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DAILY CURRENT AFFAIRS DATED ON 10-NOV-2018

General Studies-2

Global Cooling Innovation Summit

Two-day **Global Cooling Innovation Summit** will be inaugurated by Union Science & Technology Minister, Dr. Harsh Vardhan in New Delhi on 12th November 2018.

About the Summit:

- The Summit is a first-of-its-kind solutions-focused event that will bring together leaders from around the world to explore concrete means and pathways to address the climate threat that comes from the growing demand from room air conditioners.
- The event is jointly organized by the Department of Science and Technology, Government of India, along with Rocky Mountain Institute, Alliance for An Energy Efficient Economy (AEEE), Conservation X Labs and CEPT University.
- The summit will also see the launching of Global Cooling Prize— Mission Innovation challenge that aims to spur development of a residential cooling solution that has at least five times (5x) less climate impact than today's standard.

Objectives of the GCP:

- Global Cooling Prize is a competition with global reach and participation to achieve dramatic breakthroughs in cooling technologies.
- The objective of this competition would be to develop a cooling technology that requires radically less energy to operate, utilizes refrigerants with no ozone depletion potential and with low global warming potential, and has the potential to be cost-effective at scale.
- This awards programme will call world-wide attention to the most promising ideas across the globe.
- This award will celebrate successes and facilitate endeavours of innovators through providing recognition, encouragement and support.



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- The award will also be able to build a collaborative platform that can utilize the potential of researchers so that public research contributes towards fostering innovation and create impact which is of social and economic good.

SIMBEX 18

Why in News?

The 25th edition of SIMBEX, an acronym for "Singapore-India Maritime Bilateral Exercise" is scheduled from 10th to 21st November 2018 off Andaman Sea and Bay of Bengal.

Background:

Bilateral cooperation between Singapore and India was first formalised when RSN ships began training with the Indian Navy in 1994.

What began as a modest endeavour to exchange best practices in the field of Anti-Submarine Warfare (ASW), has in the recent years evolved into a complex high stakes exercise with both nations attaching premium in terms of time, complex advanced exercises and type of platforms involved.

Indo-Singapore Relation:

- Complementing India's 'Act-East' policy, there have been a number of agreements and high level visits in the recent past between the two countries.
- Indo-Singapore bilateral relations have been on an upswing in the recent past.



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- Both countries have a full calendar of more than 20 bilateral mechanisms, dialogues and exercises, many of which take place annually.
- In November 2015, the robust relationship between the two countries was elevated to '*Strategic Partnership*'.

What is Special about SIMBEX this year?

- SIMBEX 2018 will be the largest edition since 1994 in terms of scale and complexity.
- The 25th edition will witness a diverse range of exercises at sea ranging from live weapon drills including multiple missile firings, Heavy Weight Torpedo (HWT) and Medium Range Gun/ Anti Submarine Rocket firings; advanced Anti-Submarine Warfare (ASW) exercises, Submarine Rescue demonstrations; integrated Surface and Anti-Air Warfare (AAW); Unmanned Aerial Vehicle (UAV) operations and Cross Deck Helicopter flying among others.
- The number of missiles and torpedo firings being undertaken are in fact unprecedented and perhaps the largest the Indian Navy has undertaken with any foreign Navy till date, indicative of the growing trust and operational comfort between the two navies.
- This year would also witness the highest numbers and variety of platforms fielded by both sides.
- Over the years the two navies have increased their interoperability to a level that could be matched by few other navies.

US Sanction Waiver:

MEA Expressed appreciation for the United States' waiver on India-[Iran](#) energy trade and the Chabahar Port project.

Benefits of waiver:

- India is a major importer of crude oil from Iran.
- This is very important for our own energy security needs.
- India's also expressed appreciation on the waiver for the India-Iran Chabahar Port development project, and underlined the importance of the port in regional affairs.



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About the sanctions:

- **United States sanctions against Iran** refer to economic, trade, scientific and military [sanctions against Iran](#), which have been imposed by the [U.S. Office of Foreign Assets Control](#), or by the international community under U.S. pressure through the [United Nations Security Council](#).
- Currently, the sanctions include an embargo on dealings with Iran by the [United States](#), and a ban on selling aircraft and repair parts to Iranian aviation companies.
- On 17 May 2018 the [European Commission](#) announced its intention to implement the [blocking statute](#) of 1996 to declare the US sanctions against Iran null and void in Europe and ban European citizens and companies from complying with them.

The Commission also instructed the [European Investment Bank](#) to facilitate European companies' investment in Iran.

General Studies-3

Integrated Check Posts and Border Management projects

The Union Home Minister Shri Rajnath Singh today reviewed progress of ongoing projects being executed by the Land Ports Authority of India and the Border Management Division under the Ministry of Home Affairs.

Facilities at ICP:

- At each ICP, facilities have been constructed for customs clearance, Immigration, warehouses for storage of goods, approach roads and terminal buildings to adequately handle import and export of goods and entry and exit of people.
- Work on ICP Moreh on India-Myanmar Border and ICP Dawki on India-Bangladesh Border is in advanced stage of completion.
- The total approved expenditure for the seven ICPs is more than Rupees 700 crores.



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- Under the Border Management Division, projects have been taken up for construction of 18 Coastal BOPs in Gujarat and improvement of Border Floodlighting in Punjab and Rajasthan.
- Some Floating BOPs have also been approved in Gujarat and West Bengal.

Other measures for Border Security:

- Projects under the Border Area Development Programme (BADP) to improve road and mobile connectivity in the border villages as well as imparting skills to the people living there have also made good progress.
- To improve coastal security, 121 Coastal Police Stations have been operationalised, 30 jetties have been constructed and Biometric Cards have been issued to 18.5 lakh fishermen.
- Newly established National Academy of Coastal Policing has started functioning at Okha, Gujarat.

Ozone Layer

Why in News?

The ozone layer that shields life from cancer-causing solar rays is recovering at a rate of one to three percent per decade, reversing years of dangerous depletion caused by the release of harmful chemicals, a U.N. study said on November 5.

Observations made:

- The four-yearly review of the Montreal Protocol, a 1987 ban on man-made gases that damage the fragile high-altitude ozone layer, found long-term decreases in the atmospheric abundance of controlled ozone-depleting substances and the ongoing recovery of stratospheric ozone.
- The Antarctic ozone hole was expected to gradually close, returning to 1980 levels in the 2060s, the report said.

Complete healing



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- Evidence presented by the authors shows that the ozone layer in parts of the stratosphere has recovered at a rate of 1-3 percent per decade since 2000," U.N. Environment and the World Meteorological Organization said in a statement.
- At projected rates, Northern Hemisphere and mid-latitude ozone is scheduled to heal completely by the 2030s followed by the Southern Hemisphere in the 2050s and polar regions by 2060.

Reasons for Healing:

The U.N. had already hailed the success of the Montreal Protocol, which banned or phased out ozone depleting chemicals, including chlorofluorocarbons (CFCs) once widely used in refrigerators and spray cans, but the report said it was the first time that there were emerging indications that the Antarctic ozone hole had diminished in size and depth since 2000.

Cause for Concern:

- While most of the banned gases have been phased out, the report found at least one violation of the protocol: an unexpected increase in production and emissions of CFC-11 from eastern Asia since 2012.
- The report said the source country or countries had not yet been identified.
- If CFC-11 emissions continued at the same rate, return of mid-latitude and polar ozone-depleting chemicals to their 1980 values would be delayed by about 7 and 20 years, respectively.

Bionic mushrooms

Why in News?:

In their latest feat of engineering, researchers at Stevens Institute of Technology have taken an ordinary white button mushroom from a grocery store and made it bionic, supercharging it with 3D-printed clusters of cyanobacteria that generate electricity and swirls of graphene nanoribbons that can collect the current.

About the Mushrooms:



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- Researchers used a robotic arm-based 3D printer to first print an “electronic ink” containing the graphene nanoribbons.
- This printed branched network serves as an electricity-collecting network atop the mushroom’s cap by acting like a nano-probe — to access bio-electrons generated inside the cyanobacterial cells.
- Next, they printed a “bio-ink” containing cyanobacteria onto the mushroom’s cap in a spiral pattern intersecting with the electronic ink at multiple contact points.
- At these locations, electrons could transfer through the outer membranes of the cyanobacteria to the conductive network of graphene nanoribbons.
- Shining a light on the mushrooms activated cyanobacterial photosynthesis, generating a photocurrent.

Uses of Bionic mushrooms:

- This bionic mushroom produces electricity. By integrating cyanobacteria that can produce electricity, with nanoscale materials capable of collecting the current, researchers were able to better access the unique properties of both, augment them, and create an entirely new functional bionic system.
- The amount of electricity these bacteria produce can vary depending on the density and alignment with which they are packed, such that the more densely packed together they are, the more electricity they produce.