CWW 2023

PROGRAMME BOOK

Conference on
Wind energy and
Wildlife impacts

Organizers

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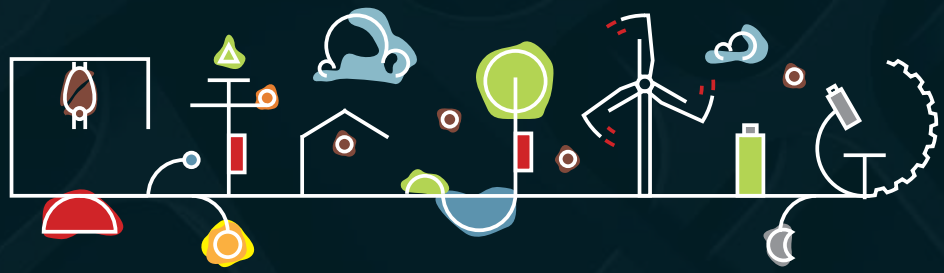

CONTENT

Welcome Address 08

Committees 10

Sponsors 12

PROGRAMME:

Short Programme 16

Scientific Programme 26

Posters 48

General Information 78

Excursions 79

WELCOME TO CWW 2023!

Dear participants,

Hello and welcome to the **"7th Conference on Wind energy and Wildlife impacts – CWW 2023!"** We're thrilled to have you here on the beautiful Croatian Adriatic coast, in Amadria Park, near the historic city of Šibenik.

This year's conference revolves around the theme "Nature inclusive upscaling of wind energy: Binding together knowledge, innovation, technology and biodiversity on the coast of Croatia". Working together with the Scientific Advisory Committee, we've put together a comprehensive conference programme featuring a diverse array of captivating activities. These include three keynote speeches, two panel discussions, six workshops, four special sessions, 108 oral and almost 90 poster presentations, as well as excursions and social gatherings. Our primary objective is to facilitate collaboration among scientists, wind industry professionals, and individuals from various global organizations. We aspire to nurture productive discussions and foster innovative solutions to minimize and mitigate the impacts of wind farms on wildlife.

It is an honour to announce that the conference has garnered the patronage of the European Parliament and the Croatian Ministry of Science and Education, underscoring its significance and reach.

We, Oikon Ltd. – Institute of Applied Ecology and Supernatural Ltd., are immensely proud to serve as the organizers of CWW 2023, the first conference of its kind to be held in Croatia and this part of Europe. It is also the largest CWW conference to date, drawing participants from all six continents. We have invested a significant amount of effort into the organization of this event, which, given its scale and location, would not have been possible without the generous contributions of our sponsors. Big thanks to all of them for supporting the conference, especially to the platinum sponsors Waardenburg Ecology, Robin Radar, RWE and SSE Renewables. Thanks to our technical organizer Spektar putovanja for their logistical support.

Our sincere appreciation is reserved for David Tidhar, chairman of the Scientific Advisory Committee, and the rest of the committee for their significant contributions to the conference. They played a pivotal role in shaping the scientific aspect of the programme. Lastly, we would like to express our appreciation to everyone who has contributed to making this conference a resounding success!

To make CWW an internationally inclusive event accessible to a wide range of attendees, we introduced scholarships for attendance for the first time this year through the initiative of the SAC. We are grateful to The Biodiversity Consultancy and NREL for recognizing the importance of this initiative and for sponsoring two women from China and Argentina, allowing them to participate in the conference in person and deliver live presentations. Additionally, the Organizing Committee has successfully secured free online attendance for other scholarship recipients.

We trust that you will find the programme both stimulating and inspiring, and that you will enjoy the many social gatherings and opportunities to foster new connections and strengthen existing partnerships. We are genuinely excited about meeting you all and spending these five days at the conference getting to know you.

Thank you for joining us. On behalf of Oikon and Supernatural we wish you a wonderful conference experience!

Warm regards,
Dalibor & Mirna

Dalibor Hatić,
Chair Organizing Committee,
Oikon Ltd. – Institute of Applied Ecology

Mirna Mazija,
Co-chair Organizing Committee,
Supernatural Ltd.

Conference organizers

OIKON Ltd. – Institute of Applied Ecology

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Scientific Committee

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Chair, Masdar, USA

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British Trust for Ornithology, United Kingdom

Branko Karapandža
Fauna C&M, Serbia

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Oikon Ltd., Croatia

Cris Hein
National Renewable Energy Laboratory (NREL), USA

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Ed Arnett
The Wildlife Society, USA

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Monash University, Australia

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Kate Williams
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Mirna Mazija
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PROGRAMME

DAY 1: Monday, 18 September 2023

09:00 – 19:00	**Registrations** *Convention centre lobby*
09:30 – 17:00	**PRE-CONFERENCE WORKSHOP** **'A launching and training (with in-field component) of the Good Practice Handbook on Post-construction Fatality Monitoring (PCFM) for Onshore Wind Projects in Emerging Markets and its automated Decision Support Tool'** *(Limited to 50 attendees, registration required)* *Hall Šibenik IX*
13:00 – 16:30	**PRE-CONFERENCE WORKSHOP** **'Collision Risk Models at 40: Current Status and Approaches to Improve Global Coordination and Utility'** *(Limited to 50 attendees, registration required)* *Hall Šibenik X*
20:00 – 23:00	**Welcome reception** *(wine and snacks)* *Hotel Jure outdoor pool*

DAY 2: Tuesday, 19 September 2023

08:00 - 17:00	**Registrations** *Convention centre lobby*		
09:00 – 10:00	**Conference opening ceremony** *Hall Šibenik I+II*		
10:00 – 11:00	**KEYNOTE SPEECH** **'Regulating Climate for Nature versus Regulating Nature for Climate'** *Hall Šibenik I+II*		
11:00 – 11:30	**Coffee break**		
11:30 – 12:30	**PANEL DISCUSSION** **'Nature Positive wind energy? An overview of the challenges and opportunities '** *Hall Šibenik I+II*		
12:30 – 13:30	**Lunch**		
13:30 – 15:00	**1A - Regulatory and planning aspects of wind energy projects** *(oral presentations)* *Hall Šibenik X*	**2A - Species-specific responses of onshore and offshore wind energy projects** *(oral presentations)* *Hall Šibenik II*	**5A - Current and future technology for wind energy and wildlife monitoring and mini-misation of impacts** *(oral presentations)* *Hall Šibenik I*
15:00 – 15:30	**Coffee break**		
15:30 – 17:00	**1B - Regulatory and planning aspects of wind energy projects** *(oral presentations)* *Hall Šibenik X*	**3A - Cumulative and population effects of wind energy projects** *(oral presentations)* *Hall Šibenik I*	**9A - Wind energy and biodiversity in practice** *(oral presentations)* *Hall Šibenik II*
17:00 – 20:00	**Free time**		
20:00 – ...	**Conference dinner with a band** *Hall Šibenik I+II*		

DAY 3: Wednesday, 20 September 2023

08:30 - 15:00	**Registrations** *Convention centre lobby*			
09:00 – 10:30	**6A - Dealing with uncertainty in wind energy and biodiversity assessments** *(oral presentations)* *Hall Šibenik II*	**5B - Current and future technology for wind energy and wildlife monitoring and minimisation of impacts** *(oral presentations)* *Hall Šibenik X*	**SPECIAL SESSION** **'Nature inclusive upscaling of offshore wind in the Dutch North Sea'** *Hall Šibenik I*	
10:30 – 11:00	**Coffee break**			
11:00 – 12:30	**9B - Wind energy and biodiversity in practice** *(oral presentations)* *Hall Šibenik II*	**4A - Ecosystem and habitat effects of wind energy projects** *(oral presentations)* *Hall Šibenik I*	**WORKSHOP 'How much is Shutdown On Demand the solution for bird mortality at wind farms?'** *Incl. Presentation* **'The ATMP Constraints and Solutions: Good International Industry Practices'** *Limited to 50 attendees, register via conference app* *Hall Šibenik IX*	**WORKSHOP 'Dealing with Uncertainty: Participatory Identification of Leverage Thresholds for Impacts'** *Hall Šibenik X*
12:30 – 13:30	**Lunch**			
13:30 – 14:30	**SPECIAL SESSION** **'Grand Challenges in Wind Energy Research – Updates from TEM #109'** *Hall Šibenik I*			
14:30 – 15:00	**Free time**			
15:00 – 21:00	**EXCURSIONS** *registration required* *(light dinner or packed dinner will be provided)*			
21:00 - ...	**Evening social programme** *En Vogue Beach Club*			

DAY 4: Thursday, 21 September 2023

08:30 - 17:00	**Registrations** *Convention centre lobby*			
09:00 – 10:00	**KEYNOTE SPEECH** **'Towards solving the global wind energy-bat conflict: Current state and future perspectives'** *Hall Šibenik I*			
10:00 – 11:00	**SPECIAL SESSION** **'Reducing uncertainty and assessing bat populations in Dominican Republic'** *Hall Šibenik I*			
11:00 – 11:30	**Coffee break**			
11:30 – 13:00	**7A - Minimising and mitigating impacts of wind energy projects** *(oral presentations)* *Hall Šibenik II*	**6B - Dealing with uncertainty in wind energy and biodiversity** *(oral presentations)* *Hall Šibenik X*	**SPECIAL SESSION** **'The emerging collision risks to Old World Fruit Bats'** *Hall Šibenik I*	
13:00 – 14:00	**Lunch**		Wildlife Acoustics presentation *(Hall Šibenik X)*	
14:00 – 15:30	**3B - Cumulative and population effects of wind energy projects** *(oral presentations)* *Hall Šibenik II*	**4B - Ecosystem and habitat effects of wind energy projects** *(oral presentations)* *Hall Šibenik IX*	**7B - Minimising and mitigating impacts of wind energy projects** *(oral presentations)* *Hall Šibenik I*	**WORKSHOP** **'Modelling future wind energy build out to understand emerging conservation and social challenges. Can it be done in your country?'** *Hall Šibenik X*
15:30 – 16:00	**Coffee break**			
16:00 – 17:00	**PANEL DISCUSSION** **'The role of IFIs in reducing biodiversity risks and impacts at renewable energy projects, case studies'** *Hall Šibenik I*			
17:00 – 18:30	**POSTER PRESENTATIONS** *Hall Šibenik XI*			
18:30 – 22:00	**ŠIBENIK VISIT** - *optional* *(organized transportation, sightseeing and free time)*			
21:00 - ...	**Evening social programme** *Mediterranean City*			

DAY 5: Friday, 22 September 2023

08:30 - 13:00	**Registrations** *Convention centre lobby*			
09:00 – 10:30	**5C - Current and future technology for wind energy and wildlife monitoring and mini-misation of impacts** *oral presentations)* *Hall Šibenik II*	**8A - Future issues – emerging challenges and solutions** *(oral presentations)* *Hall Šibenik I*	**2B - Species-specific responses of onshore and offshore wind energy projects** *(oral presentations)* *Hall Šibenik IX*	**WORKSHOP** **'Where do you start? Conceptional framing of compensatory mitigation for onshore and offshore wind farms'** *Hall Šibenik X*
10:30 – 11:00	**Coffee break**			
11:00 - 11:10	**KEYNOTE** **'The future of CWW'** *Hall Šibenik I*			
11:10 – 12:10	**KEYNOTE** **'Increasing connection and learnings in the international study of wind energy and wildlife'** *Hall Šibenik I*			
12:10 - 12:20	**'Progressing scientific research for nature-inclusive wind energy: an industry perspective'** *Hall Šibenik I*			
12:20 - 12:50	**Closing remarks from the Scientific Advisory Committee** *Hall Šibenik I*			
12:50 - 12:55	**SAC award for best poster** *Hall Šibenik I*			
12:55 – 13:15	**Closing remarks from the Organizing Committee** *Hall Šibenik I*			
13:15 – 14:30	**Lunch**			

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DAY 1: Monday, 18 September 2023

09:00 – 19:00	**Registrations** *Convention centre lobby*
09:30 – 17:00	**PRE-CONFERENCE WORKSHOP** **'A launching and training (with in-field component) of the Good Practice Handbook on Post-construction Fatality Monitoring (PCFM) for Onshore Wind Projects in Emerging Markets and its automated Decision Support Tool'** *by **David Tidhar** (Masdar), **Paul Rabie** and **Kate MacEwan** (Western EcoSystems Technology Inc.), **Zoe Howell** (Natural Power) with **Lori Anna Conzo** (International Finance Corporation) and **Robert Adamcyzk** (European Bank for Reconstruction and Development)* *(Limited to 50 attendees, registration required)* *Hall Šibenik IX*
13:00 – 16:30	**PRE-CONFERENCE WORKSHOP** **'Collision Risk Models at 40: Current Status and Approaches to Improve Global Coordination and Utility'** *by **Aonghais Cook** (British Trust for Ornithology), **Kate Williams, Evan Adams & Andrew Gilbert** (Biodiversity Research Institute), and **Pamela Loring** (US FWS)* *(Limited to 50 attendees, registration required)* *Hall Šibenik X*
20:00 – 23:00	**Welcome reception** *(wine and snacks)* *Hotel Jure outdoor pool*

DAY 2: Tuesday, 19 September 2023

08:00 - 17:00	**Registrations** *Convention centre lobby*
09:00 – 10:00	**Conference opening ceremony** *with **Dalibor Hatić** (Oikon), **Mirna Mazija** (Supernatural) and **David Tidhar** (Masdar)* *Hall Šibenik I+II*
10:00 – 11:00	**KEYNOTE SPEECH** **'Regulating Climate for Nature versus Regulating Nature for Climate'** *by **Johann Köppel,** Technical University Berlin/Uppsala University, Campus Gotland and **Roel May,** Norwegian Institute for Nature Research* *Hall Šibenik I+II*
11:00 – 11:30	**Coffee break**
11:30 – 12:30	**PANEL DISCUSSION** **'Nature Positive wind energy? An overview of the challenges and opportunities '** ***Samir Whitaker** (Orsted), **David Wilson** (The Biodiversity Consultancy), **Jay Diffendorfer** (U.S. Geological Survey), **Lori Anna Conzo** (International Finance Corporation), **Luc Hoogenstein** (ENECO), **Peter Robson** (Scottish Power)* *Moderator: **Ed Arnett,** The Wildlife Society* *Hall Šibenik I+II*
12:30 – 13:30	**Lunch**
13:30 – 15:00	**PARALLEL SESSIONS**
1A – Regulatory and planning aspects of wind energy projects	
Hall Šibenik X	• Setting objectives for nature-inclusive offshore wind farm development, ***Remment ter Hofstede*** • Offshore wind in harmony with ecology, a comparison between Scotland and the Netherlands, ***Martha Lovatt*** • Finding solutions for offshore wind and nature in England, ***Victoria Copley*** • Upscaling windenergy: how to predict future cumulative impacts of offshore windfarms in the Netherlands?, ***Martine Graafland*** • Integrating Species Conservation Considerations into Strategic, Regional Wind Energy Planning using Habitat Modelling, ***Gesa Geißler*** • The need for regional collaboration to underpin environmental impact assessments of birds for offshore wind projects in Australia's Bass Strait, ***Kim Derriman***

2A – Species-specific responses of onshore and offshore wind energy projects	
Hall Šibenik II	• Migration of bats and offshore windfarm development in Denmark, ***Morten Christensen*** • Assessing Avian Collision Risk and Susceptibility in Brazilian Wind Farms: A Comparative Study with Global Trends, ***Miguel Mascarenhas*** • Seabird sensitivity to offshore wind farms: an individual-based modelling approach, ***Lila Buckingham*** • First Griffon Vultures Fatality Monitoring Program in Croatia, ***Boris Božić*** • Number of bird collisions with onshore wind turbines in Japan and development of species sensitivity index, ***Tatsuya Ura*** • Synthetic analysis of post-construction displacement of marine birds from wind energy areas, ***Juliet Lamb*** *Moderator:* ***David Tidhar,*** *Masdar*
5A – Current and future technology for wind energy and wildlife monitoring and minimisation of impacts	
Hall Šibenik I	• First proven evidence that reducing wind turbine rotor speed may reduce significantly collision risk for approaching Milvus milvus, ***Henri Pierre Roche*** • Measuring flight behavior of cormorants with a dedicated 3D bird radar to develop shutdown decision rules, ***Jente Kraal*** • Effects of the use of noise-mitigation during offshore pile driving on harbour porpoise (Phocoena phocoena), ***Bob Rumes*** • Do large raptors keep their distance from the rotor swept-zone when using audio or strobe deterrent signals?, ***Aleksandra Szurlej-Kielanska*** • The Importance of Addressing Disagreements Between Nominal and Effective Treatments During Bat Mortality Minimization Validation Studies, ***Jeff Clerc*** • Deep learning for marine mammal monitoring from underwater acoustic data at offshore windfarm scale, ***Quentin Hamard*** *Moderator:* ***Emma Bennett,*** *Monash University*
15:00 – 15:30	**Coffee break**
15:30 – 17:00 PARALLEL SESSIONS	
1B – Regulatory and planning aspects of wind energy projects	
Hall Šibenik X	• Eurobats - Intersessional working group for wind turbines, ***Mirna Mazija*** • The role of strategic environmental assessment (SEA) for taking precautionary decisions at regional level – challenges and chances for wind energy development, ***Alexandra Jiricka-Pürrer*** • Balancing socio-ecological & economy trade-offs in spatial planning of wind-power projects, ***Frank Hanssen*** • Sharing the space? - A multi-criteria scenario framework to model the energy-biodiversity-land nexus for regional renewable energy planning, ***Jessica Weber*** • Value aggregation in environmental permit assessments for wind energy facilities, -An example from Sweden, ***Åsa Elmqvist*** • Assessing Environmental and Spatial Factors for Offshore Renewable Energy Development in Croatia, ***Zoran Poljanec*** *Moderator:* ***Roel May,*** *Norwegian Institute for Nature Research (NINA)*

2A – Species-specific responses of onshore and offshore wind energy projects	
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15:00 – 15:30	**Coffee break**

15:30 – 17:00 PARALLEL SESSIONS

1B – Regulatory and planning aspects of wind energy projects

Hall Šibenik X

- Eurobats - Intersessional working group for wind turbines, ***Mirna Mazija***
- The role of strategic environmental assessment (SEA) for taking precautionary decisions at regional level – challenges and chances for wind energy development, ***Alexandra Jiricka-Pürrer***
- Balancing socio-ecological & economy trade-offs in spatial planning of wind-power projects, ***Frank Hanssen***
- Sharing the space? - A multi-criteria scenario framework to model the energy-biodiversity-land nexus for regional renewable energy planning, ***Jessica Weber***
- Value aggregation in environmental permit assessments for wind energy facilities, -An example from Sweden, ***Åsa Elmqvist***
- Assessing Environmental and Spatial Factors for Offshore Renewable Energy Development in Croatia, ***Zoran Poljanec***

Moderator: ***Roel May,*** *Norwegian Institute for Nature Research (NINA)*

3A – Cumulative and population effects of wind energy projects

Hall Šibenik I

- Wind energy development in Latin America and the Caribbean: Risk assessment for flying vertebrates, ***Natalia Rebolo Ifrán***
- U.S. national analysis of bat mortality at wind energy facilities, ***Ashton Wiens***
- Effects of operating and proposed offshore wind farms on common guillemots (Uria aalge) in the southern North Sea, ***Verena Peschko***
- Vulnerability of golden eagle populations to fatalities at wind energy facilities, ***Tara Conkling***
- Cumulative impact and catchment areas of lesser kestrel in Northern Spain inferred from post-construction fatality monitoring, ***Alvaro Camina***
- Enough is enough? Delivering Seabird Compensation to keep Offshore Wind on Track, ***Mark Trinder***

9A – Wind energy and biodiversity in practice

Hall Šibenik II

- A novel approach to seabird collision risk modelling for the Australian offshore environment, ***Clare McCutcheon***
- Implementation and monitoring of key species interactions with Nature Inclusive Design projects in North Sea wind farms: the Borssele Cod Pipe projects, ***Greg DeCelles***
- Monitoring of windpower species-specific impact during operation – examples from Sweden, ***Jonas Sandström***
- The Rich North Sea: Lessons on nature enhancement in offshore wind farms, ***Eline van Onselen***
- Piloting a seascape-scale restoration approach, ***Samir Whitaker***
- The Offshore Coalition for Energy and Nature (OCEaN), ***Manon Quetstroey***

Moderator: ***Sytske van den Akker,*** *Vattenfall*

17:00 – 20:00	**Free time**
20:00 – ...	**Conference dinner with a band** *Hall Šibenik I+II*

DAY 3: Wednesday, 20 September 2023

08:30 - 15:00	**Registrations** *Convention centre lobby*

09:00 – 10:30 PARALLEL SESSIONS

6A – Dealing with uncertainty in wind energy and biodiversity assessments

Hall Šibenik II

- Probabilistic methods – will they make permission processes easier and faster?, ***Jan Blew***
- Guidance for Pre- and Post-Construction Monitoring to Detect Changes in Marine Bird Distributions and Habitat Use Related to Offshore Wind Development in the United States, ***Julia Gulka***
- Twenty years of wolf monitoring plans and EIA in Portugal: can we do it better?, ***Gonçalo Ferrão da Costa***
- Six years of using the Guidelines for assessment of wind farms impact on large carnivores in Croatia, ***Djuro Huber***
- Reference values of bat activity for the potential impact assessment of renewable energies, ***Alba Coronado***
- A Global Framework for Establishing Bat Fatality Thresholds at Wind Energy Facilities, ***Winifred Frick***

Moderator: ***Branko Karapandža,*** *Fauna C&M*

5B – Current and future technology for wind energy and wildlife monitoring and minimisation of impacts

Hall Šibenik X

- GIS model of spatial and temporal distribution of white stork migration over the Balkan Peninsula – applicable tool for wind farm development, ***Nikolay Yordanov***
- Automated identification of bird species using flight pattern, ***Milica Ostojic***
- Pilot study of an automated bird protection system in a German wind farm, ***Jannes Kreutzfeldt***
- Automatic detection of 3D bat flightpaths with a thermal camera system for wind turbines, ***Christof Happ***
- Frameworks for effective wind-wildlife monitoring require high resolution data from integrated technology fusions, ***Laura Dempsey***
- Recommendations for Technology Research and Development (R&D) for Scientifically Robust Monitoring of Birds and Marine Mammals in Relation to Offshore Wind Energy Development, ***Kate Williams***

Moderator: ***Cris Hein,*** *National Renewable Energy Laboratory (NREL)*

SPECIAL SESSION

Hall Šibenik I

- **'Nature inclusive upscaling of offshore wind in the Dutch North Sea'**
  by ***Florentine van der Wind*** *(Dutch Ministry of Economic Affairs and Climate Policy),* ***Ingeborg van Splunder*** *(Dutch Governmental Offshore Wind Ecological Programme - WOZEP),* ***Niels van Houten,*** *(Ministry of Agriculture, Nature and Food Quality) and by representatives of the Ecowende Windfarm:* ***Marin van Regteren*** *(ENECO),* ***Hermione van Zutphen,*** *(Shell)* ***& Jeroen Kwakkel*** *(Waardenburg Ecology)*

Moderator: ***Wouter Lengkeek,*** *Waardenburg Ecology*

10:30 – 11:00	**Coffee break**

11:00 – 12:30 PARALLEL SESSIONS	
9B – Wind energy and biodiversity in practice	
Hall Šibenik II	• Key Cumulative biodiversity risks, current issues, future outcomes, and research gaps in Jhimpir Wind Region (JWR), Pakistan, ***Osama Zulqurnain*** • Reflections from the south. Lessons from over a decade of addressing wind energy's impacts on birds in southern Africa., ***Samantha Ralston-Paton*** • Phenological aspects of Croatian breeding birds; contribution to regulatory and planning aspects of wind energy projects, ***Gordan Lukač*** • Testing habitat sensitivity maps for large carnivores focused on the results of grey wolf monitoring by camera traps prior to the construction of wind farms – a case study from Croatia, ***Lidija Šver*** • Performance of the Biosis wind turbine avian collision risk model evaluated for two species of Australian eagles, ***Jonathan Botha*** • Inclusive Development of Wind Energy and Related Infrastructure: Using Collaborative Science and Stakeholder Engagement to Reduce Risk to Wildlife in the Arid Southwestern United States, ***Quentin Hays*** *Moderator:* ***Đuro Huber,*** *OIKON*
4A – Ecosystem and habitat effects of wind energy projects	
Hall Šibenik I	• What's for dinner? Bat diets and the role of crop pest emergence in bat fatalities at wind energy facilities, ***Amanda Hale*** • Reducing operational impacts of future wind parks on avian fauna through strategic site selection in Norway, ***Jan Borgelt*** • The underrated contribution of wind energy infrastructures in land take: an emerging threat to the biodiversity and ecosystem services of natural areas, ***Sylvia Zakkak*** • PELAgIO: Physics-to-Ecosystem Level Assessment of Impacts of Offshore Wind Farms, ***Beth Scott*** • Modelled impacts of Offshore Wind Farms on physical mixing and primary production in stratified waters, ***Arianna Zampollo*** • Wind Reef – Towards a net positive environmental impact of offshore wind farms decommissioning, ***Liv Stranddorf*** *Moderator:* ***Ed Arnett,*** *The Wildlife Society*
WORKSHOP	
Hall Šibenik IX	• **'How much is Shutdown On Demand the solution for bird mortality at wind farms?'** *by* ***Ricardo Tomé, Filipe Canário*** *and* ***David Wilson*** *(The Biodiversity Consultancy)* • *Incl. Presentation* **'The ATMP Constraints and Solutions: Good International Industry Practices'** *by* ***Ali Khazma*** *(RCREEE)* *Moderator:* ***Laith El-Moghrabi,*** *Fieldfare Ecology* *Limited to 50 attendees, register via conference app*
WORKSHOP	
Hall Šibenik X	• **'Dealing with Uncertainty: Participatory Identification of Leverage Thresholds for Impacts'** *by* ***Roel May*** *(Norwegian Institute for Nature Research),* ***Cris Hein*** *(NREL), and* ***Miguel Mascarenhas*** *(Bioinsight)*

12:30 – 13:30	**Lunch**
13:30 – 14:30	**SPECIAL SESSION** **'Grand Challenges in Wind Energy Research – Updates from TEM #109'** *by* ***Amanda Hale*** *(WEST, Inc.),* ***Cris Hein*** *(NREL), and* ***Samantha Rooney*** *(NREL)* *Hall Šibenik I*
14:30 – 15:00	**Free time**
15:00 – 21:00	**EXCURSIONS** *registration required* *(light dinner or packed dinner will be provided)*
21:00 - ...	**Evening social programme** *En Vogue Beach Club*

DAY 4: Thursday, 21 September 2023

08:30 - 17:00	**Registrations** *Convention centre lobby*
09:00 – 10:00	**KEYNOTE SPEECH** **'Towards solving the global wind energy-bat conflict: Current state and future perspectives'** *by **Christian C. Voigt,** Leibniz Institute for Zoo and Wildlife Research* *Moderators: **Mirna Mazija** (Supernatural) and **Ed Arnett** (The Wildlife Society)* *Hall Šibenik I*
10:00 – 11:00	**SPECIAL SESSION** **'Reducing uncertainty and assessing bat populations in Dominican Republic'** *by **Caleb Gordon** (Xenops Environmental), **Rosa Palmer, Paul Rabie, Kevin Murray, Theodore Owen** (WEST, Inc.), and **Miguel Núñez-Novas** (Natalus Consultoría Ambiental)* *Moderator: **Winifred F. Frick,** Bat Conservation International* *Hall Šibenik I*
11:00 – 11:30	**Coffee break**
11:30 – 13:00	**PARALLEL SESSIONS**
7A – Minimising and mitigating impacts of wind energy projects	
Hall Šibenik II	• Micro-siting of mitigation measures at three wind farms in southern Croatia help reduce bat mortality and minimise energy losses, ***Stjepan Renje*** • Developing and Evaluating a Smart Curtailment Strategy Integrated with a Wind Turbine Manufacturer Platform, ***Michael Whitby*** • Spatial curtailment: a win-win approach to protect bats in wind farms located in migration routes and reduce production loss, ***Sandra Rodrigues*** • Breakpoint model as a curtailment method – a promising alternative for estimating the cut-in speed, ***Jonas Vasconcelos Filho*** • Implementation of adaptive management to mitigate negative impacts of wind farms on bats – problem or opportunity?, ***Hrvoje Peternel*** • The North Sea wind turbine curtailments informed by near-term forecasts, ***Maja Bradarić*** *Moderator: **Winifred Frick,** Bat Conservation International*
6B – Dealing with uncertainty in wind energy and biodiversity assessments	
Hall Šibenik X	• Estimation of flight intensity of the swift Apus apus during migration over the Baltic Sea using the distance method, based on visual observations and data obtained by parametric classification, ***Anna Suchowolec*** • Determining bat activity at two wind farm sites in Tunisia, ***Miguel Repas-Goncalves*** • Flight heights obtained from GPS versus altimeters influence estimates of collision risk with offshore wind turbines in Lesser Black-backed Gulls Larus fuscus, ***Daniel Johnston*** • Flight behaviors in subtropical seabirds exacerbate collision risk for wind energy development in deep-water environments, ***J. Christopher Haney*** • Assessing vulnerability of migrating Anatidae (waterfowl) populations to offshore wind farms, ***Ros Green*** • A comprehensive methodological approach to quantifying population and cumulative effects on bird and bat species in pre- and post-construction studies: South Banat Region of Serbia as a case study, ***Branko Karapandža*** *Moderator: **Mirna Mazija,** Supernatural*

SPECIAL SESSION	
Hall Šibenik I	• **'The emerging collision risks to Old World Fruit Bats'** *by **Kate MacEwan** (WEST), **Emma Bennett** (Monash University), **Inka Veltheim** (Biosis), **Jennefer McClean** (Tolga Bat Rescue and Research) and **Jessica Meade** (Western Sydney University)* *Moderator: **Đuro Huber,** Oikon*
13:00 – 14:00	**Lunch** Wildlife Acoustics presentation *(Hall Šibenik X)*
14:00 – 15:30	**PARALLEL SESSIONS**
3B – Cumulative and population effects of wind energy projects	
Hall Šibenik II	• Offshore wind energy suitability, environmental impact and cumulative impact analysis – delivered within the Maritime Spatial Planning process, ***Andrej Abramic*** • Hierarchical estimation of turbine-level multi-species bat mortality while accounting for heterogeneous search efforts, ***Charles Labuzzetta*** • Habitat suitability models as a basis of cumulative assessment frameworks, ***Chen Chun*** • Life-cycle impacts of offshore wind energy development on marine mammals, ***Thomas Kvalnes*** • Life-cycle impacts of offshore wind energy development on migrating bird diversity in the North Sea, ***Emma Critchley*** • A Bayesian framework using INLA for an ecosystem-based cumulative effect assessment of offshore windfarms, ***Morgane Declerck*** *Moderator: **Kate Williams,** Biodiversity Research Institute*
4B – Ecosystem and habitat effects of wind energy projects	
Hall Šibenik IX	• PREDICT: Predicting seasonal movements of marine top predators using fish migration routes as prey availability in the North Sea, ***Georgina Hunt*** • Synthesizing multi-scale relationships among forage fishes and marine predators in the Northwest Atlantic Ocean to inform offshore wind siting, ***Evan Adams*** • Ecosystem approaches to deal with the nexus of trade-offs between offshore energy and fishing within the context of climate change, ***Neda Trifonova*** • A comparison of predicted benthic habitat disturbance between bottom-contact trawling and floating offshore wind energy along the US West Coast, ***Donna M. Schroeder*** • Underwater noise in and around a Dutch offshore windfarm during construction and operation, ***Joost Brinkkemper*** • Preliminary investigation of offshore wind energy sites in the German Exclusive Economic Zone, ***Kerstin Schiele*** *Moderator: **Wouter Lengkeek,** Waardenburg Ecology*

7B – Minimising and mitigating impacts of wind energy projects	
Hall Šibenik I	• Mitigation of raptor collisions at two African wind farms, ***Dominic Kimani*** • Does a single black rotor blade reduce bird mortality?, ***Lizanne Jeninga*** • Application of a risk assessment model to assess encounter rates between large whales and sea turtles and vessel traffic from offshore wind development on the Atlantic outer continental shelf, ***Tara Stevens*** • Balancing renewable energy expansion and species protection through automated radio-tracking, ***Jannis Gottwald*** • Assessing the relevance and demographic consequences of compensatory measures for seabirds through expert elicitation, ***Kate Searle*** • Managing impacts of offshore wind projects: 20 years of learning what to do (and not do!), ***Claire Weller*** *Moderator:* ***Laith El-Moghrabi,*** *Fieldfare Ecology*
WORKSHOP	
Hall Šibenik X	• **'Modelling future wind energy build out to understand emerging conservation and social challenges. Can it be done in your country?'** *by* ***Jay Diffendorfer*** *(U.S. Geological Survey),* ***Anthony Lopez*** *(NREL),* ***Bethany Straw*** *(U.S. Geological Survey),* ***Trieu Mai*** *(NREL),* ***Charles Labuzzetta*** *(U.S. Geological Survey),* ***Ashton Wiens*** *(U.S. Geological Survey)* *Moderator:* ***Emma Bennett,*** *Monash University*
15:30 – 16:00	**Coffee break**
16:00 – 17:00	**PANEL DISCUSSION** **'The role of IFIs in reducing biodiversity risks and impacts at renewable energy projects, case studies'** *with* ***Alexandra Lima Lopes Martins de Freitas*** *(FMO),* ***Lori Anna Conzo*** *(International Finance Corporation),* ***Beatrice Yulo Gomez*** *(Asian Development Bank),* ***Robert Adamczyk*** *(European Bank for Reconstruction and Development)* *Moderator:* ***Tris Allinson,*** *BridLife International* *Hall Šibenik I*
17:00 – 18:30	**Poster presentations** *Hall Šibenik XI*
18:30 – 22:00	**Šibenik visit** *- optional* *(organized transportation, sightseeing and free time)*
21:00 - ...	**Evening social programme** *Mediterranean City*

DAY 5: Friday, 22 September 2023

08:30 - 13:00	**Registrations** *Convention centre lobby*
09:00 – 10:30 PARALLEL SESSIONS	
5C – Current and future technology for wind energy and wildlife monitoring and minimisation of impacts	
Hall Šibenik II	• Real-time Passive Acoustic Monitoring for Aggregations of Spawning Cod at an Offshore Wind Farm, ***Gregory DeCelles*** • Piloting and validating monitoring technologies for pelagic fish biomass and biodiversity in floating offshore wind farms, ***Kari Mette Murvoll*** • Utilizing data from automated camera-based monitoring systems to quantify flight behavior and assess species-specific collision risk of birds with wind turbines, ***Anne Cathrine Linder*** • Using Acoustics and Thermal Imaging to Assess Bat Behavior and Activity at Towers, ***Sarah Fritts*** • Radar based methods to study birds movement pattern in onshore wind farms of China, ***Lili Jia*** • Results from testing - A Multi-Sensor Approach for Measuring Bird and Bat Collisions with Wind Turbines, ***Jennifer Stucker*** *Moderator:* ***Emma Bennett,*** *Monash University*
8A – Future issues – emerging challenges and solutions	
Hall Šibenik I	• Using spatial capture-recapture to improve impact assessment analysis on large carnivores, ***Gonçalo Ferrão da Costa*** • Positive steps towards enhancing biodiversity in windfarms via seaweed aquaculture, ***Wave Crookes*** • Developing a multidisciplinary analytical framework that offers means to weigh trade-offs when exploring future wind energy built out and bat population interactions, ***Bethany Straw*** • Towards energy stewardship – a transdisciplinary framework for holistic wind energy development by building relational values, ***Roel May*** • Multifaceted trade-offs in wind energy planning: ecological vs. social, global climate vs. local preference, costs vs. conflict avoidance, ***Trieu Mai*** • Introducing New International Offshore Wind Metadata Forms on Tethys, ***Jonathan Whiting*** *Moderator:* ***Johann Köppel,*** *Technische Universität Berlin/Uppsala University, Campus Gotland*
2B – Species-specific responses of onshore and offshore wind energy projects	

Hall Šibenik IX	• Review of evidence to support gannet (Morus bassanus) displacement from offshore wind farms., ***Sean Sweeney*** • Range expansion of the Great Cormorant thanks to booming offshore wind farm developments in the North Sea, ***Abel Gyimesi*** • In vitro evaluation of exposure of early life-history stage (ELHS) marine fishes to electromagnetic fields (EMF), ***Lisa Garnier*** • Heterogeneity in harbour porpoise presence near two floating offshore wind farms, ***Caitlin Harris*** • Interactions between seals and offshore wind farm construction, ***Gordon Hastie*** • Harbour porpoises and operational offshore wind farms; occurrence and responses in time and space, ***Jacco Leemans*** *Moderator:* ***Sytske van den Akker,*** *Vattenfall*
WORKSHOP	
Hall Šibenik X	• **'Where do you start? Conceptional framing of compensatory mitigation for onshore and offshore wind farms'** *Organized by* ***Atma Khalsa*** *(Avangrid),* ***Scott Johnston*** *(U.S. Fish and Wildlife Service),* ***Laura Nagy*** *(Vineyard Offshore), and* ***Kate Williams*** *(Biodiversity Research Institute)*
10:30 – 11:00	**Coffee break**
11:00 - 11:10	**KEYNOTE 'The future of CWW'** *by* ***David Tidhar,*** *Masdar* *Hall Šibenik I*
11:10 – 12:10	**KEYNOTE 'Increasing connection and learnings in the international study of wind energy and wildlife'** *by* ***Taber Allison,*** *REWI* *Hall Šibenik I*
12:10 - 12:20	**'Progressing scientific research for nature-inclusive wind energy: an industry perspective'** *by* ***Mattia Cecchinatto,*** *Wind Europe* *Hall Šibenik I*
12:20 - 12:50	**Closing remarks from the Scientific Advisory Committee** *Hall Šibenik I*
12:50 - 12:55	**SAC award for best poster** *Hall Šibenik I*
12:55 – 13:15	**Closing remarks from the Organizing Committee** *Hall Šibenik I*
13:15 – 14:30	**Lunch**

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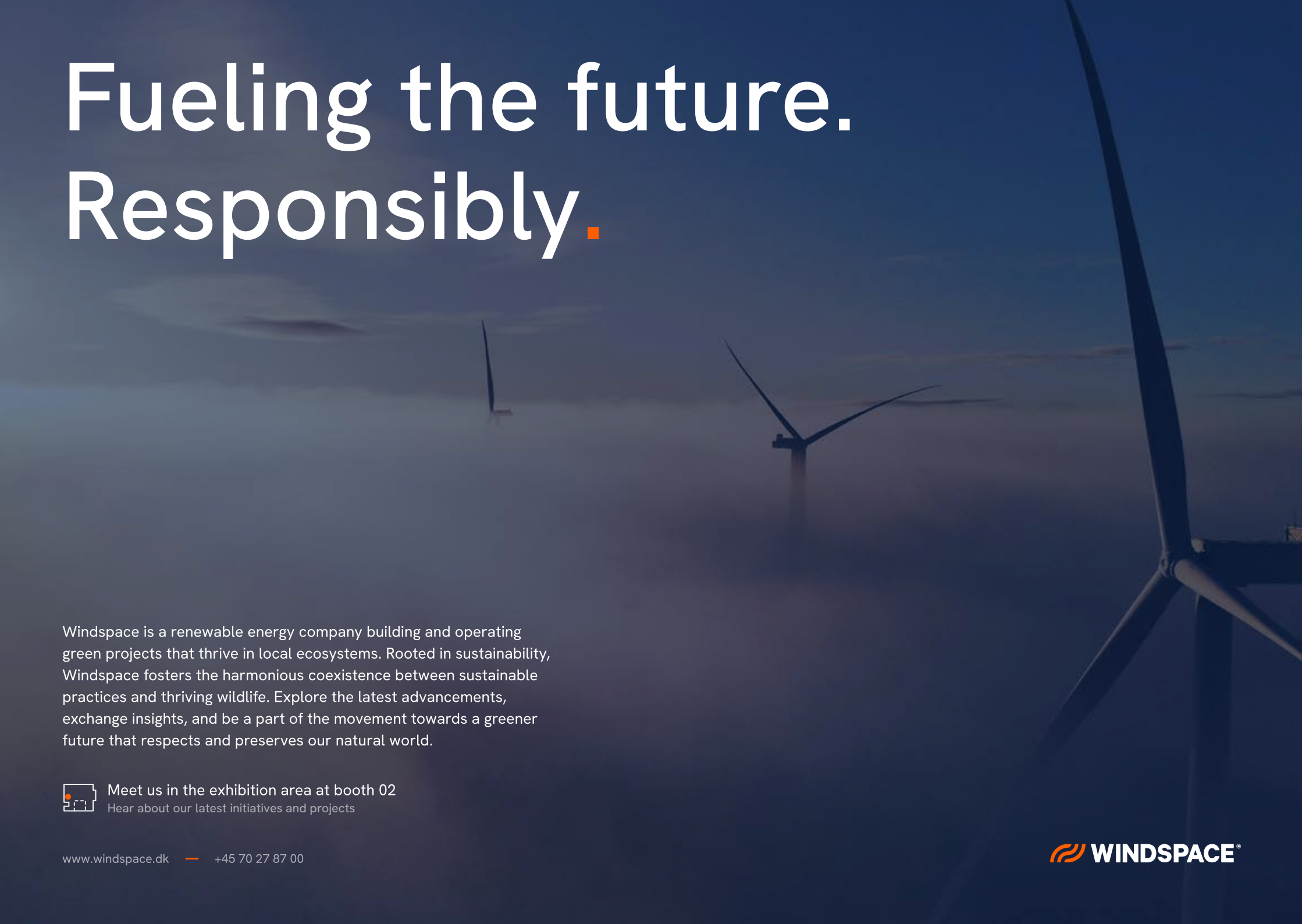
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1. REGULATORY AND PLANNING ASPECTS OF WIND ENERGY PROJECTS

Controlling who controls: unveiling underestimates of bird and bat fatalities at wind farms in central Spain
Alvaro Camina

Introducing offshore wind energy into the sea space, methodology and test use-cases archipelagos of Azores, Madeira, and the Canary Islands
Andrej Abramic, Alejandro García Mendoza, Ricardo Haroun

Strengthening Environmental Assessment for Wind Development by Integrating the Human Element: A Risk Management Approach
Grace E. Russell, Dean A. Slocum

Use of height annotated map-based aids as a tool to improve surveyor flight height estimates during vantage point surveys
Nicola Largey, Susan Doyle, John Hynes, Pat Roberts, Brian Keville

Regional Assessment of Offshore Wind Impacts on Avifauna in Canada
Paul Knaga

REPowerEU and Go-to areas in the Mediterranean Basin countries: Perspectives from Greece and Portugal
Paulo Cardoso, Andreas Vlamakis, Efi Karra, Vanderlei Debastiani, Miguel Mascarenhas

High level risk assessment & its use in marine spatial planning and decision making.
Sara Pacitto, David Still, Mark Miller, Ian Gloyne-Phillips, Elizabeth Morgan, Matthew Hazleton, Masoume Mahboubi, Tim Norman

Offshore and onshore maps of bird sensitivity in relation to wind energy development for two European countries
Tris Allinson, Juan Serratosa Lopez, Antonio Vulcano, Bethany Clark, Anna Staneva, Larissa Donida Biasotto, Claudio Celada, Giorgia Gaibani, Marco Gustin, Jarosław Krogulec, Krzysztof Stasiak, Rafał Bobrek

2. SPECIES-SPECIFIC RESPONSES OF ONSHORE AND OFFSHORE WIND ENERGY PROJECTS

Comparative Analysis on Behavioral Responses for Priority MSBs While Crossing Wind Farms throughout Pre- and Post-Construction Phase in Gulf of Suez in Egypt
Ali Khazma, Ahmed Khalil

MILANEOL – studying the red kite mortality by collision with wind turbines in Belgium
Arnaud Vansteenkiste, Arnaud Beckers, Dorothée Denayer, Jean-Yves Paquet, Nicolas Magain

Do avoidance/attraction responses of kittiwakes from the same colony vary between different wind farms?
Chris Pollock, Daniel T. Johnston, Chris B. Thaxter, Philipp H. Boersch-Supan, Nina J. O'Hanlon, Jacob G. Davies, Gary D. Clewley, Elizabeth M. Humphreys, Aonghais S. C. P. Cook

Basin study on acoustic responsiveness in wild-caught herring for exploration of deterrent potential
Fien Demuynck, Jeroen Hubert, Tom van Tilburg, Daniël Mirck, Hans Slabbekoorn

Presence of large carnivores in the impact area of wind power plants during operation in Croatia
Gjorge Ivanov, Sandra Tomljenović, Karla Čmelar, Ivan Grubišić , Matija Marek

Pelagic fish presence and behaviour during pile driving in two windfarms
Jeroen Hubert, Sam van Veldhuijzen, Margaux Vereecke, Benoit Berges, Jozefien M. Demuynck, Elisabeth Debusschere, Carlota Muñiz, Hans Slabbekoorn

Navigating through a maze: Behavioral responses of three gull species to onshore wind turbines at the North Sea Coast during the breeding season
Karena Haecker, Moritz Mercker, Philipp Schwemmer, Stefan Garthe

Effects of Vibro Piling and ship traffic on the abundance and behavior of harbor porpoise (Phocoena phocoena)
Karoline Hots, Alexander Schubert, Armin Rose, Claudia Burger, Ansgar Diederichs

Behaviour and habitat use of black-legged kittiwakes (Rissa tridactyla) in response to offshore wind farms in the German North Sea
Kristin Moeding, Verena Peschko, Moritz Mercker, Stefan Garthe

Pre- and post construction monitoring of forest grouse lek sites in a wind farm in Norway
Lars J. Rostad, Håkon Gregersen

Visitation patterns and habitat use of fish in a context of offshore wind energy development
Lydie Couturier, Pierre Labourgade, Thomas Trancart, Jérôme Bourjea, Eric Stephan, Marine Gonse, Martial Laurans, Mathieu Woillez, Jan Reubens, Eric Feunteun, Armelle Jung, Philippe Lenfant

A radar and ESAS study of seabird activity on a floating offshore wind power project
Rui Machado, Pedro Moreira, Sara Gomes, Pedro Cardia, Nuno Cidraes-Vieira, Ricardo Oliveira, Miguel Repas-Goncalves

Radar estimates for model parameters of collision risk around wind turbines in the Chilean Patagonia
Miguel Repas-Goncalves, Pedro Cardia, Nuno Cidraes-Vieira, Cristofer de la Rivera, Julio Duran

European nightjar and wind turbine generators (WTG) - movement and display responses to turbine presence and operation.
Mike Shewring, Bjarke Laubek

Flat oyster restoration in the Dutch North Sea: comparison of five pilot projects (2018-2021)
Oscar G. Bos, Stephanie Duarte-Pedrosa, Karin Didderen, Joost Bergsma, Sonia Heye, Pauline Kamermans

The common buzzard – a model species for bird-wind turbine interaction: GPS/GSM data from Kaliakra, NE Bulgaria
Pavel Zehtindjiev, Kiril Bedev, Martin Marinov, Nikolay Yordanov

Contrasting effects of two large windfarms in Scotland on Common Snipe Gallinago gallinago and Eurasian Curlew Numenius arquata populations
Peter Robson, Sarah Rankin, Mark Whittingham

Behavioural reactions and spatio-temporal movement patterns of migratory bird species confronted with offshore windfarms in the North and Baltic Seas
Philipp Schwemmer, Moritz Mercker, Karena Haecker, Karoline Heuer, Helmut Kruckenberg, Steffen Kämpfer, Pierrick Bocher, Jérôme Fort, Frédéric Jiguet, Samantha Franks, Jaanus Elts, Riho Marja, Markus Piha, Pierre Rousseau, Rebecca Pederson, Heinz Düttmann, Thomas Fartmann, Stefan Garthe

The role of habitat and prey quality in marine mammal responses to developing offshore wind landscapes
Philippa Wright, Katherine Whyte, Cormac Booth, Sophie Smout, Gordon Hastie

Review of evidence to support of guillemot (Uria aalge) and razorbill (Alca torda) displacement in relation to offshore wind farms.
Sean Sweeney, Rob Catalano, Matt Boa, Tim Coppack

Review of the potential impact of OWF lighting effects on ornithological receptors, with particular reference to Manx shearwater (Puffinus puffinus)
Sean Sweeney, Rob Catalano, Tim Coppack, Matt Boa

Applications of structural equation modeling (SEM) to understand the potential causes of sea turtle strandings in Taiwan
Tsung-Hsien Li, Wei-Rung Chou

Spatial and temporal patterns of bat fatalities at onshore wind farms in Taiwan
Ying-Yi Ho, Hsueh-Wen Chang, Mao-Ning Tuanmu

3.
CUMULATIVE AND POPULATION EFFECTS OF WIND ENERGY PROJECTS

Assessing cumulative impacts of collision risk on seabirds caused by commercial offshore wind farms in the English Channel, North Sea and Atlantic coast (BIRDRISK)
James Robbins, Camille Guillemette, Samuel Slater, Anne Mouillier, Fiona Morton, Morgane Ferrer, Gillian Vallejo, Sylvain Michel, Karen Bourgeois, Nicolas Sadoul, Antoine Chabrolle, Etienne Boncourt, Olivier Delmas, Jean-Marc Brignon

Understanding the magnitude and drivers of foraging route fidelity in seabirds in the age of offshore renewables
Charlotte Regan, Maria Bogdanova, Mark Newell, Carrie Gunn, Sarah Wanless, Mike Harris, Samuel Langlois Lopez, Ella Benninghaus, Francis Daunt, Kate Searle

Increasing biological realism in individual-based models of seabirds to predict the impacts of offshore wind farms
Chris Pollock, Deena Mobbs, Adam Butler, Katherine Whyte, Esther Jones, Francis Daunt, Kate Searle

Impacts of Offshore Windfarms on different seabird species
Henriette Schwemmer, Verena Peschko, Moritz Mercker, Stefan Garthe

ORJIP Offshore Wind - summary of ongoing project results
Oliver Patrick

4.
ECOSYSTEM AND HABITAT EFFECTS OF WIND ENERGY PROJECTS

Predator and Prey Responses to Offshore Wind Farm Construction and Operation
Jared Wilson, Cormac Booth, Esther Jones, Eric Knott, Jacob Nabe-Nielson, Joe Onoufriou, Kate Searle, Paul Thompson, Matthew Witt

Conflicts of an offshore wind farm in marine protected areas using an ecosystem approach
Lorena Couce, Andrej Abramic, Airam Guerra, José J. Castro

Ecosystem effects of large-scale implementation of offshore wind in the North Sea
Luca A. van Duren, Firmijn Zijl, Stendert Laan, Tammo Zijlker, Thijs van Kessel, Erik Hendriks, Jan Vanaverbeke, Vincent van Zelst, Luka Jaksic, Lauriane Vilmin, Lisa Schneider, Jaap van der Meer, Jelle Rienstra, Peter Herman, Edwin Verduin

Exploring the need for ecological restoration in onshore wind energy projects
Lukas Seifert, Roel May, Dagmar Hagen, Bente Graae

Porpoise Network Borssele: long-term study on the habitat suitability of offshore windfarms for harbour porpoises in the North Sea.
Roelant Snoek, Steve Geelhoed, Joost Brinkkemper, Marijke Oort-Olivierse, Hans Verdaat, Daan Nieuwendijk, Marije Siemensma, Niels Kinneging

Benthic environmental footprint of an offshore windfarm: a novel study
Natalie Hicks, Samir Whitaker, Paul Kirk, Lucy Shaw, Richard Green

5.
CURRENT AND FUTURE TECHNOLOGY FOR WIND ENERGY AND WILDLIFE MONITORING AND MINIMISATION OF IMPACTS

Scientific validation of AI bird-monitoring software - Best practice and experiences from Aberdeen Bay – A collaborative project between Vattenfall, The British Trust for Ornithology and Spoor.
Andreas Günther, Andrew Watts, Aonghais Cook, Jesper Kyed Larsen

Challenges of curtailment algorithms for bats in farmland and industrial areas
Arnaud Beckers, Louis Casier, François Magonette, Julien Otoul, Maxime Kelder

Testing of a bat activity and mortality detection sytem for utility scale wind turbines
Brogan Morton, Sara Weaver

AVES - Automatic VErification System - an automatic identification system to reduce mortality risk by collision and down time of wind turbines
Esther Clausen, Thilo Liesenjohann, Jan Paul, Georg Nehls, Shanmugapriyan Manoharan, Thorsten Heinzen, Thoralf Rassmann

The use of passive acoustic surveys to monitoring avian community at windfarms in Portugal: a comparison with a proxy of a standard human survey
Gonçalo Ferrão da Costa, Karina Amaral, Luís Rosa, Sandra Rodrigues, Paulo Cardoso, Miguel Mascarenhas

The Scottish Passive Acoustic Network (SPAN): A nationwide baseline underwater sound and marine mammal monitoring approach
Jack Lucas, Susanna Quer, Evelyn Philpott, Joseph Onoufriou, Kate Brookes, Monika Kosecka, Rhiannon Nichol, Louise Wilson, Paul Stainer

MAVEO project (MArine VErtebrates & Offshore wind farms): A Tool for Ecological Monitoring and Assessment in the Oceans
Julien Ringelstein, Nicolas Lariviere-Gillet, Sibylle Cazacu

Exploring the potential of navigational radars and surveillance cameras to monitor birds in a floating offshore wind farm area
Kari Mette Murvoll, Arne Myhrvold, Tonje Waterloo Rogstad, Anne-Laure Szymanski, Jürgen Weissenberger, Filip M. Sarfi, Rene Somer, Iveta Krskova, Andrew Watts, Helge Reikerås, Andreas Günther, Emma Jane Critchley

Restoration of seagrass meadows after mechanical damage: incorporating biomimicry and recovery of feedbacks in restoration techniques
Karin Didderen, Arnaud Boulenger, Tjisse van der Heide, Malenthe Teunis, Sylvie Gobert, Wouter Lengkeek

Monitoring hydrological change during afforested peatland restoration: a case study at an upland windfarm in South Wales, UK
Laura Hughes-Dowdle, Bernd Kulessa, Tavi Murray, Jonathan Walker, Rob Low, Robin Cox, Joey Pickard

Multicopter Bat Surveillance: Noise Emission versus the Hearing Abilities of Bats
Lohith Dunna, Swaroop Meloth, Steffi Reinhold, Berndt Zeitler, Tessa Taefi, Veit Dominik Kunz

Optimizing UAS for Bat Activity Monitoring Near Wind Turbines: Investigating Deterrent and Habituation Effects
Marc Roswag, Joanna Fietz, Matthias Roswag, Anna Roswag, Tessa Taefi

Evaluation of the effectiveness of IdentiFlight & residual impacts on the red kite (Côteaux du Blaiseron wind farm - Grand Est - France
Marc Thauront, Emilien Weissenbacher

Assessing the comparability of different aerial monitoring methods of marine megafauna
Maud Quéroué, Matthieu Authier, Aurélien Besnard, Karine Heerah

Implementing Motus Technology for Offshore Wind Monitoring
Pamela Loring, Kate Williams, Evan Adams, Andrew Gilbert, Doug Gobeille, Erik Carlson, Stuart Mackenzie, Lucas Berrigan

First results of the LIFE EUROKITE project: Human-caused mortality of the red kite in Europe assisted by high-resolution GPS telemetry tracking.
Rainer Raab, Ivan Literák, Jendrik Windt, Eike Julius, Rainhard Raab, Maximilian Raab, Verena Strauß, Shane Sumasgutner, Péter Spakovszky, Jochen Steindl, Manuel Wojta, Eva Indruchová, Alexander Bek, Marek Dostal, Boris Maderič, Ján Svetlík, Stef van Rijn, Alfonso Godino, Juan Arizaga, Melvin Bach, Bettina Wilkening, Ana Bermejo, Javier De La Puente, Antoni Muñoz, Ubbo Mammen, Patricia Mateo Tomás, Diego Villanúa Inglada, Patrick Scherler, Martin Grüebler, Urs Kormann, Dušan Rak, Manuela Löwold, Wolfgang Fiedler, Thomas Pfeiffer, Winfried Nachtigall, Ernesto Alvarez, Manuel Galan, Christian H. Schulze, Lubomír Peške, László Haraszthy, Martin Kolbe, Bernd Nicolai, Eike Steinborn, Hynek Matušík, Karel Makoň, Jakub Mráz, Vladimír Pečeňák, Alexander Resetaritz, Jean-Yves Paquet, Zdeněk Vermouzek, Fabienne David, Aymeric Mionnet, Aurelie de Seynes, Romain Riols, Nicolas Lorenzini, Samuel Talhoet, Torsten Marczak, Nayden Chakarov, Jörg Westphal, Carole Attie, Miklós Vaczi, Martin Sprötge, Marta Olalde, Susanne Åkesson, Caka Karlsson, Matthias Haase, Sascha Ritter, Katharina Klein, Max Steinmetz, Moritz Mercker & Hannah Böing

SEMMACAPE: aerial survey of the marine megafauna in offshore windfarms by automatic characterisation
Anouck Viain, Sylvain Michel, Gwenaël Duclos, Pierre Allain, Sébastien Lefèvre, Minh-Tan Pham, Karine Heerah, Tristan Rouyer

6.
DEALING WITH UNCERTAINTY IN WIND ENERGY AND BIODIVERSITY ASSESSMENTS

Bird and bat mortality: results of a ten-year study (2014-2023) at 20 wind farms in Poland
Aleksandra Mikołajczyk, Krzysztof Martini, Paulina Brzeska-Roszczyk, Bartosz Sobociński

Aerial photogrammetry insights: assessing collision risk of black-legged kittiwakes in the UK and Ireland
Diane Pavat, Kelly Macleod, Rory Thomson, Ruth Peters-Grundy, Grant Humphries, Catherine Irwin

Identifying and studying vulnerability of migrant land birds for offshore wind farms
Jos de Visser, Maarten Platteeuw

Database of Research Gaps for Understanding Effects to Wildlife and the Environment from Offshore Wind Energy Development in the U.S. Atlantic
Julia Gulka, Kate Williams, Rebecca Green, Mark Severy, Hayley Farr, Frank Oteri, Kate McClellan Press

Knowledge gaps of the impact assessment for vertebrate aerial fauna in the global deployment of wind energy
Marina Perceval Camps, Xavier Puig-Montserrat

Methods to Estimate Collision Risk and Behavioural Reponses of Seabirds around wind turbines in the Firth of Forth
Miguel Repas-Goncalves, Luis Pina, Colin Barton, Pedro Cardia, Ricardo Oliveira, Martin Perrow, Pedro Segurado, Polly Tarrant, Rui Machado, Roel May

Trials of novel methods to determine the origin of seabirds at Dogger Bank A & B offshore windfarms, UK
Ross Bower, Robin Ward, Bob Furness, Murray Grant, Louise Turnbull, Liz Morgan

The use of LidAR to provide more definitive flight heights of different seabird species and groups within and outside of OWFs across different seasons and continents to provide more certainty within collision mortality assessments across the globe.
Sean Sweeney, Tim Coppack, Stephanie McGovern, Beth Goddard, Laura Jervis

7.
MINIMISING AND MITIGATING IMPACTS OF WIND ENERGY PROJECTS

Altitude-specific forecasts of bird migration for wind curtailment
Bart Hoekstra, Emiel van Loon, Adriaan Dokter, Judy Shamoun-Baranes

Improving the understanding of kittiwake nesting patterns in the southern North Sea to inform the design of appropriate compensation measures
Felicity Le Page

Wind farm development and mitigation measures in a single wolf pack in Portugal: insights from long-term monitoring
Gonçalo Brotas, Cindy Loureiro, Lígia Mendes, Patrícia Gil, João Cardoso, Francisco Álvares

Bats need clean energy, too: Designing smart curtailment algorithms with conservation and clean power potential
Paul Rabie, Mike True, Julie Bushey, Ted Owen

Experience feedback from monitoring the effects of operational offshore wind farms in Europe - a large-scale comparison
Pauline De Rock, Josef Haisch, Florian Lecorps

A 3D model-based approach for spatial bat risk assessment for wind farms
Sandra Rodrigues, Patricia de Zea Bermudez, Kamil Feridun Turkman, Helena Coelho, Miguel Mascarenhas

Developing cost-effective oyster restoration techniques in offshore windfarms - The EcoScour project
Wouter van Broekhoven, Remment ter Hofstede

8.
FUTURE ISSUES – EMERGING CHALLENGES AND SOLUTIONS

Evidencing Compensation Measures: A Case Study of Bycatch Reduction for Guillemot and Razorbill in UK Waters.
Jessica George, Felicity Le Page

Seabird use of offshore platforms and implications for consideration of net gain
Kelly Macleod, William Peden, Catherine Irwin, Macneill Ferguson

Potential Impacts and Countermeasures of Bird Collision on Small Wind Turbines in Japan
Masashi Barada, Wataru Kitamura

New insights about bird migration in the Gulf of Lions – ornithological radar surveys within the MIGRALION programme
Vincent Delcourt, Cyprien Daïdé, Camille Assali, Baptiste Schmid, Alexandra Gigou

9.
Wind energy and biodiversity in practice

Oyster restoration in wind farms; will they stay or will they go?
Antonios Emmanouil, Isabel Gerritsma, Luca van Duren, Pauline Kamermans, Oscar G. Bos, Joost H. Bergsma, Hein Sas, Peter M.J. Herman

Developing a StRATegy – Approaches to Rat Eradication as Compensation for Seabirds
Fraser Carter

Methods for monitoring large carnivores in wind farm impact assessments
Lidija Šver, Slaven Reljić, Marko Boljfetić, Dorian Tepić, Goran Gužvica

Current and developing wind energy projects in ecologically sensitive areas in Greece: The role of the newly established Natural Environment and Climate Change Agency
Sylvia Zakkak, Dionysia Hatzilacou, Jamie Giannaka, Ioannis Mitsopoulos

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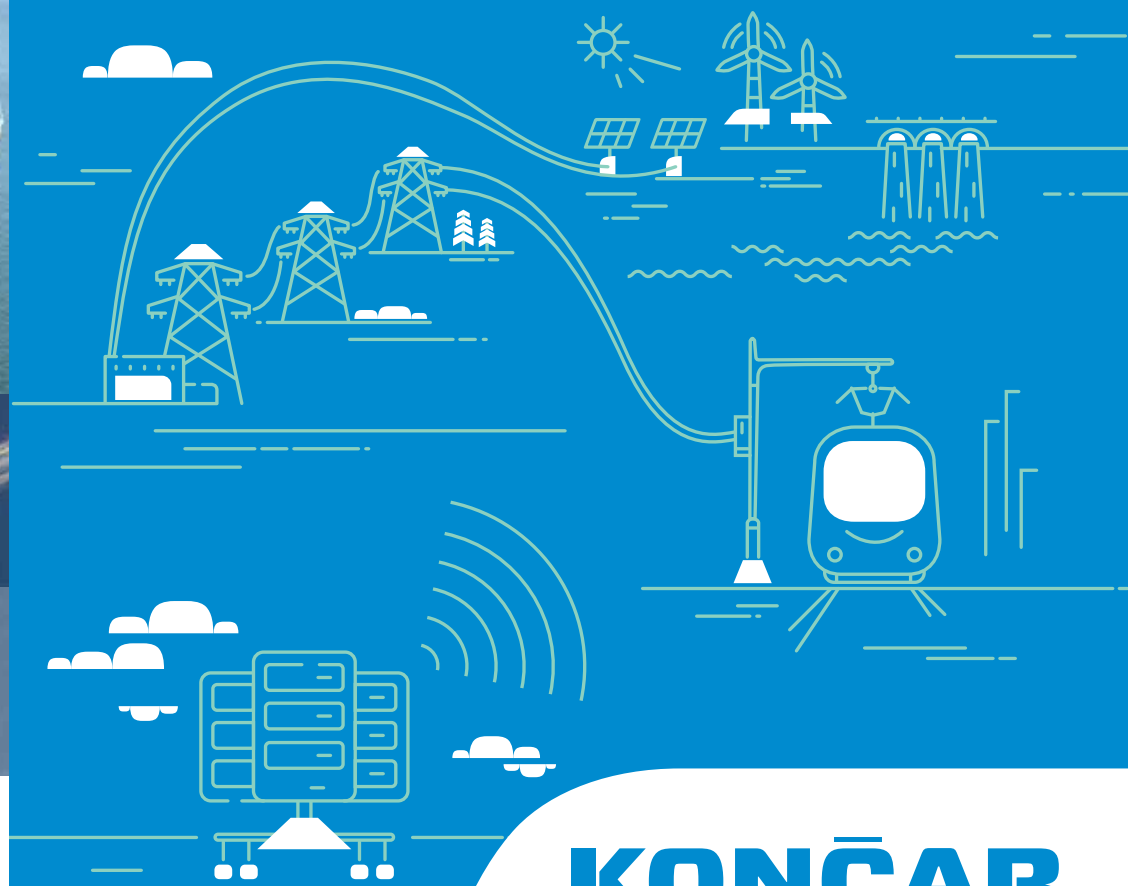

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www.nrel.gov/wind/eco-wind.html

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Venue and Date

September 18-22, 2023

Amadria Park, Convention Centre Šibenik

Tehnical Organizer

Spektar putovanja d.o.o.

Hebrangova 34, Zagreb, Hrvatska

Tel: +385 1 4862 600

Fax: +385 1 4862 622

Official languages

The official language of the Symposium is English.

Registration desk working hours

Monday	18.09.2023.	09:00 – 19:00
Tuesday	19.09.2023.	08:00 – 17:00
Wednesday	20.09.2023.	08:30 – 15:00
Thursday	21.09.2023.	08:30 – 17:00
Friday	22.09.2023.	08:30 – 13:00

Exhibition

Set-up time:	Monday, September 18, 2023 - from 09:00
Dismantling time:	Friday, September 22, 2023 - from 13:00

Excursion to Wind Farm Danilo and Dubrava Falconry Center sponsored by Professio Energija

Day: Wednesday, 20 September 2023.
Time: 15:00 – 21:00
Number of persons: 50

Embark on a scenic journey with us to Wind Farm Danilo, located just thirty minutes away from Šibenik. Before reaching our destination, we will first visit the Dubrava Falconry Center, the only center in Croatia that showcases various birds of prey up close. This center is situated in the pine forest of Šibenik Dubrava, where the owners will give an insightful presentation on their work rehabilitating injured, sick, or hungry birds in their care.

Continuing our adventure, we will head to Wind Farm Danilo where you will learn the mechanics of wind energy production. Our knowledgeable hosts will provide you with essential information on the laws and regulations that had to be followed to make this wind farm possible. You'll also hear from a wildlife expert who'll explain their part in ensuring that this wind farm operates harmoniously with the natural environment, specifically with regard to the Natura 2000 program.

Once we reach the wind farm, take in the breath-taking panoramic view of the Adriatic Sea and the archipelago. Don't miss the excursion to Wind Farm Danilo and the Dubrava Falconry Center, as it is the perfect blend of adventure, education, and natural beauty.

Packed lunch will be provided during this trip.

The trip is sponsored by Professio Energija and is limited to 50 persons.gramme. Lastly, we would like to express our appreciation to everyone who has

Excursion to Wind Farm Jelinak and Dubrava Falconry Center sponsored by Acciona Energia

Day: Wednesday, 20 September 2023.
Time: 15:00 – 21:00
Number of persons: 50

Join us for a captivating journey to Wind Farm Jelinak, perched high on the hills above Trogir, and discover the wonders of this breath-taking location. With our knowledgeable guides, you'll learn about the innovative technology and the laws and regulations that make this wind farm one of the most remarkable in the region. You'll also hear from a wildlife expert who will enlighten you about the important role the wind farm plays in preserving the Natura 2000 ecosystem. Enjoy the stunning views of the Adriatic Sea and the picturesque archipelago as you explore the site, taking in the serene beauty of the surroundings.

Afterward, we'll take you to the Dubrava Falconry Center, a must-see attraction for nature lovers. Nestled in the heart of the Šibenik Dubrava pine forest, this center is the only one of its kind in Croatia where you can see a variety of magnificent birds of prey up close. At the center, the owners will give you an engaging presentation on their work rehabilitating injured, sick, or starving birds that need help. You'll learn about the intricacies of falconry and the many ways these majestic creatures contribute to our natural world.

With this unforgettable tour, you'll experience the perfect blend of adventure, education, and natural beauty. Don't miss out on this opportunity to explore Wind Farm Jelinak and the Dubrava Falconry Center.

Lunch will be provided during this trip.

The trip is sponsored by Acciona Energia and is limited to 50 persons.

Boat Excursion to Krka National Park

Day: Wednesday, 20 September 2023.
Time: 15:00 – 21:00
Capacity: 200 pax
Price: 52 EUR per person (exl. entrance ticket to the National Park)
Price includes: boat ride / official tourist guide / welcome drink / lunch

Set sail from Amadria Park Šibenik's port, adjacent to Hotel Niko, and embark on a mesmerizing journey through the protected landscape of St. Anthony's Channel and the historic Šibenik Bay. Take in the breath-taking panoramic views of Šibenik, the Cathedral of St. James, and St. Nicholas' Fortress – two UNESCO World Heritage Sites that proudly stand guard over the city.

Your lunch on board will feature a choice of grilled fish or chicken, served with baked potatoes, a crisp cabbage salad, white wine, mineral water, or a soft drink.

As you navigate the river Krka's estuary, glide across the picturesque Prokljansko Lake and venture deeper into the dramatic canyon. Upon arriving at Krka National Park, you'll disembark directly at the entrance of Skradinski Buk, one of Krka's longest and most popular waterfalls. Here, you'll witness the fascinating interplay between the karst river and its travertine barriers. Explore the river, waterfalls, and abundant flora and fauna as you stroll along picturesque wooden paths and bridges that weave throughout the park.

Delve into the park's rich history by experiencing the traditional way of life in a beautifully restored 19th-century mill complex. Witness a stone mill grinding grain, observe traditional wool weaving on looms and poles, and marvel at a smithy housing an ethnographic collection of tools and implements.

In close proximity, discover the remains of the Jaruga hydroelectric power plant's turbines, the world's second-oldest hydroelectric power plant, built according to Nikola Tesla's designs. Krka National Park is a treasure trove of vibrant green and blue hues, the soothing sounds of cascading waterfalls, and the captivating beauty of the landscape – a truly unforgettable experience.

With two hours to explore, immerse yourself in the park's natural beauty and captivating attractions, or simply relax and enjoy your surroundings. Concluding your unforgettable experience, the boat will transport you back to Amadria Park Šibenik, leaving you with cherished memories to last a lifetime.

Boat Excursion to Šibenik Archipelago and Islands

Day: Wednesday, 20 September 2023.
Time: 15:00 – 21:00
Capacity: 150 pax
Price: 40 EUR per person
price includes: boat ride / official tourist guide / welcome drink / lunch / tickets for Faust Vrančić Memorial Center / tickets for Coral Museum

Join us for an unforgettable adventure departing from the convenient location of Hotel Niko at Amadria Park Šibenik. As you sail through the breath-taking landscapes of St. Anthony's Channel and Šibenik Bay, indulge in the picturesque views of the city and its two UNESCO World Heritage Sites – the Fortress of St. Nicholas and the Cathedral of St. James.

While enjoying the stunning attractions, treat your taste buds to a delectable lunch on board. You can choose between grilled fish or chicken, accompanied by baked potatoes, a refreshing cabbage salad, and a choice of white wine, mineral water, or a soft drink.

After lunch, prepare to be enchanted by the charming island of Zlarin, renowned for its rich tradition of coral extraction and processing. You can explore a red coral workshop and witness the skilled artisans at work. Learn about the history of coral extraction, a practice that has been passed down for generations. After the workshop, take some leisure time to swim, stroll, or sightsee at your own pace. Don't miss the opportunity to experience the island's serene atmosphere.

Next, sail towards the authentic island of Prvić, a conservationists' haven. Upon docking at Prvić Luka, discover the remarkable legacy of the famed inventor Faust Vrančić at the Memorial Center. Faust Vrančić was a polymath who lived in the 16th and 17th centuries. He is best known for his invention of the parachute, which he called the "parachute-harness." At the Memorial Center, you can immerse yourself in his legacy and learn about his other notable contributions. Take advantage of the free time for swimming or a leisurely walk and soak in the island's serene atmosphere.

Finally, return to Amadria Park Šibenik with unforgettable memories of your enchanting journey, having experienced the rich history and stunning beauty of the Adriatic.

Discover Šibenik at Sunset: A Mediterranean City Escape

Date: Thursday, 21st September 2023
Time: 18:30 – 22:00

Spend an evening exploring the beautiful historic city of Šibenik, learning about the history and experiencing the taste and ambiance of this Mediterranean city, and socializing, of course. We will offer complimentary shuttle bus transportation from the Congress Centre to Šibenik city centre (the central bus station) and back. The ride takes approximately 15 minutes. The buses to the city will depart at 18:30, 18:45, 19:00, and 19:15. Buses departing at 18:30 and 19:00 will be accompanied by a tourist guide who will provide a 1-hour walking tour of the city. Buses departing from the hotel at 18:45 and 19:15 will not have a guide on board. However, you will be able to explore the city on your own using a map and the Šibenik Tourist Board city guide. You will have time to wander around the city, purchase souvenirs, and enjoy dinner or drinks before returning to the bus station. From there, you can catch a shuttle bus back to the Congress Centre. Buses from the city (the central bus station) to Amadria Park Šibenik Congress Centre will depart at 20:30, 21:15, and 22:00. Šibenik offers many nice wine bars and restaurants where you can enjoy excellent Dalmatian food and wines. For your convenience, we have arranged discounts for you at several local restaurants. Please search the internet to learn more about them and what they offer. You will need to present your CWW 2023 badge to receive the discount.

- Konoba Nostalgija, Ulica Biskupa Fosca 11 – 10% discount
- Bava Bistro, Zlarinski prolaz 1 – 15% dicount
- Bokal wine bar, Obala dr. Franje Tuđmana – 25% discount on house wines
- Konoba Maito, Obala dr. Franje Tuđmana 3 – 10% discount
- Restoran Uzorita, Ulica bana Josipa Jelačića 58 (Šubićevac) – 10% discount.

Please note that the restaurant is 1.5 km from the city centre and you need to make a reservation (tel. +385 99 838 8513). For a complete list of restaurants, please refer to the conference website or conference app.

Please note that these restaurants have not been pre-booked, and we cannot guarantee availability. To secure your seat, kindly contact them directly to make a reservation. The availability of shuttle buses and their schedules may be subject to change based on demand. We will use the conference app to ask for your interest in this excursion.

Conference on Wind energy and Wildlife impacts

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