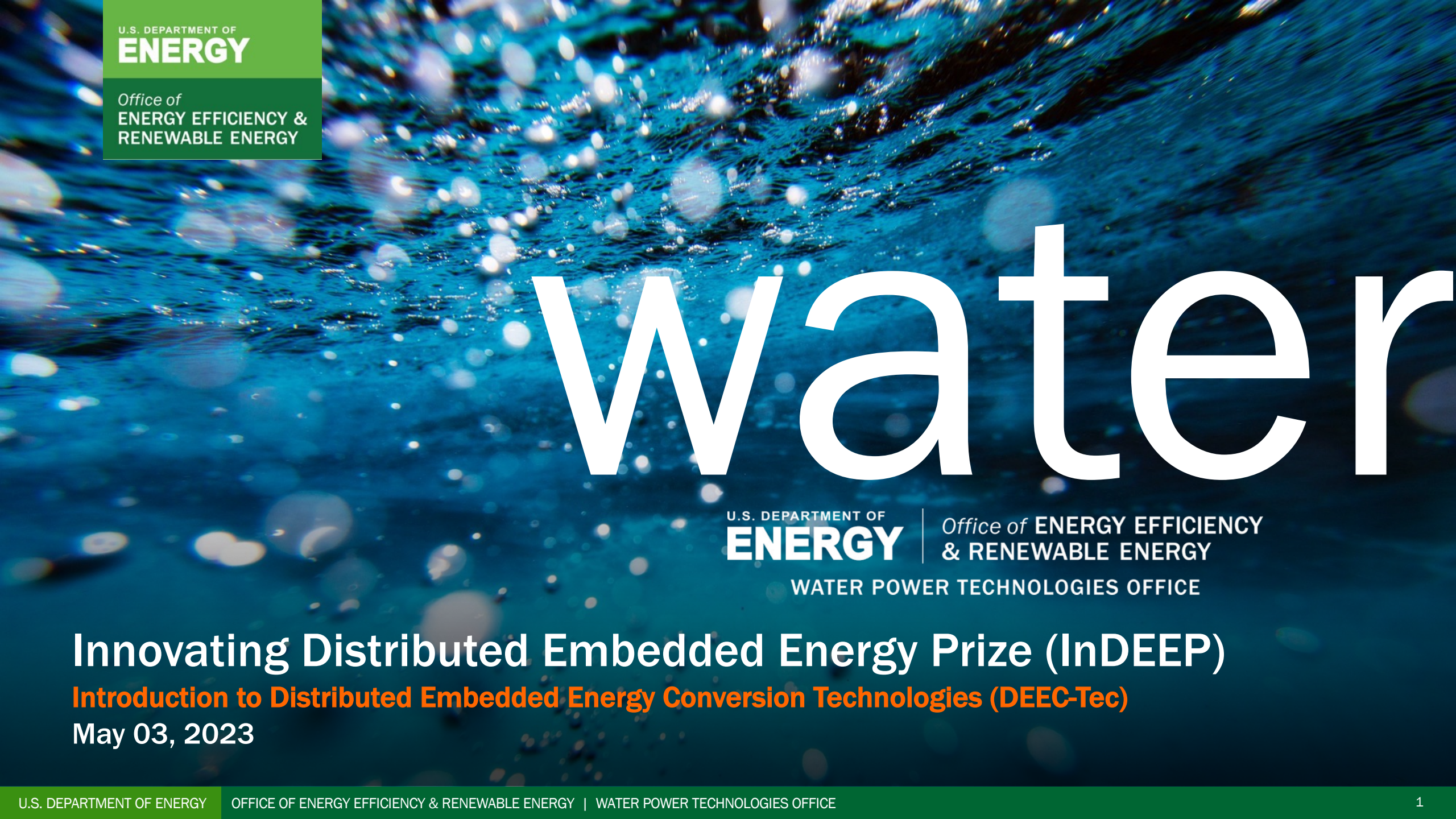

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WATER POWER TECHNOLOGIES OFFICE

Innovating Distributed Embedded Energy Prize (InDEEP)

Introduction to Distributed Embedded Energy Conversion Technologies (DEEC-Tec)

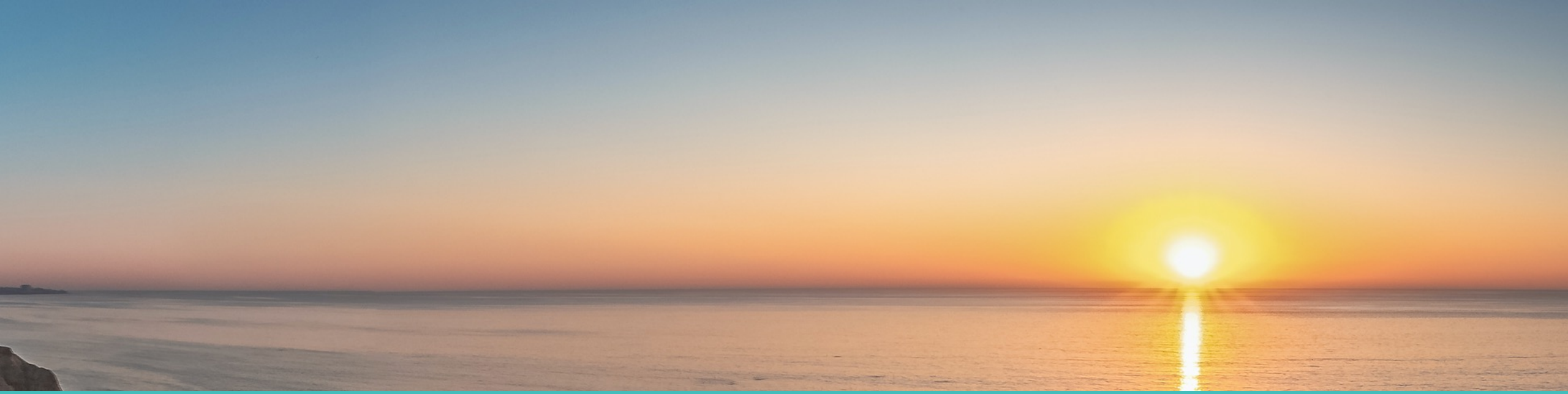
May 03, 2023

Webinar Logistics

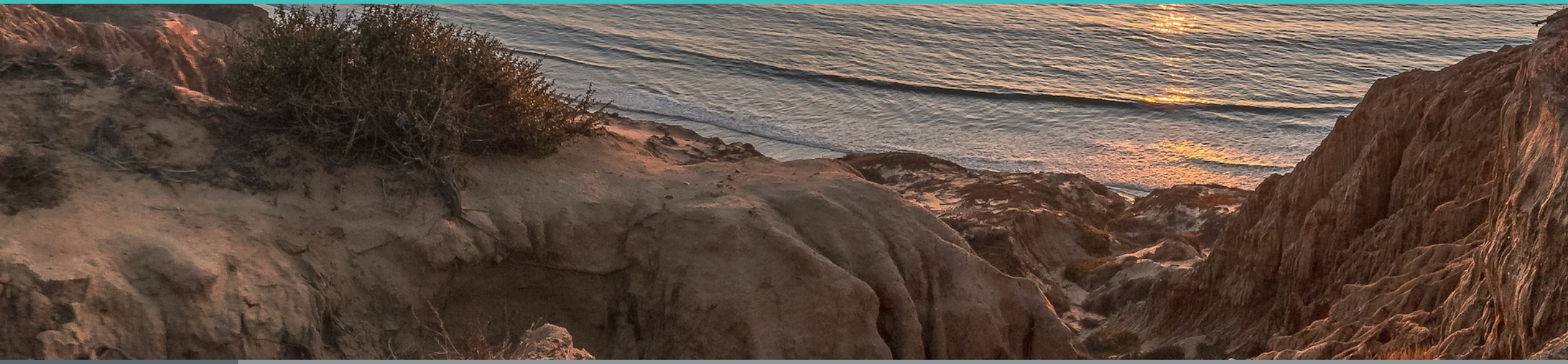
- Everyone is joined in listen-only mode
- Audio Issues?—Try connecting over the phone
- If that doesn't work, visit the Zoom Help Center webpage
- Q&A—Submit your questions using the chat box

Agenda — Sections of the Webinar

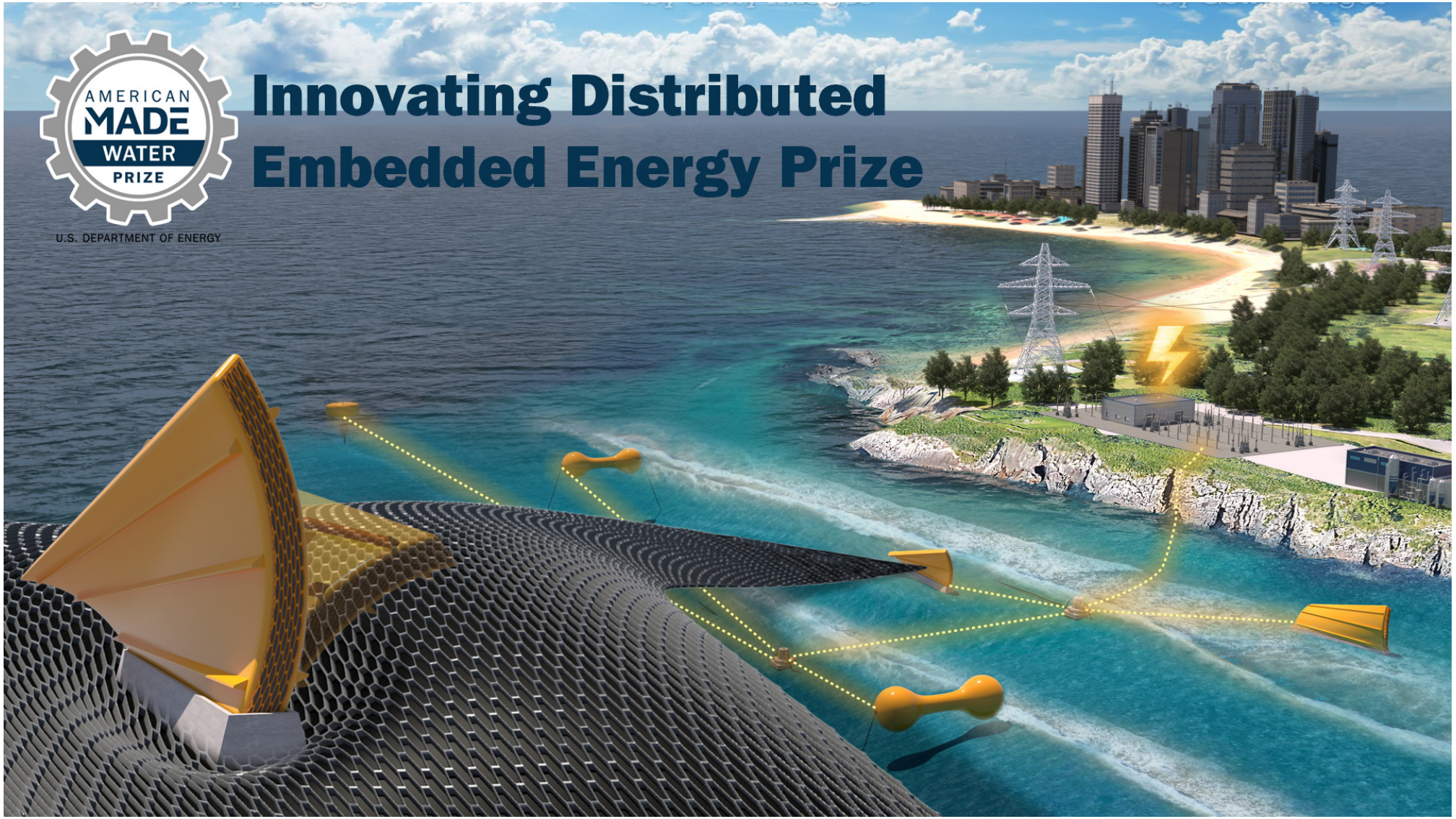
1. Introductions — Prize and People
2. Present Distributed Embedded Energy Conversion Technologies (DEEC-Tec)
3. Q&A
4. Wrap Up



Section 1) Introductions — Prize and People



Innovating Distributed Embedded Energy Prize ← Promoting The Prize



- **$2.3M prize pool**
- Three phases over two years
- Incentivize progress in early-stage research
- Help solve technical challenges that could be applied to wave energy

Contributing to Leaderboard Scoring

- For questions about the prize overall, view our recorded conversation on April 12
- Participation in this webinar contributes to your final leaderboard score
- **Make sure to complete the Leaderboard Eligibility Form to receive points for your participation**
- If you haven't done this yet, do so now: https://www.herox.com/indeep

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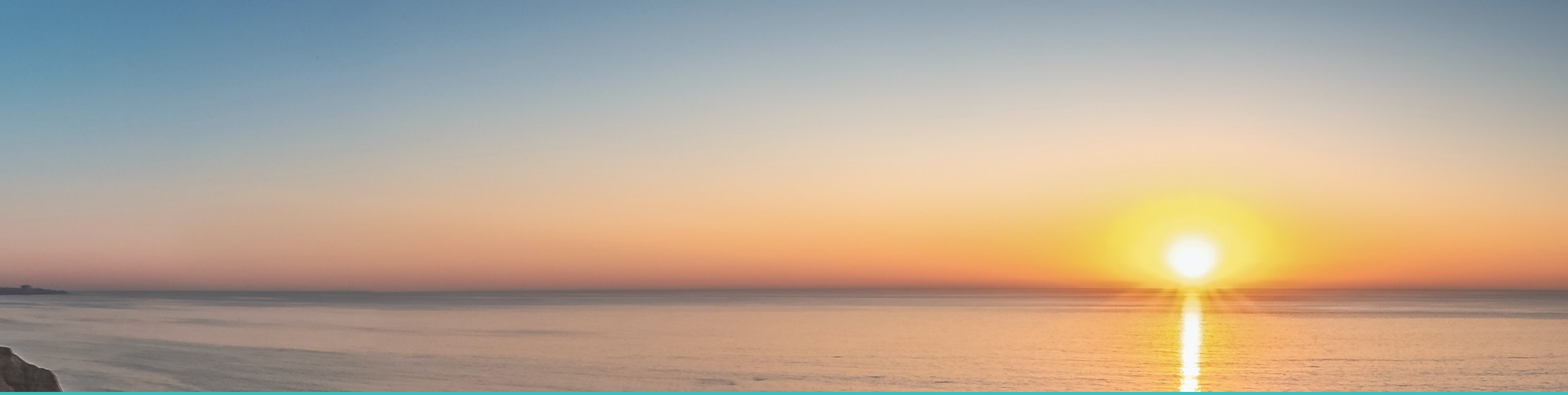
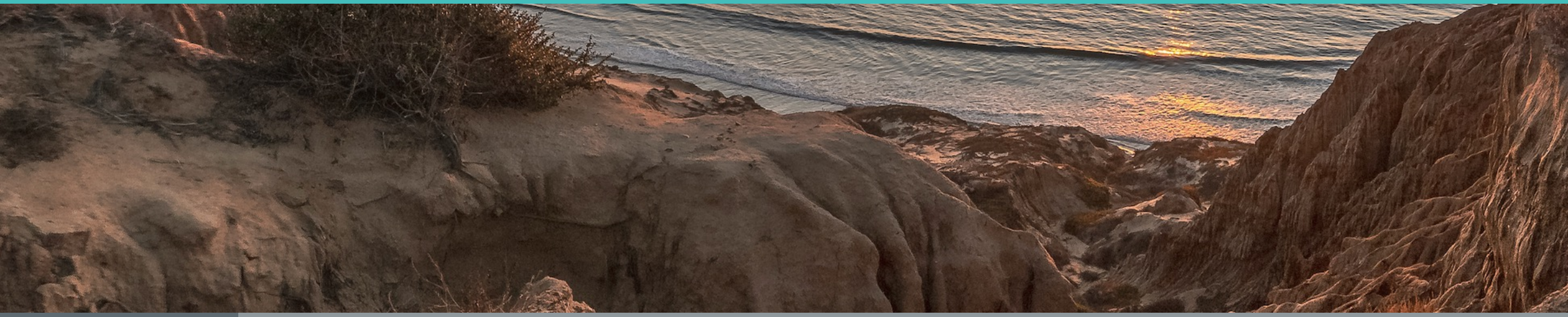
WPTO's desired outcome for InDEEP is an understanding of the landscape of innovators and potential DEEC-Tec solutions that could be applied to wave energy devices.

InDEEP Personnel

- Jenny Wiegele
- Sam Cuneo
- Carrie Schmaus
- Nicole Mendoza
- Bill McShane
- Blake Boren
- Jochem Weber
- Thomas Mathai
- Ryan Ingwersen
- Jesse Roberts



Section 2) Present Distributed Embedded Energy Conversion Technologies (DEEC-Tec)

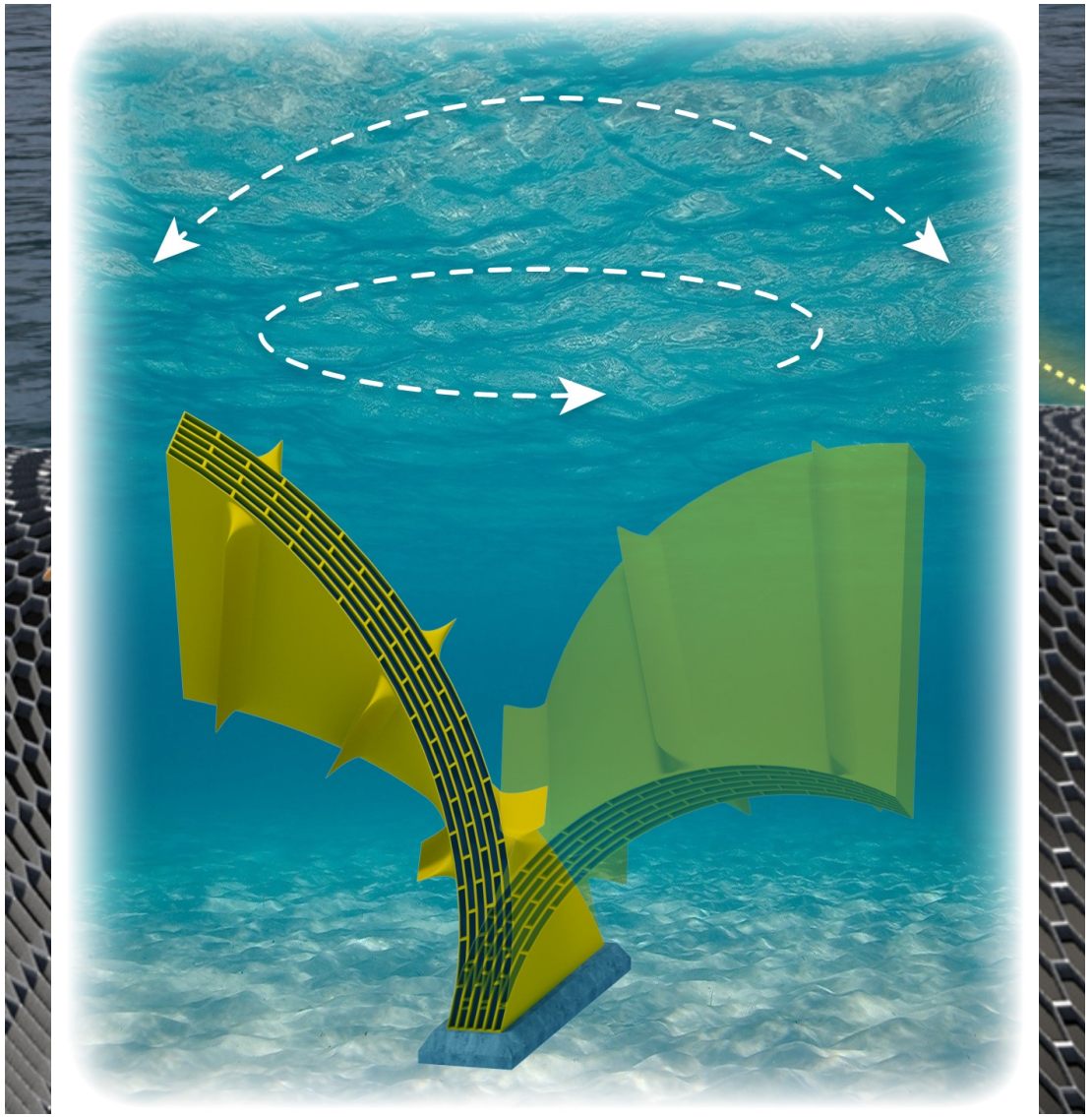


Describing DEEC-Tec — Levels of Hierarchy

Describing DEEC-Tec — Levels of Hierarchy

Section 2a)
Describing DEEC-Tec — Levels of Hierarchy

Bottom Fixed Surging FlexWEC



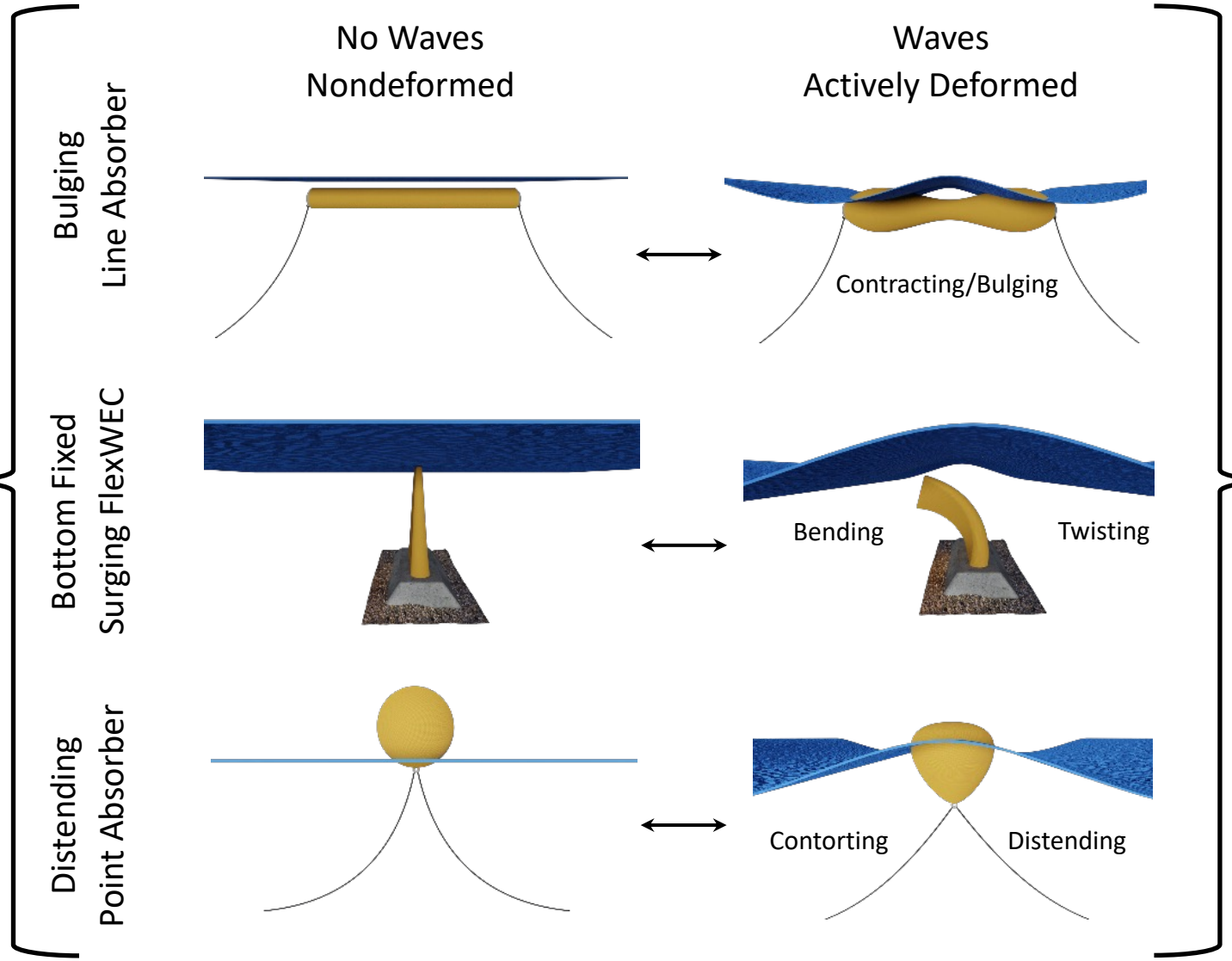
Describing DEEC-Tec — Levels of Hierarchy

This is just a reference.

Note, a Bottom Fixed Surging FlexWEC is just one out of many possible ocean wave energy converters that could be based upon DEEC-Tec.

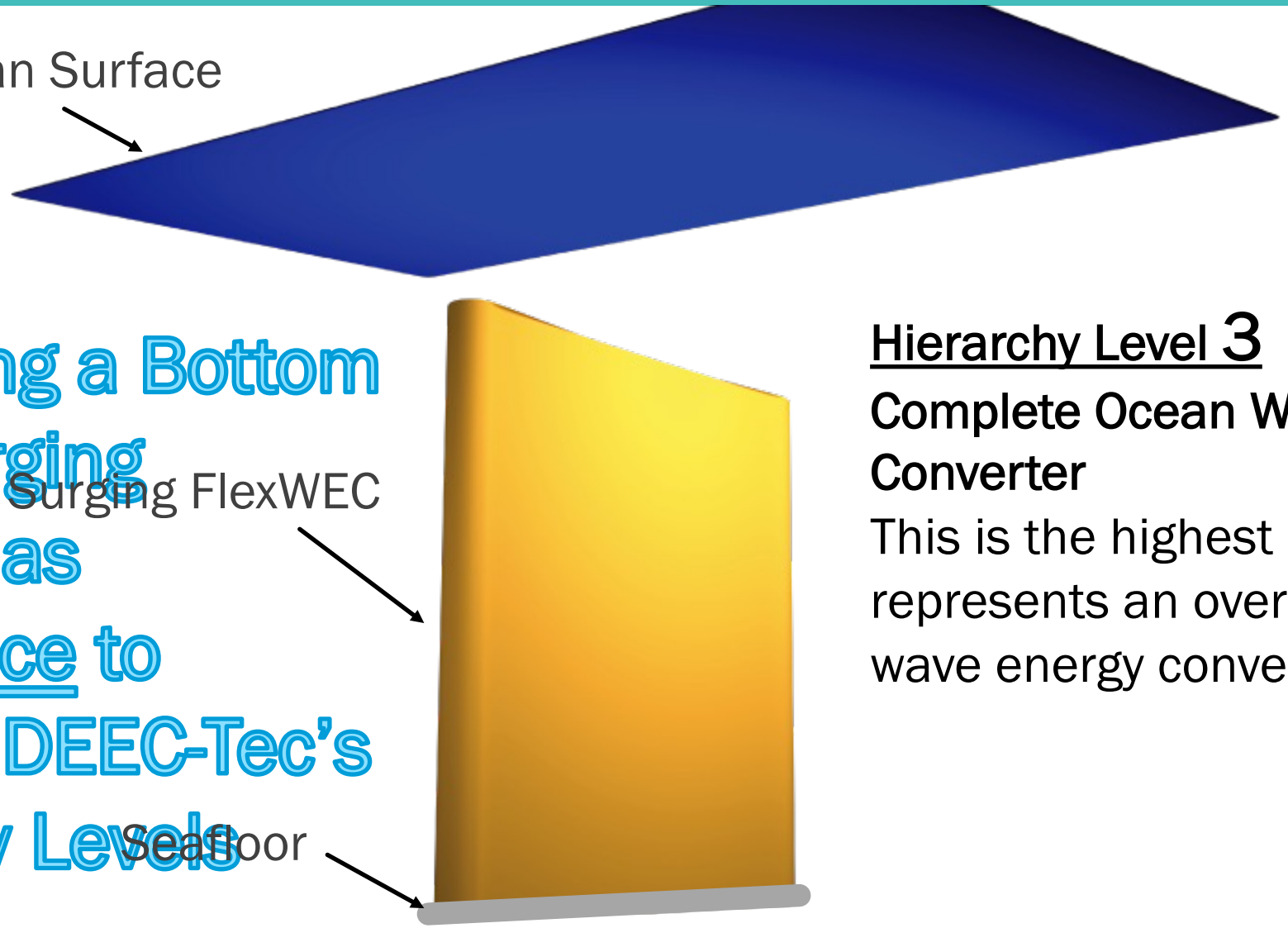
Describing DEEC-Tec — Levels of Hierarchy

Some other examples of ocean wave energy converters.



Three example WEC archetypes made from DEEC-Tec metamaterials.

Describing DEEC-Tec — Levels of Hierarchy



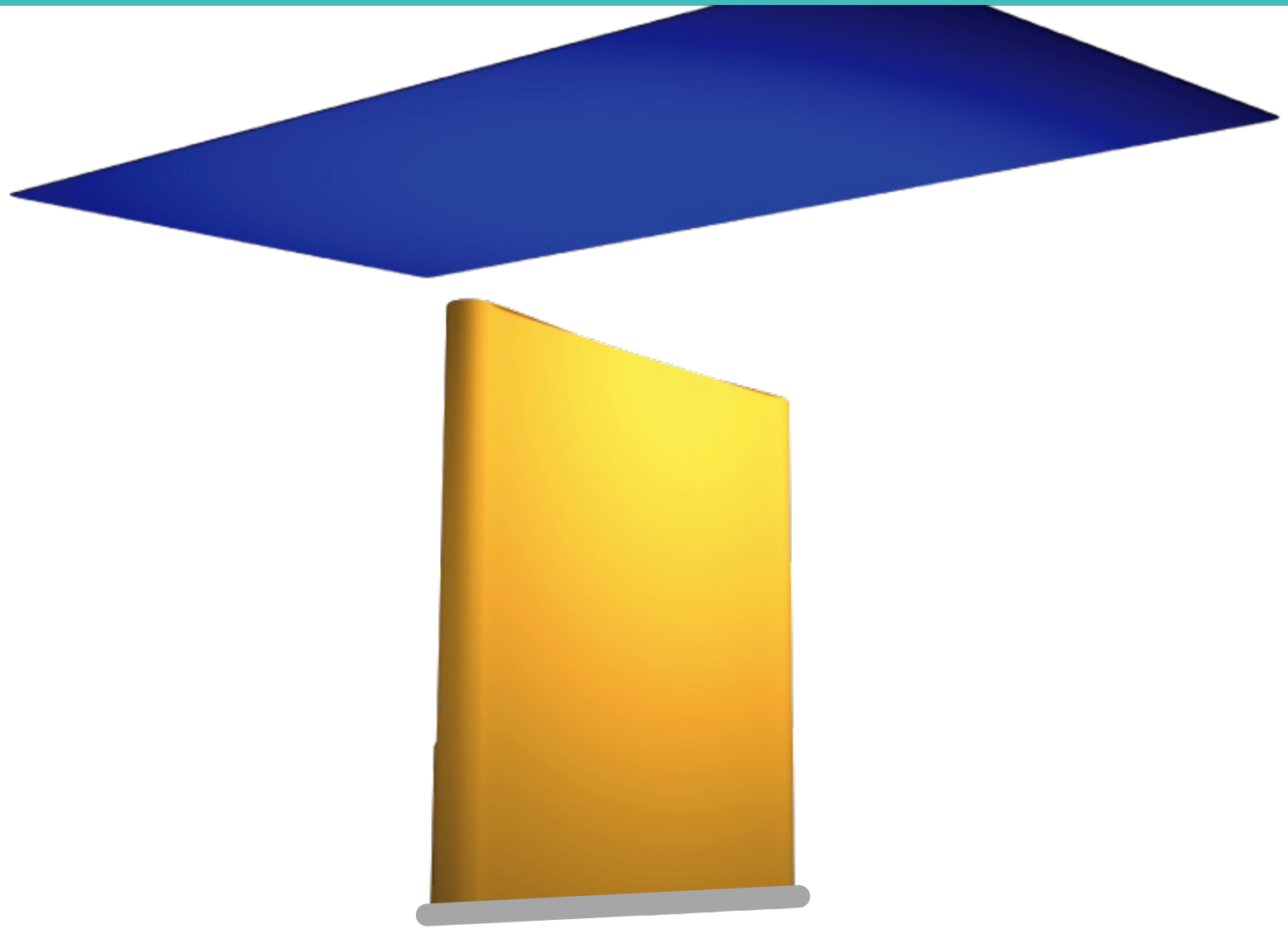
Leveraging a Bottom Fixed Surging FlexWEC as a reference to describe DEEC-Tec's Hierarchy Levels

Hierarchy Level 3

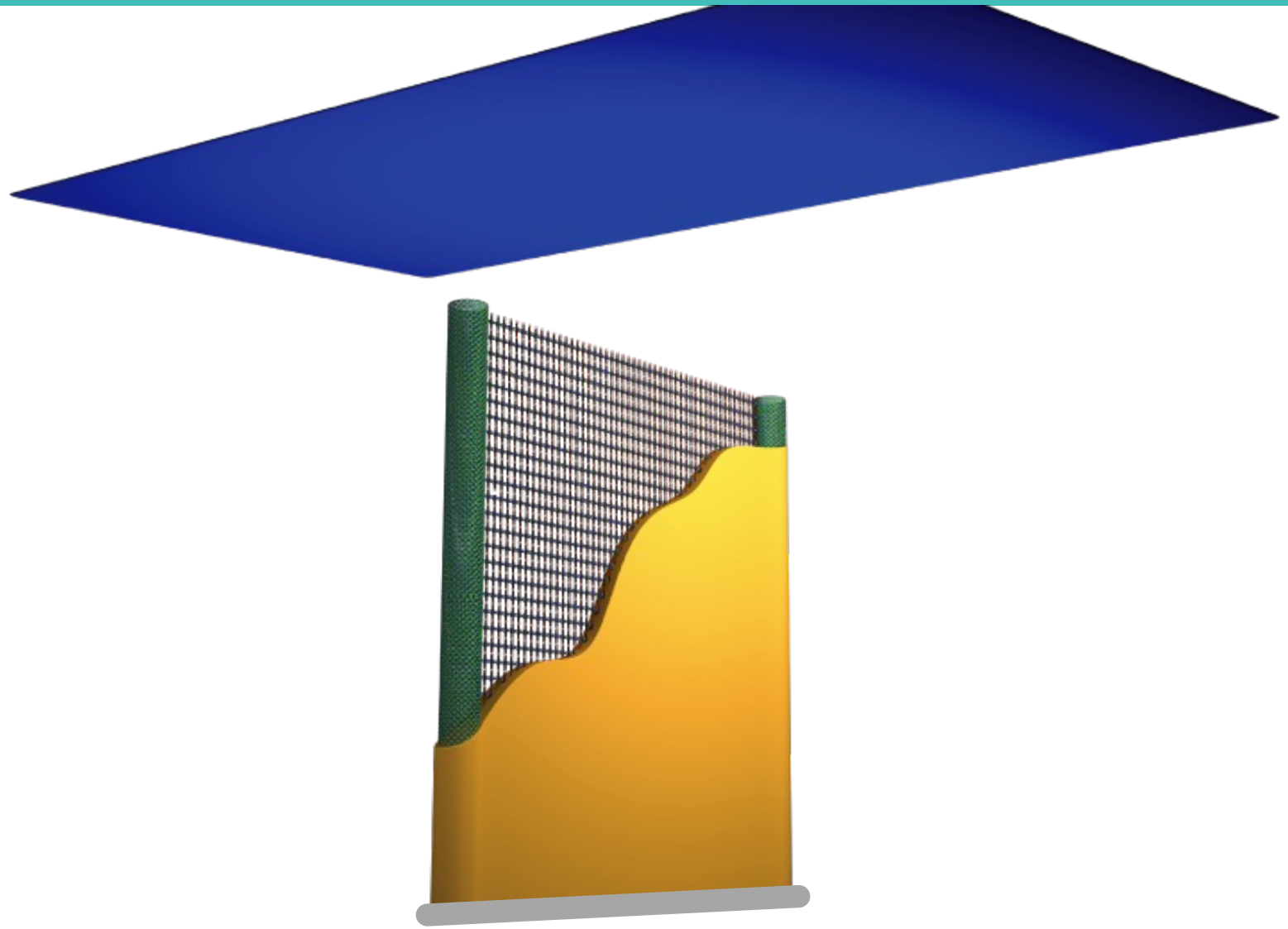
Complete Ocean Wave Energy Converter

This is the highest level and represents an overall actual ocean wave energy converting structure.

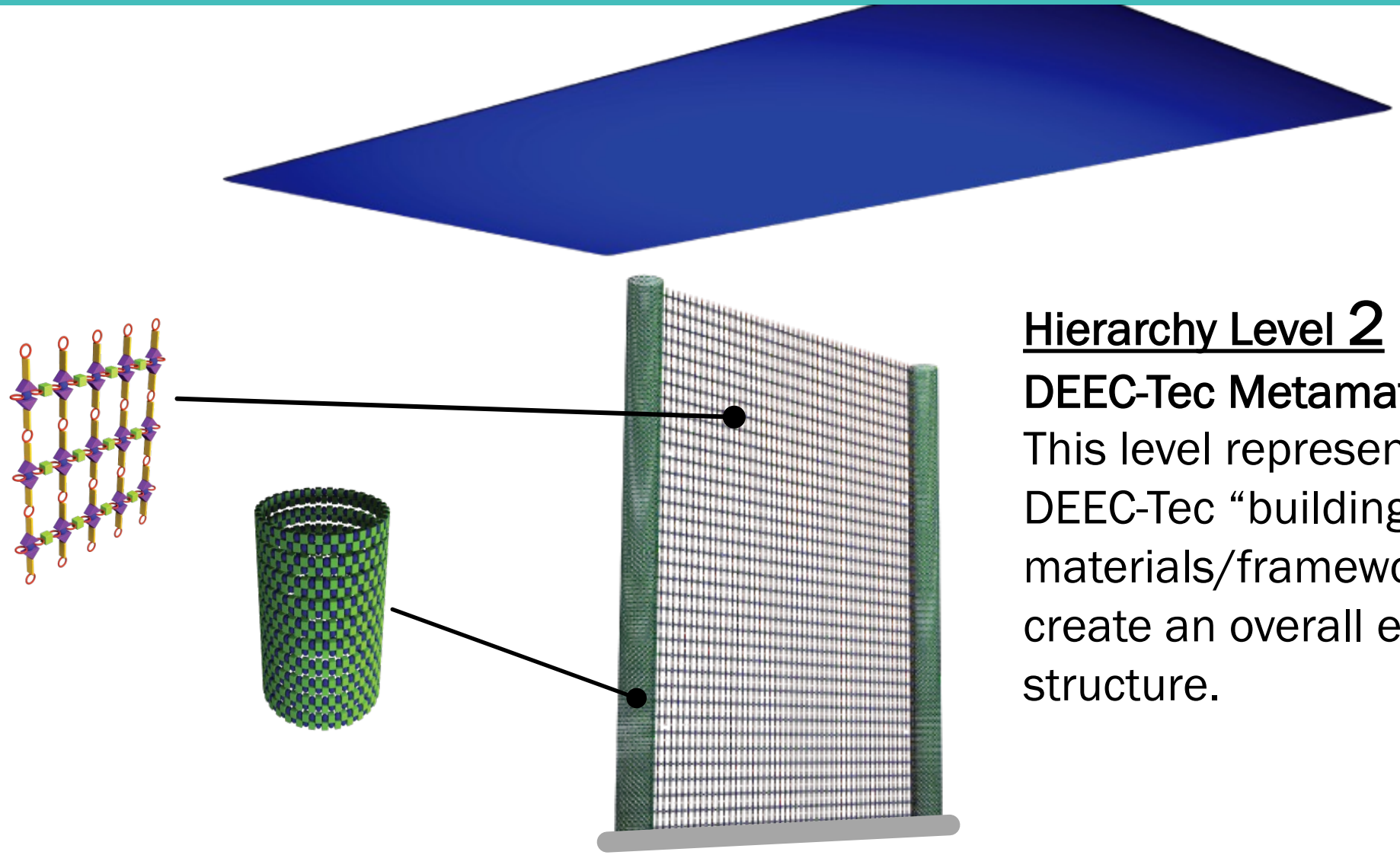
Describing DEEC-Tec — Levels of Hierarchy



Describing DEEC-Tec — Levels of Hierarchy



Describing DEEC-Tec — Levels of Hierarchy

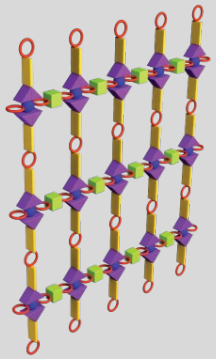


Hierarchy Level 2

DEEC-Tec Metamaterials

This level represents the various DEEC-Tec “building materials/frameworks” used to create an overall energy converting structure.

Describing DEEC-Tec — Levels of Hierarchy



This converter is made from two varieties of DEEC-Tec Metamaterials

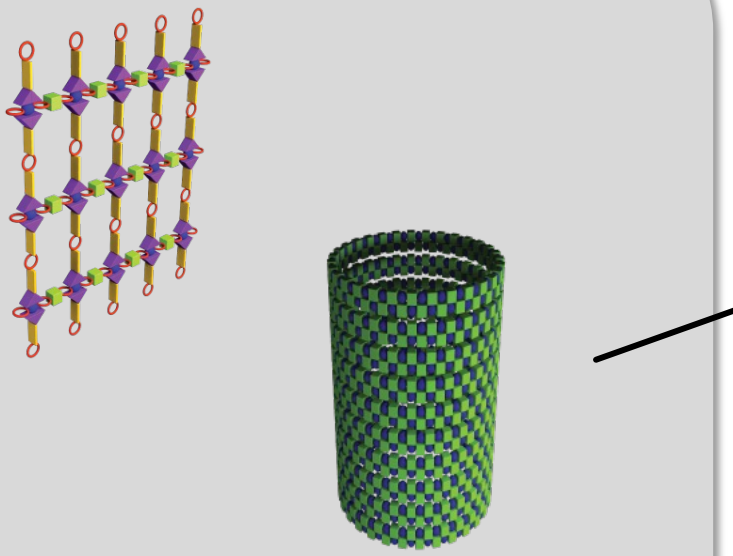
Hierarchy Level 2

DEEC-Tec Metamaterials

This level represents the various DEEC-Tec “building materials/frameworks” used to create an overall energy converting structure.

Describing DEEC-Tec — Levels of Hierarchy

Pictorial Representations of Individual Distributed Embedded Energy Converters



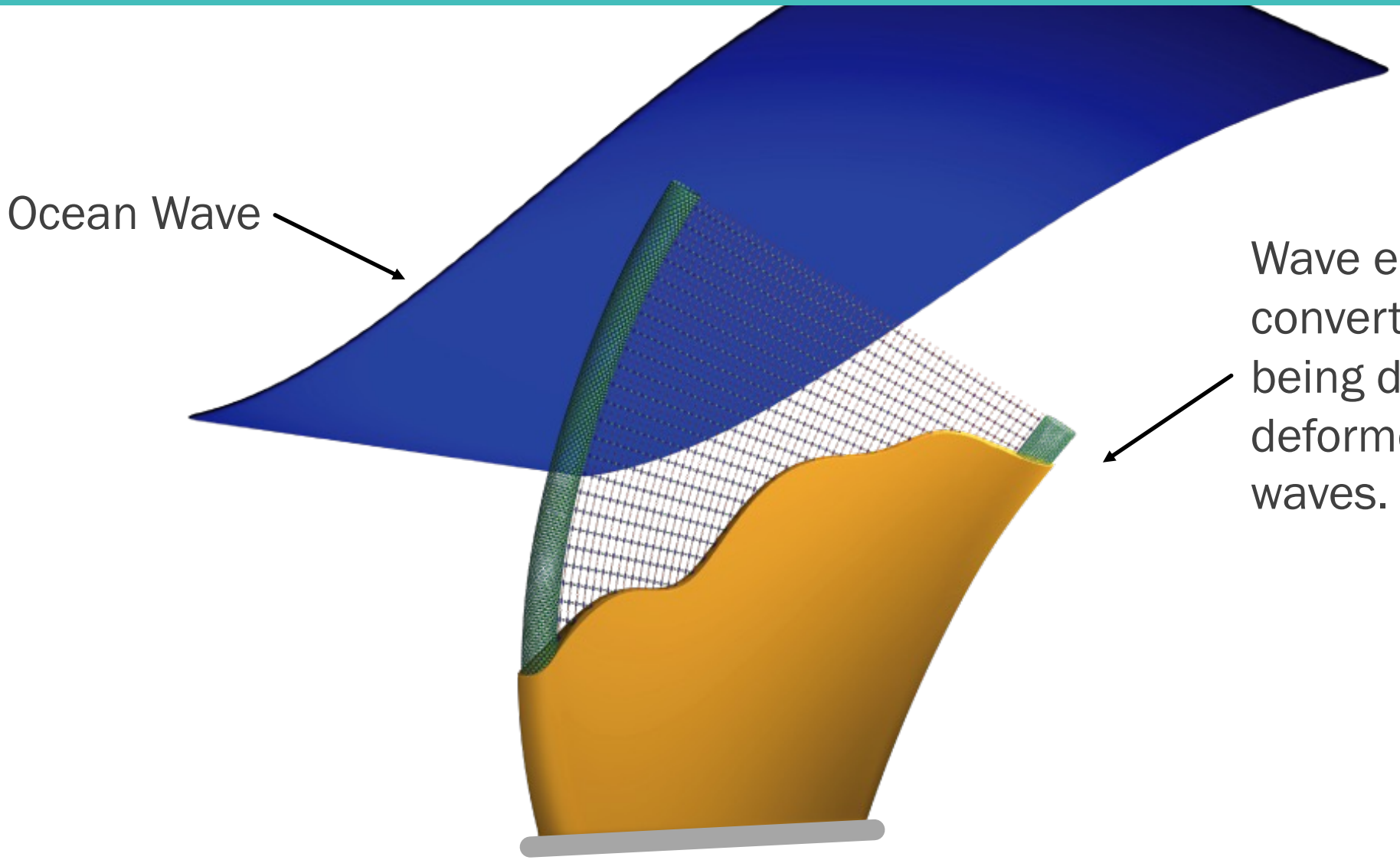
This converter is made from two varieties of DEEC-Tec Metamaterials

Hierarchy Level 1

Individual Distributed Embedded Energy Converters

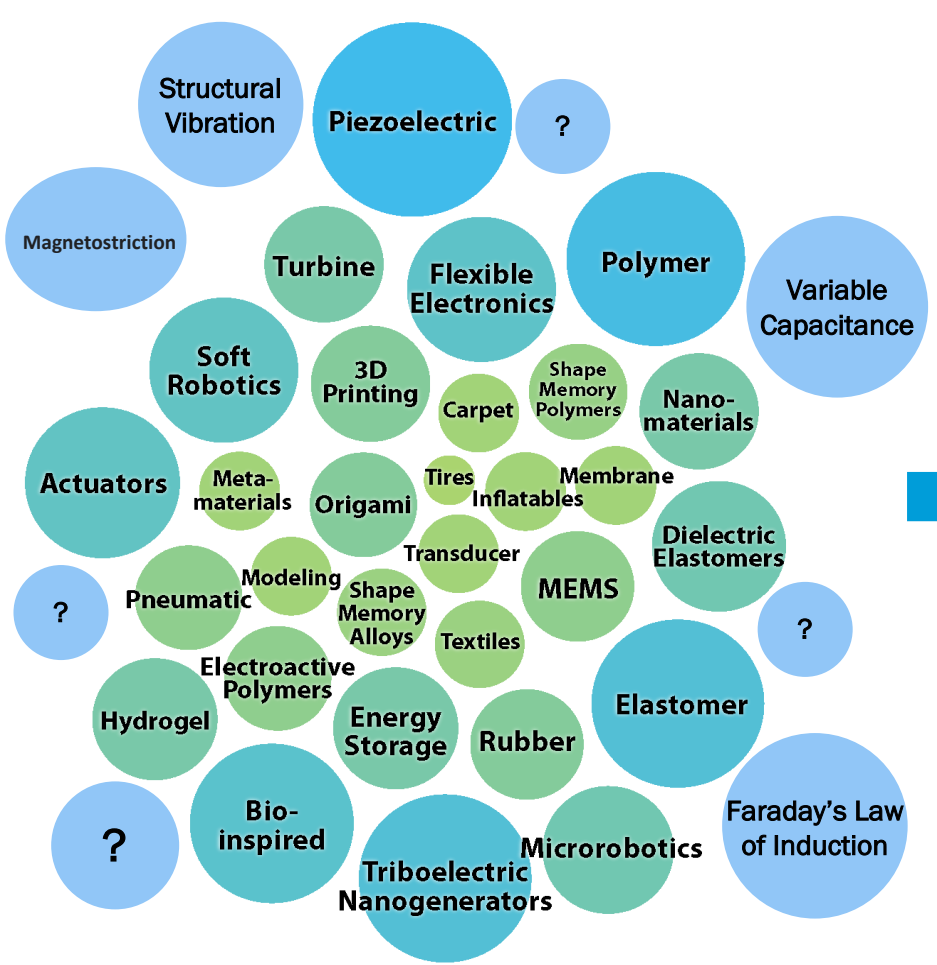
This level represents base components – they are energy transducers capable of distribution and/or embedment with others to create DEEC-Tec metamaterials.

Describing DEEC-Tec — Levels of Hierarchy

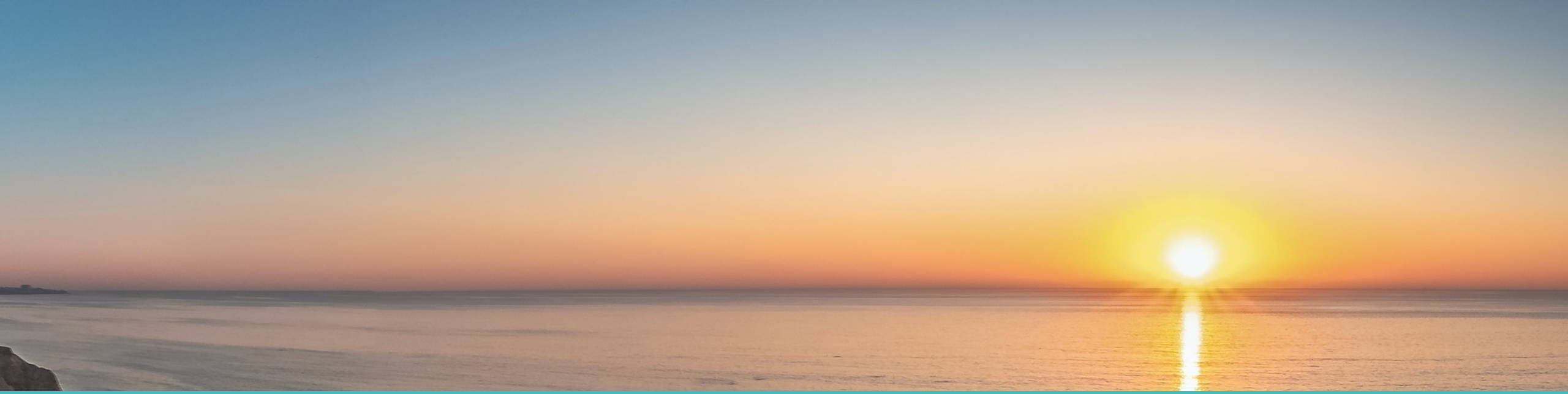


The DEEC - Tec Domain is Vast!

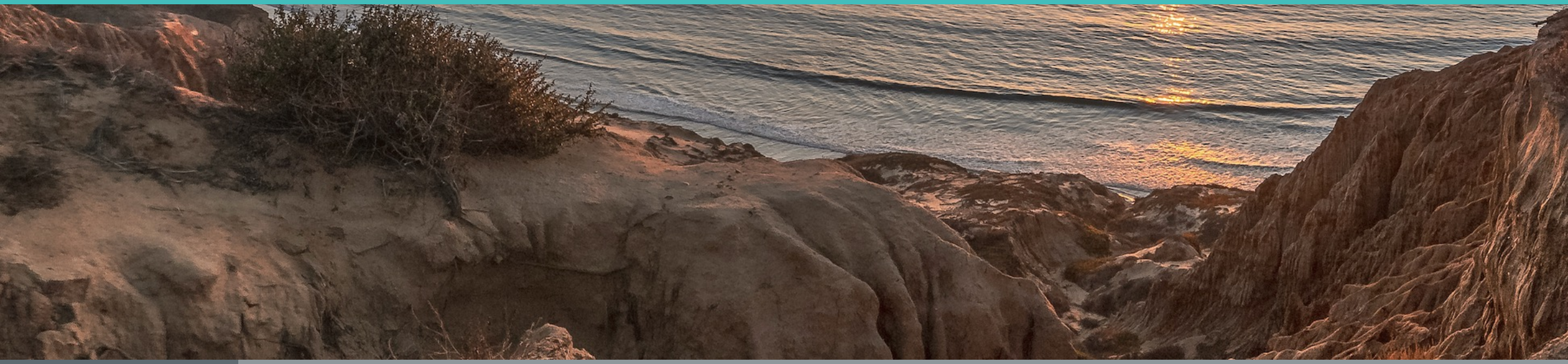
There are many unknown possibilities leveraging any number of technology domains—especially in terms innovating DEECs and DEEC-Tec metamaterials:



Let's De-Risk: InDEEP



Questions and Answers



Wrap Up & What's Next for InDEEP

Competitor Support Mechanisms

- Save the Dates!
  Upcoming Training Sessions:
  - May 10: Innovation methods
  - July 5: TPL assessment
- Provide us feedback in the webinar poll to make sure upcoming sessions are useful
- Teaming Platform
- Submission Feedback
- Mentorship in Innovation Methods and TPL Assessment
- *Resources linked in Appendix C of the Rules Document*

Read the Rules

For a more in-depth look at the prize overall where these topics will be applied, please read the rules document, available here:

https://americanmadechallenges.org/challenges/indeep/docs/InDEEP-Prize-Rules.pdf