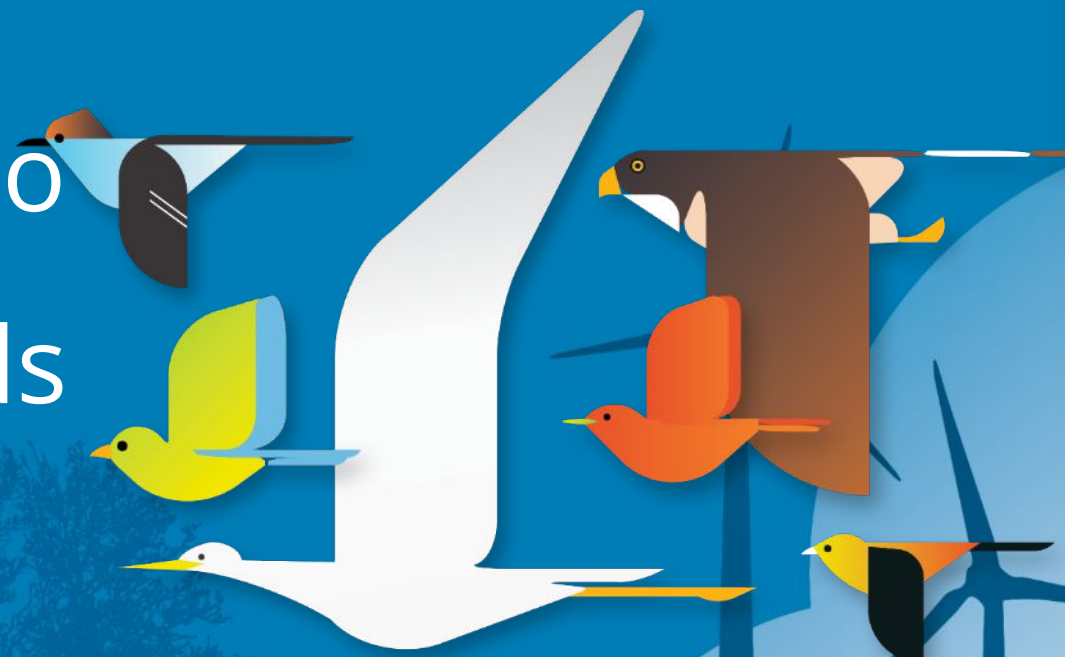
BirdLife INTERNATIONAL | ADB ASIAN DEVELOPMENT BANK | EAKPF Republic of Korea

Using sensitivity mapping to avoid conflict between birds and renewable energy in emerging markets



Duncan Lang, Senior Environment Specialist,

Scaling Up Renewables Ambitions – ADB Context

- ADB has committed to cumulative climate financing of $100 billion by 2030. Of which $66 billion will be from climate mitigation. Wind, Solar and Transmission Projects will be significant component of our portfolio in coming years.

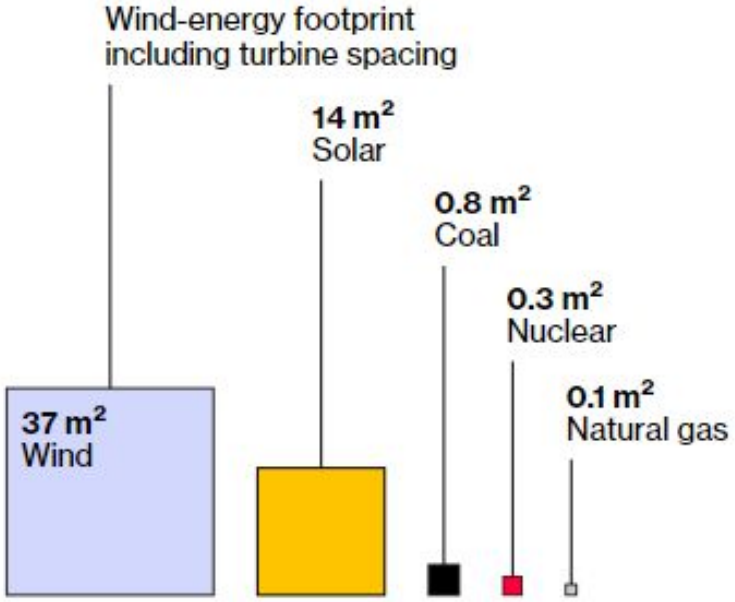
Challenges – ADB Context

- Governments have limited national requirements and pre-determine development ‘blocks’ to the private sector. Winning bidders have little room for “avoidance” of high biodiversity value within their block.

- Power Purchase Agreements and Feed In Tariffs often require or incentivize commercial operation in 2-3 years – meaning very limited time to do robust assessment let alone build the project to meet these timeframes.

Renewables are space-intensive

- Requiring many millions of square kilometres of land and sea globally
- A more than doubling of power lines.



Land area needed to power a flat-screen TV, by energy source

Note: Assumes 100-watt television operating year-round
Source: van Zalk, John, Behrens, Paul, 2018, The Spatial Extent of Renewable and Non-Renewable Power Generation

Poorly sited renewable energy infrastructure undermines green credentials

- If renewable energy developments are sited purely to maximise wind and solar resources, then this could jeopardise over 11 million ha of natural lands globally, including over 3 million ha of Key Biodiversity Areas (KBAs), and the ranges of over 1,500 globally threatened species.

- This loss of natural habitat could release over 400 million tons of stored carbon, undermining climate change targets.

SOURCE: Kiesecker, J., Baruch-Mordo, S., Kennedy, C. M., Oakleaf, J. R., Baccini, A. and Griscom, B. W. (2019) Hitting the Target but Missing the Mark: Unintended Environmental Consequences of the Paris Climate Agreement. *Front. Environ. Sci*. 7:151.doi: 10.3389/fenvs.2019.00151

Too often in emerging markets with weak nature legislation renewable development is targeted at areas where it is believed to be easiest. Namely, landscapes perceived as being “empty”.

Caatinga, north-eastern Brazil

Thar Desert, India

Intertidal mudflat, south-east Asia

Lear's Macaw *Anodorhynchus leari*

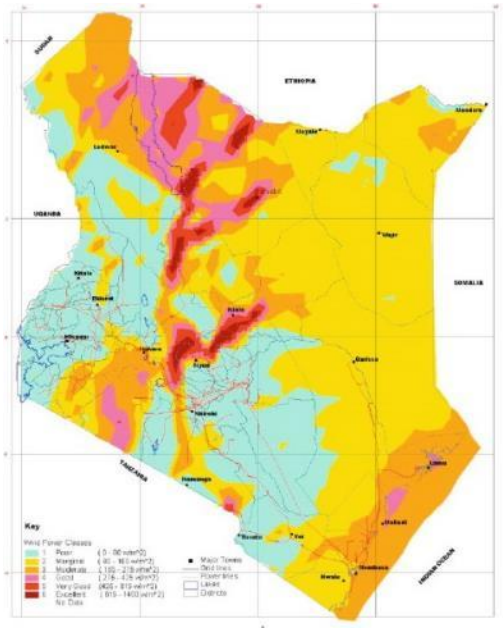
Great Indian Bustard *Ardeotis nigriceps*

Spoon-billed Sandpiper *Calidris pygmaea*

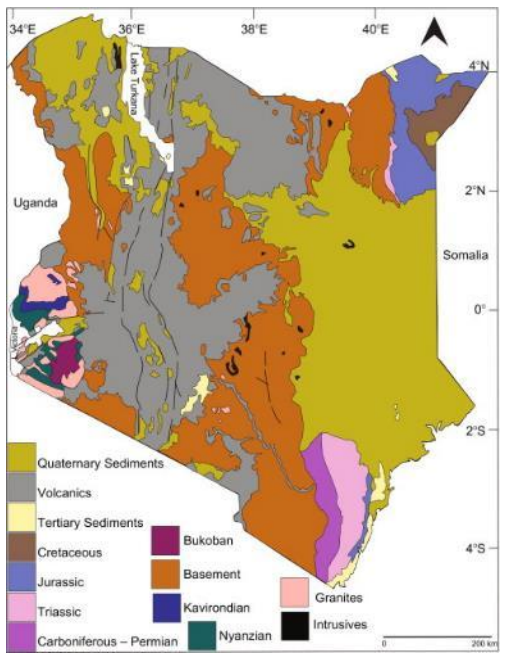
There is ample scope to avoid sensitive locations

- Wind and solar are widespread resources.
- Wind farms and solar facilities can be readily integrated into landscapes of low ecological value, such as agricultural and industrial sites.

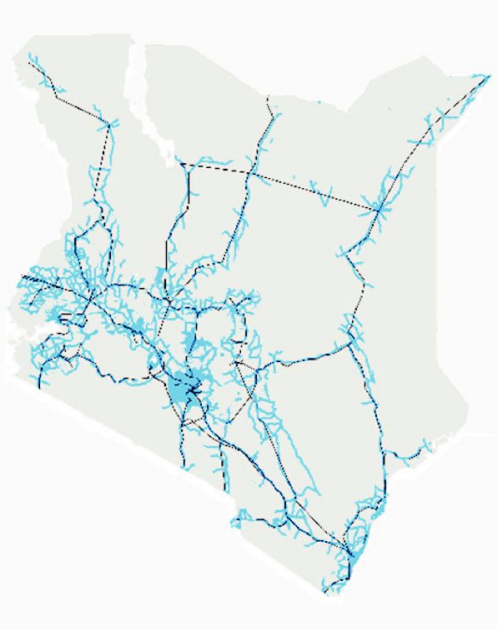
Need to ensure that spatial data on birds and biodiversity is considered alongside other routinely used sources of spatial information.



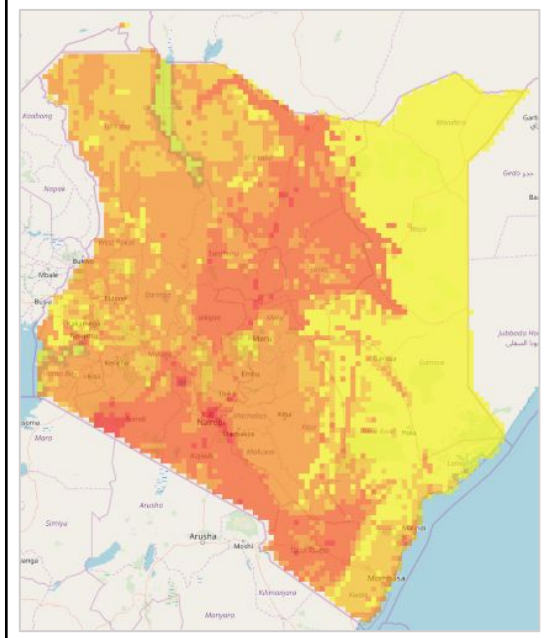
Wind Resource



Geology



Grid network



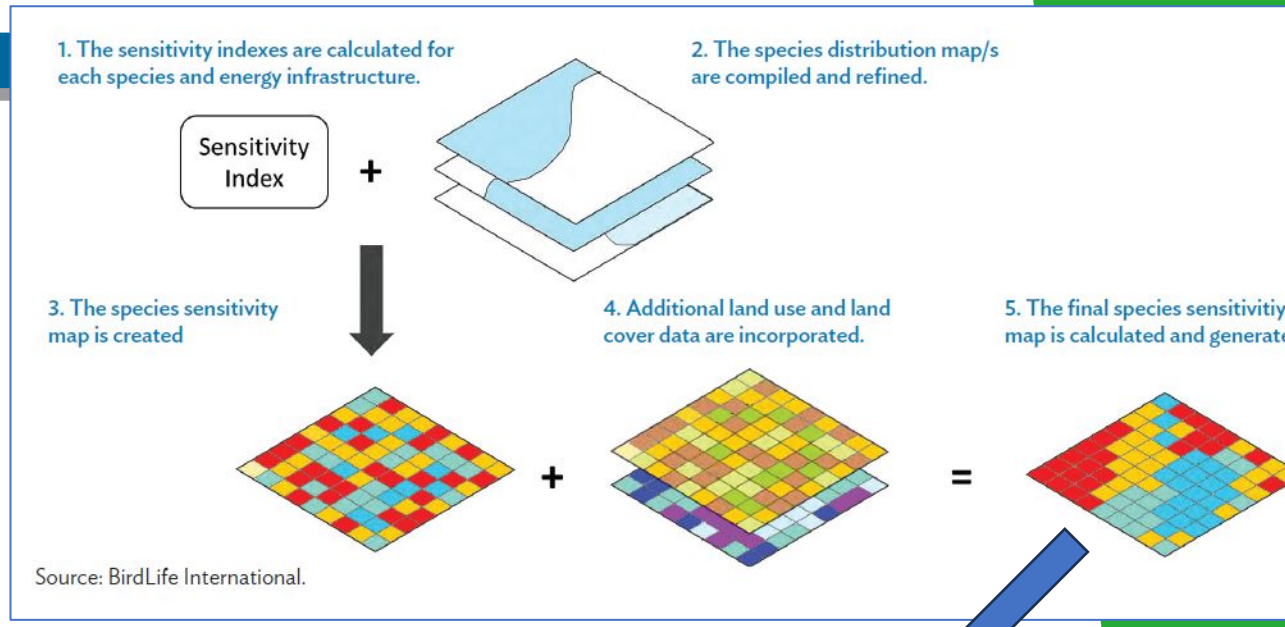
Avian Sensitivity

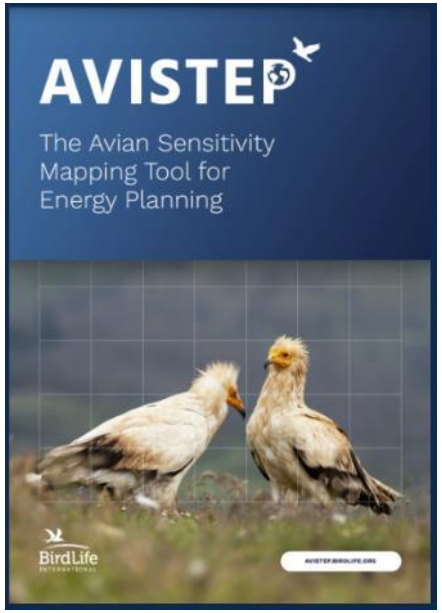
- By using such data for proper spatial planning projects can properly explore alternatives, meaning projects can explore the full extent of the mitigation hierarchy and impacts can be AVOIDED.
- The requirement for proper ALTERNATIVES ASSESSMENT is a strengthened component of ADB's new Environmental and Social Framework (ESF)

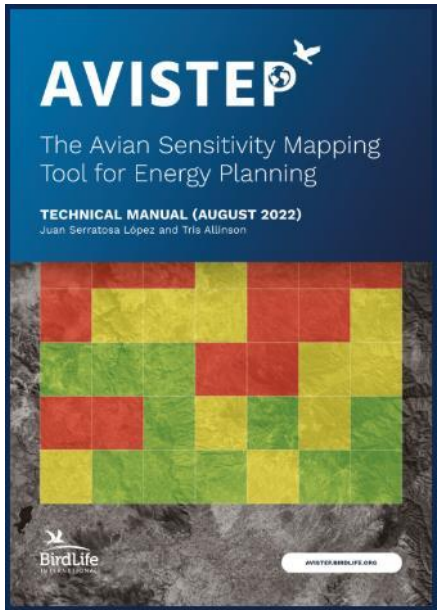
THE AVIAN SENSITIVITY TOOL FOR ENERGY PLANNING

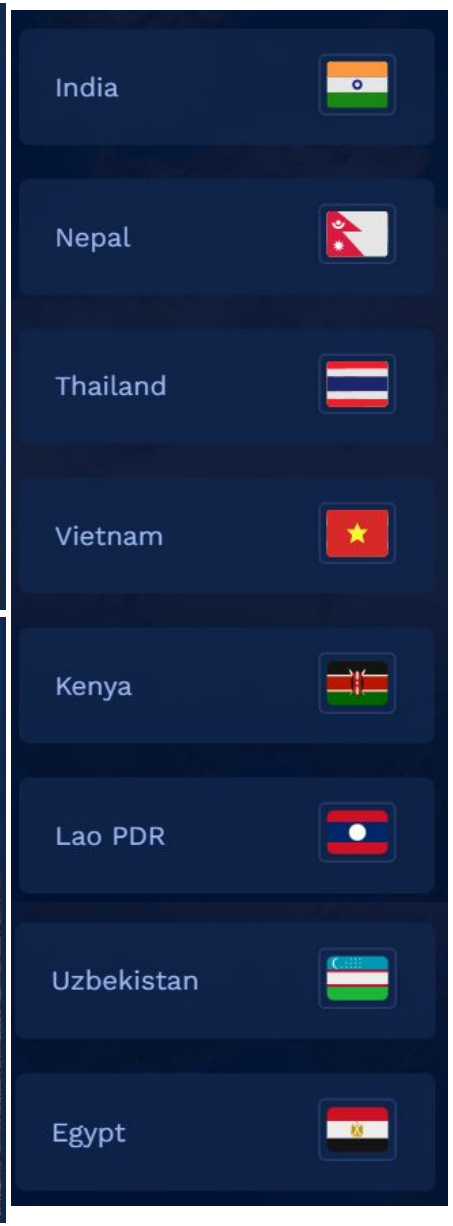
AVISTEP will provide an assessment of avian sensitivity in relation to:

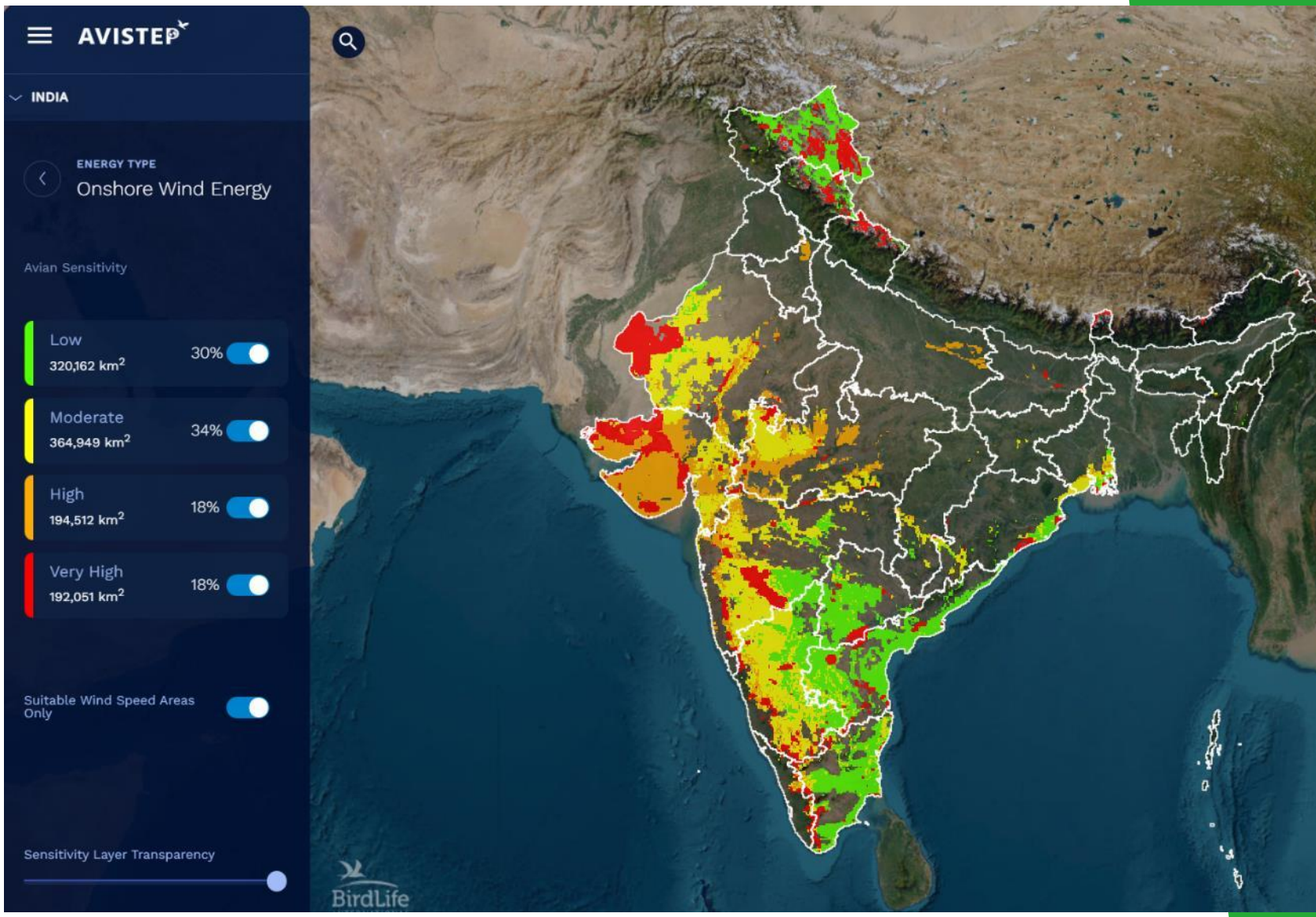
- Wind energy (on- and offshore)
- Photovoltaic (PV) solar
- Overhead power lines (transmission and distribution)
- Eight countries currently covered
- Tool is open access so usable by regulators and developers




AVISTEP
The Avian Sensitivity Mapping Tool for Energy Planning
BirdLife


AVISTEP
The Avian Sensitivity Mapping Tool for Energy Planning
TECHNICAL MANUAL (AUGUST 2022)
Juan Serratosa López and Tris Allinson
BirdLife


India
Nepal
Thailand
Vietnam
Kenya
Lao PDR
Uzbekistan
Egypt


AVISTEP
INDIA
ENERGY TYPE
Onshore Wind Energy
Avian Sensitivity
Low
320,162 km²
30%
Moderate
364,949 km²
34%
High
194,512 km²
18%
Very High
192,051 km²
18%
Suitable Wind Speed Areas Only
Sensitivity Layer Transparency
BirdLife

ENERGY TASK FORCE – set up under CMS

Mutli-stakeholder platform working towards reconciling renewable energy development with conservation of migratory species.

Key resource platform for tools, resources, guidelines and legislation relating to migratory species and renewables.

IFC, EBRD, World Bank, ADB are members, DMCs are welcome to join

ETF keen to work with Private Sector

Key Takeaways

- Tools like AVISTEP are available and open access.
- The use of sensitivity mapping tools can
  - help reduce risks.
  - identify sites of high energy potential but low sensitivity.
  - Increasingly important to do proper Alternatives Assessment
- Using such tools can:
  - Enable quicker approval;
  - Easier access to lender finance
  - Provide a better understanding of true project costs.
- CMS Energy Task Force has a wealth of information and is open to engagement and new members

Announcement

ADB has secured funding to extend AVISTEP to cover four new countries: **Bangladesh, Cambodia** , **Indonesia** and **Philippines** !!

MANY THANKS!

https://www.cms.int/en/taskforce/energy-task-force
https://www.adb.org/sites/default/files/publication/839506/avian-sensitivity-tool-energy-planning-avistep_0.pdf