility of the use of products from the advanced treatment of APC residues from waste to energy plants through a risk-based procedure

R. Esposito, I. Dameno, F. De Antoni, R. Ripamonti (IT)
Evolution of emission performance and emerging operational challenges in the implementation of the BAT conclusions for waste incineration in Lombardy

L. Mocanu, D. Mocanu, M. Casian (MD)
Unregulated emissions and filter performance in decentralised thermal treatment of medical waste

SESSION B05 / CORTE ROOM / 10:45-12:00
HYDROGEN PRODUCTION AND VALORISATION

Chair / *Presidente:* Massimiliano Materazzi (UK)

K.L. Mascarenhas, S.T. Coelho, J. Romano Meneghini (BR)
From wastewater to sustainable hydrogen: social acceptance and communication challenges for the energy transition

A. Trinca, A. Giuliano, P. Garzone, R. Albergo, A. Caporusso, E. Viola, I. De Bari (IT)
Green hydrogen-assisted glycerol valorization for advanced biofuels

B. Doria, C. Pastore, V. Locaputo, M. Lacalamita, E. Mesto, F. Raganati, A. Marzocchella, L. di Bitonto (IT)
Cu-TiO_2/LHLs photocatalyst from sewage sludge for solar hydrogen production and wastewater remediation

H. Watanabe, S. Kosai, S. Kashiwakura, K. Kashimura, T. Miyata, E. Yamasue (JP)
Recovery of carbon fibers and hydrogen production characteristics via microwave pyrolysis of CFRP using a $FeAl_2O_4$ catalyst

TUESDAY NOVEMBER 24
MORNING

SESSION C05 / VALLARESSO ROOM / 10:45-12:00
WORKSHOP - CARBON, NUTRIENT, AND ENERGY RECOVERY PATHWAYS II

Chair / *Presidente:* Annett Pollex (DE)

Organised by: Annett Pollex - *Working Group Climate Resilient Water-Energy-Food Systems at DBFZ German Biomass Research Center (DE)*

This session continues the hands-on activity and discussion from the previous workshop, session C04.

TUESDAY NOVEMBER 24
MORNING

SESSION A06 / SALONE DEL RIDOTTO / 12:15-13:30
BIOMASS THERMAL CONVERSION AND SMOULDERING

Chair / *Presidente:* Dezhen Chen (CN)

T.L. Rashwan, F. Khodaparastan, P. Renforth, C. Switzer, J.L. Torero, K.J. Dobson (GB)
Exploring smouldering-based systems for carbon-negative waste treatment

F. Khodaparastan, J. Bowen, A. Fraser-McDonald, C. Switzer, J.L. Torero, L. Kinsman, M.A.B. Zanoni, T.L. Rashwan (GB)
Oxygen dynamics in the smouldering reaction zone: experimental measurements and analytical modelling

V. Gollnisch, E. Pienihäkkinen, M. Hechmi Aissaoui, T. Ohra-aho, J. Sirviö, T. Khazraie, L. Sandstrom, A. Dufour (FR)
Fast pyrolysis of biomasses in a microfluidized bed : effect of biomass pretreatments on bio-oil quality

R. Li, M. Zhang, Y. Yang, K. Gao, Z. Hu, G. Dai, X. Wang (CN)
Comparative evaluation of torrefaction temperatures for different biomass: fuel upgrading and grinding characteristics

J. Kluska, K. Matej-Lukowicz, N. Nawrot, J.D. da Silva Fonseca, A. Szymkiewicz, E. Wojciechowska (PL)
Chicken manure carbonization – Energy balance and sorption characteristic of biochar

SESSION B06 / CORTE ROOM / 12:15-13:30
PERSPECTIVES OF BIOGAS UTILISATION

Chair / *Presidente:* Cristina Trois (ZA)

I. Ålund, S. Voorwalt (NO)
Is biogas as green as we think? Methane leaks, LDAR campaigns and bio-CCS in the biogas value chain

S. Alves Fonseca, A. Barbosa-Póvoa, T. Rodrigues Pereira Ramos (PT)
Integrated OFMSW-to-renewable methane pathways: conversion, emissions and logistics

K. Kawai (JP)
Biomethane potential to substitute for grid-supplied gas in Japan in 2050

A. Dell'Orto, E. Ngobeni, C. Trois (ZA)
An investigation into the prospective environmental and economic benefits of integrated biohydrogen and biomethane production from municipal organic waste in South Africa: insights from Cape Town and Durban

LUNCH BREAK / 13:30-15:00

TUESDAY NOVEMBER 24
MORNING

SESSION C06 / VALLARESSO ROOM / 12:15-13:30
SUSTAINABLE AVIATION FUELS (SAFS)

Chair / *Presidente:* Blake Simmons (US)

W.P. Clarke (AU)
The economic viability of bioenergy

A. Saeed, M.A. Qyyum, A. Riaz, S. Al-Saadi, F. Al-Jahwari, A.H. Al-Muhtaseb (OM)
Decision-oriented benchmarking of sustainable aviation fuel pathways: harmonized cost, boundary-aware carbon intensity, and deployment readiness

M.A. Rasheed, M. Materazzi (GB)
Techno-economic and environmental assessment of sustainable aviation fuel production from waste with system integrations

I. Gökalp (TR)
Zero-emission sustainable aviation fuel (SAF) production from high-moisture organic waste

LUNCH BREAK / 13:30-15:00

TUESDAY NOVEMBER 24
AFTERNOON

SESSION A07 / SALONE DEL RIDOTTO / 15:00-16:15
BIOFUELS AND BIOPRODUCTS CONVERSION TECHNOLOGIES

Chair / *Presidente:* Ala'a Al-Muhtaseb (OM)

B. Ndaba-Vatsha (ZA)
Nano-assisted pretreatment of biomass for bioethanol production

D. Behera, J. Shaji, S. Lekshmi, D. Shee, S. Banerjee, P. Chatterjee (IN)
Modified *in-situ* transesterification of microalgae for engineered alkane production: decarboxylation-driven process-controlled alkane production

S.M. Sadrameli, T. Ramezani (OM)
Production of renewable naphtha from catalytic cracking of linseed oil methyl esters (LME)

SESSION B07 / CORTE ROOM / 15:00-16:15
ENHANCED ENERGY RECOVERY FROM BIOLOGICAL PROCESSES

Chair / *Presidente:* William Clarke (AU)

M. Holden (GB)
From declining landfill asset to renewable energy hub: the potential role of ex-situ biomethanation in future landfill gas management

I. Rahmouni, J. Wiechert, A. Nassour, M. Nelles (DE)
Comparative assessment of innovative technologies for low-calorific landfill gas (LoCaGas) utilization

Md.T. Islam, A. Huda, S. Ahmed (BD)
From phytoremediation biomass to electricity: a circular resource recovery approach for faecal sludge treatment plants

C. Trois, G. Gaogane, A. Dell'Orto, P. Sekoai (ZA)
Otimising biohydrogen production from slaughterhouse waste via biochar-assisted dark fermentation

PRIVATE COFFEE BREAK / 16:15-16:45
(DIS)FARE IMPRESA: PRESENTAZIONE DEL LIBRO E OMAGGIO COPIA

Organizzato da: Alessia Bertolotto, Marcopolo Environmental Group

Al piano terra si terrà la presentazione del libro di Alessia Bertolotto, "(Dis)Fare Impresa" (edito da Libreria Santelli), accompagnata da un coffee break servito con copie omaggio per i partecipanti. Il volume narra la storia di Marcopolo Environmental Group, eccellenza italiana nel settore della messa in sicurezza delle discariche e della produzione di energia verde da biogas e biomasse. È un racconto di resilienza familiare e imprenditoriale tra sfide, ingiustizie e provvidenza, che analizza criticamente anche gli ostacoli burocratici e legali affrontati dalle imprese sostenibili. Leggi di più a pag. xx

TUESDAY NOVEMBER 24
AFTERNOON

SESSION C07 / VALLARESSO ROOM / 15:00-16:15
WORKSHOP - IWWG THERMAL TREATMENTS TASK GROUP SANDPIT I

Chair / *Presidente:* Lidia Lombardi (IT)

Organised by: IWWG Thermal Treatments Task Group
Umberto Arena, Lidia Lombardi, Francesco Parrillo (IT), Massimiliano Materazzi, Tarek Rashwan (UK)

A modern integrated solid waste management system must maximize resource recovery. Applying a life-cycle approach, energy, fuel, and chemical recovery from waste reduces fossil fuel dependence and overall emissions. Advanced thermal treatments, notably gasification, offer promising pathways for efficient energy and material recovery, alongside other complementary emerging technologies. However, commercial, regulatory, technical, and environmental challenges persist.
This interactive "sandpit" workshop brings together researchers, industry experts, and stakeholders to analyze advanced thermal treatment approaches, drawing on lessons from recent project successes and failures. Participants will collaboratively produce a summary report outlining the current state of advanced thermal waste treatment and defining key future trends.
Discussions will take place at four roundtables focusing on different aspects of thermal treatments:

- Commercial/Economic
- Policy/Regulatory
- Technological
- Environmental/Sustainability

Each roundtable will be moderated by an expert in the relevant field. During each round, participants will join one of the four roundtables and then move to a different table for the next round. The rotation will be organised so that, by the end of the four rounds, each participant will have taken part in the discussions at all four roundtables, contributing their perspectives and exchanging ideas across the different themes.
As the workshop has a maximum capacity of 30 participants, we kindly invite any interested symposium attendees to register at the registration desk.

Agenda:

- Introduction *(by Umberto Arena and Massimiliano Materazzi)*
- First round of sandpit discussions
- Second round of sandpit discussions

COFFEE BREAK / 16:15-16:45

TUESDAY NOVEMBER 24
AFTERNOON

SESSION A08 / SALONE DEL RIDOTTO / 16:45-18:00
PATHWAYS AND PERSPECTIVES FOR BIOFUELS AND BIOPRODUCTS

Chair / *Presidente:* Marco Schiavon (IT)

A. Giuliano, P. Polverino, N. Pierro, H. Sami Ur Rehman, A. Ricca, P. Garzone, M.T. Petrone, I. De Bari (IT)
Comparing liquid biofuels and developing a decision-support tool for sustainable mobility

J. Ding, Y. Xin, X. Liu, L. Sun, H. Zhong (US)
Food–energy trade-offs in vegetable oil systems: waste reduction and land-sparing pathways for climate-resilient supply

F. Zúñiga, M. Loaiza, Y. Lenis, E. Ariza, J. Calderón (CO)
Hybridization potential of alternative energy sources in Colombia: biofuel production coupled with solar thermal energy

A. Kaminsky, A. Golberg, M. Gozin, M. Gruntman, V. Blass, T. Hatuka, I. Zucker, H.M. Steindel, Y. Anker, F. Nakonechny, M. Nisnevitch, H. Cohen, M. Einat, B. Lew, Y. Knop, A. Abramovich, T. Zidki, G. Pinhasi, A. Gross, R. Palatnik, M. Lishner, L. Friedman (IL)
FUTUREWISE – Fueling the future: Waste-to-Energy technology and sustainability life cycle assessment

B.A. Simmons (US)
Conversion of mixed waste feedstocks in the North San Joaquin Valley into advanced biofuels and bioproducts

SESSION B08 / CORTE ROOM / 16:45-18:00
EDUCATION AND PUBLIC AWARENESS IN WASTE-TO-ENERGY

Chair / *Presidente:* Giovanni De Feo (IT)

G. De Feo (IT)
Waste-to-energy and systems thinking: the Greenopoli pedagogical approach

I. Grinfelde, V. Grybauskiene, J. Pilecka-Ulcugaceva (LV)
Education for sustainable development as a tool for building future competences in biomass, waste to energy and circular economy sectors

G. De Feo, G. Marmora, A.A. Paruolo, A. Grosso (IT)
The hidden role of waste-to-energy: a counterfactual assessment of the Acerra plant in Southern Italy

KARAOKE SING-ALONG NIGHT / 21:30-00:00

TUESDAY NOVEMBER 24
AFTERNOON

SESSION C08 / VALLARESSO ROOM / 16:45-18:00

WORKSHOP - IWWG THERMAL TREATMENTS TASK GROUP SANDPIT II

Chair / *Presidente:* Lidia Lombardi (IT)

Organised by: IWWG Thermal Treatments Task Group
Umberto Arena, Lidia Lombardi, Francesco Parrillo (IT), Massimiliano Materazzi, Tarek Rashwan (UK)

This session continues the hands-on activity and discussion from the previous workshop, session C07.

Agenda:

- Third round of sandpit discussions
- Fourth round of sandpit discussions
- Sharing of key insights and discussion outcomes
- Conclusions *(by Tarek Rashwan and Francesco Parrillo)*

KARAOKE SING-ALONG NIGHT / 21:30-00:00

TUESDAY NOVEMBER 24
SOCIAL EVENT

KARAOKE SING-ALONG NIGHT
SERATA KARAOKE SING-ALONG
Hotel Monaco and Grand Canal, h. 19:00 - 20:00

From conference conversations to karaoke sensations! Come along and connect with fellow attendees through music, laughter and fun.
Whether you love singing your favorite hits or simply enjoy a group sing-along, this is the perfect opportunity to unwind, share a few laughs, and create memorable moments together.
No talent required - just bring your enthusiasm!
Free event for symposium delegates and accompanying persons.

Dai dibattiti del Simposio alle stelle del Karaoke!
Raggiungici e stringi nuove amicizie in un'atmosfera di musica e allegria. Che ti piaccia esibirti sui tuoi pezzi preferiti o cantare in compagnia, è l'opportunità ideale per staccare la spina, divertirsi e vivere momenti memorabili insieme. Il talento non serve: basta l'entusiasmo!
Ingresso libero per delegati e accompagnatori.





DAY 3 / MONDAY
NOVEMBER 25

WEDNESDAY NOVEMBER 25
MORNING

SESSION A09 / SALONE DEL RIDOTTO / 9:00-10:15
ADVANCED THERMAL WASTE VALORISATION

Chair / *Presidente:* Masaki Takaoka (JP)

L. Lombardi, C. Boccia (IT)
Solar drying as an enabling technology for energy-positive sewage sludge pyrolysis

N. Labaky, A. Dahdouh, C. El Irani, V. Gollnisch, M. Eternot, L. Vilcocq, P. Arnoux, A. Dufour, Y. Le Brech (FR)
From emissions to resources: temperature optimization for CO_2-based lignin recovery from kraft black liquor and subsequent valorization via pyrolysis

H. Liu, Y. Feng, D. Chen, J. Han, J. Gu, H. Yuan (CN)
Pretreatment-regulated carbothermal reduction and water leaching for selective lithium recovery from spent lithium-ion batteries

Y. Qiu, A. Zhang, Y. Feng, D. Chen (CN)
Tuning waste-tire-derived carbon anodes for sodium-ion batteries by CO_2/N_2 pyrolysis atmosphere

M. Li, D. Chen, S. Bian (CN)
Biochar coupled Ni–Fe/$MgAl_2O_4$ composites for steam reforming of MSW volatiles: a comparison with the biochar free catalyst

SESSION B09 / CORTE ROOM / 9:00-10:15
SPECIFIC CIRCULAR ECONOMY STREAMS

Chair / *Presidente:* Luisa Martins (PT)

A. Bartl, N. Depope (AT)
Integrated biorefinery concept for blended textile waste: from enzymatic hydrolysis to ethanol and methanol production

R. Visser (NL)
Carbon fibers from cotton-rich textile waste: upcycling-options to improve recycling economics

N. Depope, F. Quartinello, J. Egan, A. Bartl, C.B. Schimper (AT)
Restex: closing the loop in textile waste recycling

A. Boscolo, L. Placentino, M. Placentino (IT)
Industrial sorting techniques for the detection and separation of end-of-waste plastic products: from polymers to phthalates and additives

COFFEE BREAK / 10:15-10:45

WEDNESDAY NOVEMBER 25
MORNING

SESSION C09 / VALLARESSO ROOM / 9:00-10:15
WORKSHOP - IEA BIOENERGY TASK 33: BIOFUELS AND BIOCHEMICALS I

Chair / *Presidente:* Jioakim Lundgren (SE)

Organised by: IEA Bioenergy Task 33 (Gasification)
Task leader: Dr. Jitka Hrbek, BOKU University (AT)

The workshop will explore the potential of gasification as a pathway for producing biofuels and biochemicals from biomass and other renewable carbon-containing feedstocks. It will cover gasification technologies, syngas production and conditioning, and downstream catalytic and biochemical conversion routes to fuels, chemicals and other bio-based products. Particular attention will be given to technological development, feedstock flexibility, process integration, sustainability and the potential contribution of gasification-based pathways to the defossilisation of the transport, energy and chemical sectors. The workshop will also provide an opportunity to discuss current challenges, research needs and opportunities for further collaboration.

Agenda:

This workshop will focus on the research needs in addressing PFAS fate in thermal waste systems, including:

- *J. Hrbek, BOKU University (AT)*
  IEA Bioenergy Task 33 – Gasification of biogenic and waste feedstocks for a sustainable future
- *B. Vreugdenhil, TNO (NL)*
  TNOs Perspective on SAF production
- *D. Barisano, ENEA (IT)*
  Production of H_2-rich syngas from the gasification of biomass and biogenic fraction of waste: in-bed implementations in a BFB reactor
- *B. Yan, Tianjin University (CN)*
  Anaerobic fermentation integrated gasification process and high-efficiency tar removal technology towards green methanol synthesis

COFFEE BREAK / 10:15-10:45

WEDNESDAY NOVEMBER 25
MORNING

SESSION A10 / SALONE DEL RIDOTTO / 10:45-12:00
HYDROTHERMAL PROCESSES
Chair / *Presidente:* Dezhen Chen (CN)

A. Di Lisi, F. Patuzzi, S. Piazzi, M. Baratieri (IT)
Pretreatment of feedstock to enhance hydrothermal liquefaction conversion process: a review

Y. Ryckmans, E. Bustillo, J. Van den Auweele (BE)
Industrial hydrothermal carbonization of heterogeneous refuse compost: lessons learned from industrial test

M. Chiocchini, S. Piazzi, F. Patuzzi, M. Baratieri (IT)
A review on hydrochar gasification for the valorisation of waste biomass feedstocks

SESSION B10 / CORTE ROOM / 10:45-12:00
CIRCULAR VALORISATION OF INDUSTRIAL WASTE STREAMS
Chair / *Presidente:* Andreas Bartl (AT)

A.K. Avornyo, S.W. Hasan, F. Banat, C.V. Chrysikopoulos (AE)
In-situ $CaCO_2$-templated structuring of low-cost graphene oxide-kaolin ceramic membranes for predictable fouling control in oily wastewater filtration

G. Trancone, M. Race, G. Policastro, M. Fabbricino (IT)
Circular integration of dark fermentation and mineral waste valorization: calcium leaching from construction and demolition waste using bio-based effluents

G. Giacomello, L. Zhao, M. Noro, L. Doretti, F. Berti Mecocci, A. Maghssudipour, R. Bertoli, E. Buoso, L. Bonini, G. Dalla Santa (IT)
From waste heat and road pavements to local district heating: an integrated technical, socio-economic and regulatory framework for urban energy transition

WEDNESDAY NOVEMBER 25
MORNING

SESSION C10 / VALLARESSO ROOM / 10:45-12:00
WORKSHOP - IEA BIOENERGY TASK 33: BIOFUELS AND BIOCHEMICALS II

Chair / *Presidente:* Jitka Hrbek (AT)

Organised by: IEA Bioenergy Task 33 (Gasification)
Task leader: Dr. Jitka Hrbek, BOKU University (AT)

This session continues the hands-on activity and discussion from the previous workshop, session C10.

Agenda:

- *U. Pasqual Laverdura - ENEA (IT)*
  Feedstock flexibility and process integration in sorption-enhanced gasification: from winery waste to methanol and power
- *S. Fleck - Karlsruhe Institute for Technology (DE)*
  Influence of process conditions on the conversion of plastic waste based pyrolysis oil under entrained flow conditions
- *J. Lundgren - Luleå University of Technology (SE)*
  Biomass to biofuels or negative emissions
- Discussion table

WEDNESDAY NOVEMBER 25
MORNING

SESSION A11 / SALONE DEL RIDOTTO / 12:15-13:30
BIOCHAR PRODUCTION AND USE

Chair / *Presidente:* Jitka Hrbek (AT)

N. Cerone, F. Zimbardi, L. Contuzzi, G. Zito, C. Florio, U. Calice (IT)
Environmental impacts and climate benefits of energy-integrated biochar systems from agricultural residues

U. Schmieder, A. Pollex, S. Bothe (DE)
Turning agricultural residues into certified carbon sinks: operational implementation of a decentralized biochar system in Ethiopia

R. Visser, N. Vonk , J. Visser (NL)
Carbon-neutral concrete: biochar as carbon storage in products

J. Park, S.-J. Kim (KR)
Recovery of valuable metals from stainless steelmaking dust using kenaf biochar as a low-carbon reducing agent

SESSION B11 / CORTE ROOM / 12:15-13:30
ITALIAN SESSION - PRESENTAZIONE DEL LIBRO
RIFIUTI E SALUTE: Criteri di gestione, tecnologie e impatti

a cura del CIRS - Comitato Interdisciplinare Rifiuti e Salute
e di Raffaello Cossu, Margherita Ferrante (IT)



Il rapporto tra rifiuti e salute è stato oggetto di molti studi scientifici, spesso però limitati da approcci monodisciplinari o influenzati da interessi di parte. Da questa consapevolezza nasce il Comitato Interdisciplinare su Rifiuti e Salute (CIRS), un'iniziativa indipendente che promuove un confronto rigoroso e basato su evidenze verificabili.
Questo Rapporto, presentato alla Camera dei Deputati il 28 Settembre 2026, è frutto di sette anni di lavoro e del contributo di oltre 200 esperti, offre una sintesi aggiornata delle conoscenze su rifiuti, tecnologie di gestione e possibili impatti, con l'obiettivo di fornire strumenti utili per scelte informate a tutela della salute e dell'ambiente.

LUNCH BREAK / 13:30-15:00

WEDNESDAY NOVEMBER 25
MORNING

SESSION C11 VALLARESSO ROOM / 12:15-13:30
NATIONAL CASE STUDIES

Chair / *Presidente:* Marco Schiavon (IT)

C. Trois, Y. Abera, M. Coetzee, A. Dell'Orto, M. Mariani, C. Nell, F. Schenck (ZA)
Assessing the renewable energy and carbon reduction potential of vine waste valorisation in the South African wine industry using the WROSE model

E. Ali, S. Narra, J. Bio-Oti, K. Yoatse (DE)
Does taxing pollution reduce biogenic methane emissions from the waste sector? Quasi-experimental evidence from Ghana's Sanitation and Pollution Levy

E.M.S. Guerreiro, A.F. Simões (BR)
Municipal solid waste management in Brazil: structural barriers to energy recovery and governance challenges

E.M.S. Guerreiro, E.S. Braga (BR)
Integrating waste management into environmental planning for oil spill contingency: lessons from major Brazilian oil spill events

LUNCH BREAK / 13:30-15:00

WEDNESDAY NOVEMBER 25
AFTERNOON

SESSION A12 / SALONE DEL RIDOTTO / 15:00-16:15
CARBON CAPTURE AND UTILISATION

Chair / *Presidente:* Thomas Astrup (DK)

T. Astrup (DK)
WtE and CCS – Challenges and opportunities

M. Schranzer (NL)
Security of supply and decarbonisation through bioenergy: CHP contracting and CO_2 utilisation in practice

D. Dong, G. Shin, S. Kim, Z. Tan, J. W. Lee (KR)
Evaluation of ionic liquid potential for selective absorption of carbon dioxide from biogas

A. Masi, G. Costa, F. Lombardi, N. Nmiri, L.C. Pasquier, I. Tebiche (IT)
Analysis of the products of an amine-based indirect carbonation treatment of steel slag aimed at residue valorisation and CO_2 storage

SESSION B12 / CORTE ROOM / 15:00-16:15
WORKSHOP - PPFAS IN THERMAL TREATMENT SYSTEMS: CHALLENGES AND FUTURE DIRECTIONS

Chair / *Presidente:* Fatemeh Khodaparastan (UK)

Organised by: Tarek Rashwan, Fatemeh Khodaparastan - *The University of Nottingham (UK)*, Felicia Fredriksson, Rudolf Aro, Leo Yeung - *Örebro University (SE)*, Malin Johansson - *Luleå University of Technology, SE*

Per- and polyfluoroalkyl substances (PFAS) have been key synthetic compounds used in many consumer and safety-critical products and – from food wrappers to fire-fighting foams. Thousands of unique compounds are now under the PFAS classification. PFAS contamination is insidious as current understanding now shows that pollution from these compounds poses severe environmental risks. Due to PFAS' toxicity, persistency, and mobility – small concentrations can transport widely in the environment and bioaccumulate in the food chain to adversely impact human and ecosystem health.
There are now many treatment methods available that aim to capture PFAS to limit its mobility in the environment. As an example, activated carbon and ion exchange resins are commonly used to remove PFAS from drinking water. From another perspective, critical anesthetic gases such as isoflurane, des-

COFFEE BREAK / 16:15-16:45

WEDNESDAY NOVEMBER 25
AFTERNOON

flurane, and sevoflurane have been widely used in medical applications; these gases are trapped in activated carbon after use for disposal.
... *Continued from previous page*

The used activated carbon and ion exchange resins, as well as other PFAS-contaminated materials (e.g., municipal solid wastes, sewage sludge, and hazardous wastes), necessitate active treatment.

Thermal treatment methods have shown strong promise in destroying PFAS at the appropriate conditions (e.g., peak temperatures and residence times). However, there are many research gaps regarding PFAS destruction in these thermal systems, and even small concentrations of untreated PFAS leftover from incomplete or partial destruction can pose long-lasting and challenging environmental risks for future generations. These PFAS treatment knowledge gaps must be solved to reliably ensure full PFAS destruction in thermal waste treatment systems. Furthermore, treatment method selection is shaped not only by technical effectiveness but also by regulatory frameworks, liability structures, and the application of the polluter-pays principle.

This workshop integrates technical and policy perspectives to explore how institutional frameworks influence PFAS treatment choices.

COFFEE BREAK / 16:15-16:45

WEDNESDAY NOVEMBER 25
AFTERNOON

CLOSING SESSION / SALONE DEL RIDOTTO / 16:45-18:15
WHERE DOES ENERGY RECOVERY FIT IN THE CIRCULAR ECONOMY?

Moderator:
Panelists & Invited speakers:

- Masaki Takaoka, *Kyoto University (JP)*
- *Raffaello Cossu,* University of Padova (IT)
- Luisa Martins, *Técnico, University of Lisbon (PT)*
- Tarek Rashwan, *University of Nottingham (GB)*
- Andreas Bartl, *TU Wien (AT)*
- Cristophe Cord' Homme, *WasteTT SAS (FR)*

Energy recovery and the circular economy are often presented as opposites. One is seen as the last resort for what cannot be recycled, the other as the goal of keeping materials in use for as long as possible. Reality is more nuanced. Residues that cannot be recycled still contain energy. Biomass and organic waste can become renewable gas and heat. A well-designed energy recovery system can also return metals, minerals and nutrients to the economy.

This session looks at where the two meet. How can energy recovery from biomass and waste support circular resource management? And how should circular economy principles shape the way we plan, size and operate energy recovery plants?
The opening session asked Which RE- matters most? This closing session takes a closer look at two of them, Recover and Repower, and asks how they fit with all the others.

As the final session of the Symposium, it also looks ahead to SUM 2027 - 10th Multidisciplinary Symposium on Circular Economy and Urban Mining. There the conversation continues: from recovering energy to mining the resources stored in our cities.

h. 18:00
Closing Remarks

Raffaello Cossu (IT)
Photo Presentation: Highlights from VENICE 2026

WEDNESDAY NOVEMBER 25
SOCIAL EVENT

CASINO' CASANOVA VENETIAN GALA / CENA DI GALA CASINÒ CASANOVA

Hotel Monaco and Grand Canal, h. 20:00

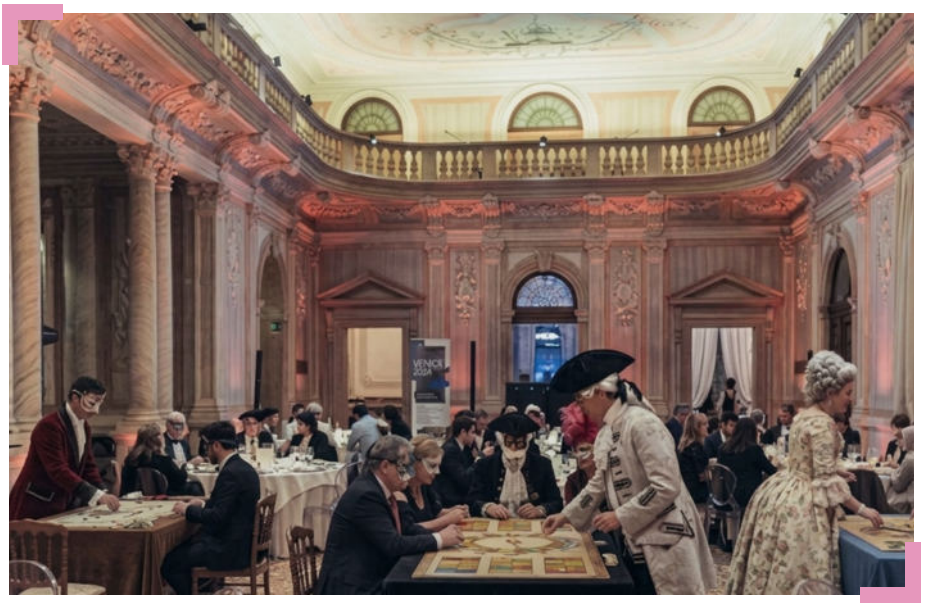
Join us for the Symposium's closing Gala Dinner as the historic Salone del Ridotto revives its legendary origins. Established in 1638 as the world's first public casino, the Ridotto was Europe's premier hub for festivities & gaming until 1774. The evening's highlight is the Casino Casanova experience, named after the famous 18th-century Venetian adventurer and frequent Ridotto gambler. Led by a Master of the House and croupiers in period costumes, guests will play hand-painted historical games recreated from Venetian archives.
Participants will receive special gaming coins to try their luck and a souvenir at the end of the night, which will conclude with music and dancing.
Menu available on the website.

DRESS CODE: Venetian Mask (honoring the historic Ridotto rule that allowed nobles and merchants to mingle anonymously).

Participation Cost:

- Delegates: € 75.00 + 22% VAT (50% is covered by the Symposium fee).
- Accompanying Persons: € 150.00 + 22% VAT (full ticket).

Reservation is mandatory by Monday, 23 November. Tickets must be collected at the Secretariat Desk starting Tuesday, 24 November.
Tickets must be collected at the Secretariat Desk starting Tuesday, 24 November. Menù available on the website.



POSTER SESSION
SESSIONE POSTER

POSTER SESSION
SESSIONI POSTER

Poster presentations will be displayed in digital format in a dedicated hall (Oppio Hall - first floor) throughout the conference, with opportunities to discuss them with the authors, depending on their availability.

La sessione Poster sarà resa accessibile digitalmente tramite una postazione pc collegata ad un monitor e sempre disponibile nella Sala Oppio. Sarà possibile visualizzare tutte le presentazioni poster e contattare gli autori per eventuali domande e approfondimenti sui poster.

P01 / *E.J. Cho, H. Park, H.-J. Bae (KR)*
Integrated valorization of waste paper in a sustainable biorefinery platform

P02 / *D. Ciolkosz, J. Ali, M. Hile, M. Steiman (US)*
Farm scale testing of biochar in digesters

P03 / *L. Christwinarso, W. De Jong (NL)*
Power-to-X: a techno-economic analysis of commercial bio-oil gasification and electrolytic hydrogen into light olefins in the Netherlands

P04 / *S. Frienberga, A. Patersone, J. Pilecka-Ulcugaceva, I. Grinfelde (LV)*
Forecasts of waste volume and flow dynamics in Latvia in the context of EU waste management policy

P05 / *D. Mulu Gebeyehu, M. Mekuyie, C. Trois, A. Dell'Orto (ZA)*
Exploring organic municipal waste valorization through Black Soldier Fly larvae and assessing the nutritional quality of the produced larvae for animal feed

P06 / *F. Gramigni, L. Armilli, A. Bosetti, D. Cucchetti, A. Poletto, I. Rapone, V. Rodighiero, T. Pasini (IT)*
Experimental study of dark fermentation using deoiled cakes as feedstock

P07 / *J. Grave, J. Pilecka–Ulcugaceva, I. Grinfelde (LV)*
PFOS and PFOA behaviour in two contrasting river basins of Latvia: seasonal dynamics and environmental controls

P08 / *T. Hatagami, Y. Kaizu, K. Furuhashi (JP)*
Environmental and agricultural benefits of field application of gasification biochar as a fertilizer

P09 / *M.H.T. Huynh, S. Jang, H.-J. Bae (KR)*
Feedstock-dependent enhancement of lignocellulosic saccharification by a GH10 Xylanase-secreting Trichoderma reesei enzyme system

P10 / *T. Kawaguchi, Y. Nishiyama, S. Kosai, S. Kashiwakura, H. Ikuta, A. Tokuhara, A. Tamaki, Y. Nakajima, Y. Yamakata, E. Yamasue (JP)*
Life cycle resource use of biomass- and waste-derived SAF in Japan

POSTER SESSION
SESSIONI POSTER

P11 / *S.Y. Kim, J.S. Nam, Y.M. Yoon. C.H. Kim (KR)*
Effects of various biomass-derived biochars on methane production kinetics and anaerobic digestion performance of food wastewater

P12 / *J.M. Choi, C.Y. Lee (KR)*
Anaerobic co-digestion of pig manure and food waste leachate: performance, operational stability and hydrogenotrophic-to-acetoclastic ratio as a complementary indicator

P13 / *A. Magdziarz, A. Mlonak-Medrala, M. Granollers Mesa, M. Sajdak, C. Quan, N. Gao, J. Wang (PL)*
Marine plastic pollution: a global threat to life below water and human well-being

P14 / *A. Guzzini, M. Pellegrini, J. Suzzi (IT)*
From Waste-To-Energy to Waste-To-X: a new circular approach to convert municipal solid waste into liquid CO_2, water and computing power for IT infrastructures

P15 / *J. Pilecka-Ulcugaceva, I. Grinfelde (LV)*
Using urban snow as a passive environmental monitoring tool to identify potential household waste burning emissions: a case study from Jelgava, Latvia

P16 / *W. Rasaq, J. Vasco, M. Rahman, A. Bialowiec, T. Causer, S. Opalinski, D. DeVallance, D. Troy, L. Nunes, D. Ciolkosz (US)*
Development of a BioSTEAM-based process model for biochar production from lignocellulosic biomass: preliminary mass, energy, and economic assessment

P17 / *A.P. Ribeiro, M. Piñero, A.T. Brandão (PT)*
Mechanophotocatalysis with porphyrins: solid-state degradation of solid pollutants

P18 / *Y.B. Seo, H.J. Shin, Y.M. Yoon (KR)*
Effects of water potential reduction induced by Cations (Na+, K+, Mg2+, and Ca2+) on anaerobic digestion performance across different inocula

P19 / *J. Shin, K.J. Min, E. Lee, K.Y. Park (KR)*
Ammonia recovery from anaerobic digestate using integrated electrochemical treatment and membrane contactor

P20 / *F. Zimbardi, U. Calice, N. Cerone, V. Valerio (IT)*
Electrochemical remediation of lignocellulosic waste for low-energy green hydrogen generation

P21 / *M.C. Oliveira, I.R.F.S. Alves, E.P. Santiago, C.M.S. Cassar, I.D. Bassin, N.B.C. Santos, C. Sambusiti, J.P. Bassin (BR)*
Food waste composition governs the shape, not only the magnitude, of methane conversion in co-digestion with green waste

POSTER SESSION
SESSIONI POSTER

P22 / *M.C. Oliveira, I.R.F.S. Alves, E.P. Santiago, I.D. Bassin, A.C. Coelho, H.L. Silva, N.B.C. Santos, C. Sambusiti, J.P. Bassin (BR)*
Beyond conventional stability thresholds: alkalinity as an early-warning indicator in a food and green waste co-digester

P23 / *J.C. Mendonça, F.M.S. Silva, J.P. Bassin, M.L.E. Gutarra, I.D. Bassin (BR)*
Comparison of enzymatic pretreatment and direct enzyme addition for anaerobic co-digestion of waste activated sludge and food waste

P24 / *I.R.F.S. Alves, M.C. Oliveira, E.P. Santiago, I.D. Bassin, A.C. Coelho, H.L. Silva, N.B.C. Santos, C. Sambusiti, J.P. Bassin (BR)*
Food waste and green waste co-digestion: effects on process stability and methane production

P25 / *G.P.V. Heidelmann, C.P. Pereira, J.P. Bassin, C.S. Guimarães, I.D. Bassin (BR)*
Thermo-alkaline pretreatment of green waste for enhanced methane production

P26 / *N. Pierro, A. Giuliano, E. Viola, I. De Bari (IT)*
From the biomass atlas to an advanced decision-support system: mapping residual and waste biomass and interoperable architecture for territorial energy planning in Italy

P27 / *T. Naseri, T. John (DE)*
Polyhalide ionic liquids as a dissolve–separate–regenerate platform for recovering critical metals from waste streams: status and outlook

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ORGANIZZATORI E PARTNER

SCIENTIFIC ORGANISERS
ORGANIZZATORI

IWWG - INTERNATIONAL WASTE WORKING GROUP

Find out more about the IWWG activities and its regional brands and become a member. The International Waste Working Group, founded in 2002 and registered as a no-profit organisation, serves as a forum for the scientific and professional community. The IWWG aims to provide an intellectual platform to encourage and support integrated and sustainable waste management and to promote practical scientific development in the field.
The group was conceived to provide a "home" for professionals and researchers, and give us a voice to be able to beneficially influence waste management and research.

The benefits of IWWG membership are the following:

- Subscription to IWWG official Journal Waste Management at a special discount price, both print subscription (135,00€) or print+electronic subscription (166,00€). Electronic subscription includes access to back numbers from 1995
- Access to all the contents included in the Members Area: proceedings and presentations from IWWG conferences (included previous editions), Task groups outputs, recordings of the IWWG seminars and lectures (i.e. Food for brain)
- Discount on the entrance fee of IWWG international waste management symposia (official IWWG conferences)
- Discount on IWWG Seminar Registration
- Discount on IWWG publications (e.g. textbooks)
- Discount on Elsevier publications
- Participation in the General Assembly (GA) meeting. The GA meets (at least) once a year.
- Participation in all activities of IWWG including Task Groups

OFFICIAL WEBSITE: www.iwwg.eu
If you are not still a member join the community!
Please visit the website and fill in the membership form today

For further information please contact:
Managing Director: Marco Ritzkowski
email: Marco.Ritzkowski@hiicce.hamburg
General Secretariat: Francesca Fava
email: info@iwwg.eu
website: www.iwwg.eu

iwwg
international waste working group

UPCOMING IWWG EVENTS / PROSSIMI EVENTI IWWG

- **WasteSafe 2027** - 10th International Conference on Sustainable Solutions for Waste Management in Developing Countries
  1-2 February 2027
  Khulna University of Engineering & Technology - Khulna, Bangladesh
  www.wastesafe.info
- **Deponietechnik 2027** *(co-sponsored)* **-** XV Hamburger Abfallwirtschaftstage
  16-17 February 2027
  Hamburg, Germany
- **Sardinia 2027** - 21th International Symposium On Waste Management, Resource Recovery and Sustainable Landfilling
  11-15 October 2027 / **40 YEARS ANNIVERSARY**
  Forte Village Resort, S. Margherita di Pula, Italy
  www.sardiniasymposium.it



ORGANISING SECRETARIAT
SEGRETERIA ORGANIZZATIVA

EUROWASTE Srl

Eurowaste Srl is an event planning and management company initially established to handle scientific communication deriving from research work carried out in the field of environmental engineering at the University of Padua. Over time, the company has evolved into a service agency operating on a national and international level in the sector of scientific conferences and events.
For more than 30 years, Eurowaste has been involved in the organisation of international scientific symposia, several editions of which have attracted attendance by more than 1000 delegates from all over the world.
The company's activities are accessible to the Scientific Community worldwide in the form of support in the conception, organisation and realization of conferences, international symposia, meetings, workshops and all types of events.

Services provided
Based on the aims and participant targets set by the client, the specific events budget, the international reach of the event, specific focus of partners and sponsors and reproducibility of the event, Eurowaste develops a purpose-designed event format for the client based on the following activities:
Event concept and design / Support to the Scientific Secretariat in defining the technical and scientific programme / Conception and organisation of social events / General assistance in initial start-up of the event / Budget Planning / Graphic design and conference material / Website development and management / Communication / Speaker and Author management / Venue sourcing and Catering / Logistic planning.
Eurowaste also manages a publishing house with the opportunity to produce and publish the scientific proceedings of the event (Cisa Publisher, pag. 62)

If you want to organize a conference, rely on us!
For further information please send an email at **info@eurowaste.it**

Eurowaste Srl è una società di pianificazione e gestione eventi nata inizialmente per gestire la comunicazione scientifica derivante dai lavori di ricerca nel settore dell'ingegneria ambientale dell'Università di Padova. Nel corso degli anni, l'azienda si è evoluta in un'agenzia di servizi operante a livello nazionale e internazionale nel settore dei convegni e degli eventi scientifici.
Da oltre 30 anni, Eurowaste è coinvolta nell'organizzazione di simposi scientifici internazionali, diverse edizioni dei quali hanno attirato la partecipazione di più di 1000 delegati provenienti da tutto il mondo.
Le attività della Eurowaste si rivolgono a tutta la comunità scientifica mondiale come supporto nella concezione, organizzazione e realizzazione di conferenze, simposi internazionali, workshop e altri tipi di eventi.

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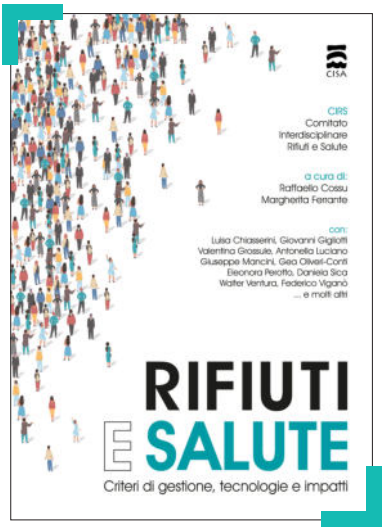
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Autori:

Raffaello Cossu, Margherita Ferrante, Luisa Chiasserini, Giovanni Gigliotti, Valentina Grossule, Antonella Luciano, Giuseppe Mancini, Gea Olivieri Conti, Eleonora Perotto, Daniela Sica, Walter Ventura, Federico Viganò

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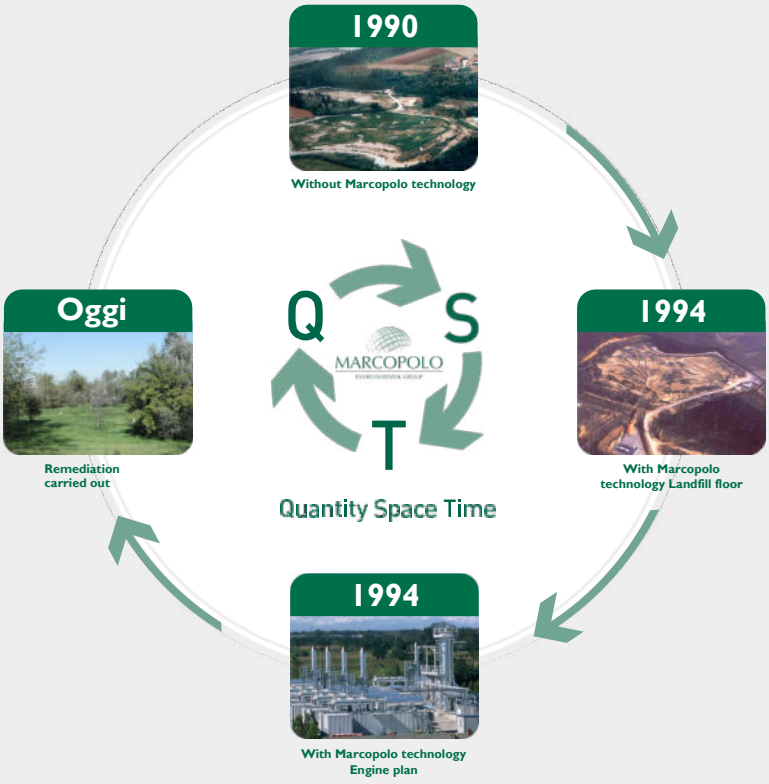
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