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GS 2 : Polity, Governance, International Relations

1. Rising Natural Gas Prices

In News : This is supposed to be an off season. Winter is yet to set in. But natural gas prices soared over the past few months, especially in Europe. The price of natural gas in Europe is now six times higher than what it was last year. Across the continent, natural gas inventories are falling.

What's driving up the prices?

1. Supply Constraints

- Global energy demand fell in 2020 when economies slipped into COVID-induced lockdowns.
- When growth returned this year, especially to Asian economies, demand shot up and energy producers struggled to meet the growing demand, pushing up prices.
- Even in the **U.S., the world's largest natural gas producer**, prices rose from \$1.7 per million British thermal units on March 31 to \$6.3 per mBtu on October 5.
- Europe, which is heavily dependent on imports to meet its energy demand, was particularly hit hard.
- As part of Europe's shift towards cleaner energy, many countries had moved away from coal to gas to produce electricity. This increased **Europe's reliance on gas**.
- On the other side, the Europe's natural gas production has shrunk over the years, as many countries **shut down production fields over environmental concerns**.
- If Europe's natural gas production (excluding Russia) was about 300 billion cubic metres in 2005, it fell to less than 200 bcm in 2021. Europe's main producer of natural gas, has seen its production shrink from 117.6 bcm in 2015 to 105.3 bcm in 2021. This has left **Europe largely dependent on Russia**.

2. Energy Geopolitics

- As prices shot up amid growing worldwide demand and falling production in Europe, **supplies from Russia via a pipeline** that passes through Ukraine and Poland also reduced, which made the situation worse.

- Russia has built another gas pipeline, **Nord Stream 2**, which will take Russian gas directly to Germany bypassing Ukraine and Poland (who are critical of Putin). But **supplies to Europe through Nord Stream 2 are yet to start** as the pipeline is awaiting approval from European authorities.
 - US & several countries in Europe remain critical of Nord Stream-2 pipeline, because they believe that the pipeline will enhance Russia's leverage over Europe and would also allow Russia to economically punish Ukraine and Poland.
- In the past when Europe's energy demand shot up, Russia had stepped up supplies. However, Russian exports to Europe this year were lower than they were in 2019.
- This has fuelled speculation that Mr. Putin is using the energy crunch in Europe to get approval from the EU for the Nord Stream 2 pipeline. Russia has dismissed such criticism, saying Russia has no role in the energy crunch.

What lies ahead?

- The situation has calmed after Russian President Vladimir Putin assured Europe of increasing the supplies.
- But Mr. Putin didn't say how Russia was going to increase its supplies – through the existing pipeline or Nord Stream 2?
- It is to be seen if additional supplies would be tied to a quick approval for the Nord Stream- 2 pipeline.
- Furthermore, the Russian domestic gas market also remains tight. **Inventories are running low**, and winter is coming, which would shoot up demand constraining Russia's export capacity.
- And demand is rising not only in Europe and the Americas, but also in Asia. **Coal shortages in India** and China could drive up prices of natural gas further.

2. China-Taiwan Rift

In News : Democratically ruled Taiwan has complained of stepped-up military and political pressure from Beijing to force it to accept Chinese rule.

- Over the last weekend, Chinese President Xi Jinping reiterated a vow to reunify Taiwan.
- This was followed by People's Liberation Army Daily's official newspaper in a brief report on its Weibo microblogging account, saying China's military had carried out beach landing and assault drills in the province directly across the sea from Taiwan, though it did not link these exercises to current tensions with Taipei.

- According to reports China's air force has also carried out a series of aerial intrusions into Taiwan's Air Defence Identification Zone recently with a record 38 aircraft on October 1, when China marked its National Day, followed by 39 on October 2, 16 on October 3 and 56 on October 4.
- While Taiwan's Defence Minister described the current tensions between the two nations as the worst in 40 years, Taiwanese President has said that her country will not be forced to bow to China.
- Also, Taiwan is entirely dependent on the US for its defence against possible Chinese aggression – and that is why every spike in military tensions between China and Taiwan injects more hostility in the already strained relationship between Washington and Beijing.

Background

- Taiwan, officially known as the Republic of China (ROC) (earlier known as Formosa), is an island off the southern coast of China that has been governed independently from mainland China since 1949.
- The People's Republic of China (PRC) views the island as a province, while in Taiwan—a territory with its own democratically elected government that is home to twenty-three million people—political leaders have differing views on the island's status and relations with the mainland.
- The PRC asserts that there is only “one China” and that Taiwan is an inalienable part of it. Beijing says Taiwan is bound by an understanding reached in 1992 between representatives of the Chinese Communist Party (CCP) and the Kuomintang (KMT) political party then ruling Taiwan.
- Referred to as the 1992 Consensus, it states that there is only “one China” but allows for differing interpretations, by which both Beijing and Taipei agree that Taiwan belongs to China, while the two still disagree on which entity is China's legitimate governing body.
- The tacit agreement underlying the 1992 Consensus is that Taiwan will not seek independence.
- In Taiwan, the Chinese government's objective has long been what it calls “peaceful reunification” – “reunification” even though Taiwan has never been under the jurisdiction or control of the People's Republic of China or the Chinese Communist Party.
- To achieve that goal, Beijing has for years tried to simultaneously coax and coerce Taiwan's adherence with both the promise of economic benefits and military threats.

Challenge for the US

- President Joe Biden has so far walked a thin line between pledging support for Taiwan, and keeping the lid on tensions with Beijing.

- After speaking with Xi earlier this month, he said they had agreed to abide by the “Taiwan Agreement”, under which US support for the “One China Policy” is premised on Beijing not invading Taiwan.
- The AUKUS pact among the US, UK, and Australia, under which Australia will be supplied with nuclear submarines, has imparted a new dimension to the security dynamics of the Indo-Pacific. Taiwan has welcomed the pact, while China has denounced it as seriously undermining regional peace.

Implications for India

- India should review its One China Policy – it should use the Tibet card, and develop more robust relations with Taiwan to send a message to Beijing.
- India and Taiwan currently maintain “trade and cultural exchange” offices in each other’s capitals. In May 2020, the swearing-in of Tsai was attended virtually by BJP MPs Meenakshi Lekhi (now MoS External Affairs) and Rahul Kaswan. In 2016, New Delhi had dropped plans to send two representatives for Tsai’s first inaugural at the last minute.
- Talks with Taipei are ongoing to bring a \$7.5-billion semiconductor or chip manufacturing plant to India. Chips are used in a range of devices from computers to 5G smartphones, to electric cars and medical equipment (the need to build a “safe supply chain for semiconductors”).

GS 3 : Economy, Science and Technology, Environment

3. Deconstructing climate finance

Context

In the run-up to the 26th UNFCCC media reports have claimed that developed countries are inching closer to the target of providing \$100 billion annually. This view has been bolstered by the Organisation for Economic Co-operation and Development (OECD), which claimed that climate finance provided by developed countries had reached \$78.9 billion in 2018.

Issue of climate financing and claim of reaching the target of \$100 billion

- These claims reaching the target of \$100 billion annually is erroneous.
- First, the OECD figure includes private finance and export credits.
- **Public finance:** Developing countries have insisted that developed country climate finance **should be from public sources** and should be provided as **grants or as concessional loans**.

- However, the OECD report makes it clear that the public finance component **amounted to only \$62.2 billion in 2018**, with bilateral funding of about \$32.7 billion and \$29.2 billion through multilateral institutions.
- **Nature of finance:** Significantly, the final figure comes by **adding loans and grants**. Of the public finance component, loans comprise 74%, while **grants make up only 20%**.
- The report does not say how much of the total loan component of \$46.3 billion is concessional.
- **Non-concessional loans:** From 2016 to 2018, 20% of bilateral loans, 76% of loans provided by multilateral development banks and 46% of loans provided by multilateral **climate funds were non-concessional**.
- Between 2013 and 2018, the share of loans has continued to rise, while the share of grants decreased.
- The OECD reports on climate finance have long been criticised for inflating climate finance figures.
- In contrast to the OECD report, Oxfam estimates that in 2017-18, out of an average of \$59.5 billion of public climate finance reported by developed countries, the climate-specific net assistance ranged only between **\$19 and \$22.5 billion per year**.
- **The 2018 Biennial Assessment of UNFCCC's Standing Committee on Finance** reports that on average, developed countries provided only \$26 billion per year as climate-specific finance between 2011-2016.

Broken commitments from the US on climate financing

- U.S. President Joe Biden recently said that the U.S. will double its climate finance by \$11.4 billion annually by 2024.
- It is Congress that will decide on the quantum after all.
- The U.S. also has a history of broken commitments, having promised \$3 billion to the Green Climate Fund (GCF) under President Barack Obama, but delivering only \$1 billion.
- The future focus of U.S. climate finance is the mobilisation of **private sector investment**.
- The bulk of the money coming in would be through private funds, directed to those projects judged “bankable” and not selected based on developing countries’ priorities and needs.

Finance skews toward mitigation

- Climate finance has also remained skewed towards mitigation, despite the repeated calls for maintaining a balance between adaptation and mitigation.

- The 2016 **Adaptation Gap Report of the UN Environment Programme** had noted that the annual costs of adaptation in developing countries could range from \$140 to \$300 billion annually by 2030 and rise to \$500 billion by 2050.
- Currently available adaptation finance is significantly lower than the needs expressed in the Nationally Determined Contributions submitted by developing countries.

Conclusion

Delivering on climate finance is fundamental to trust in the multilateral process. Regrettably, while developing countries will continue to pressure developed countries to live up to their promises, the history of climate negotiations is not in their favour.

4. Agri-food systems need a transformative change

Context

There is an urgent need for reorientation of the long-term direction of agri-food systems to not only enhance farm incomes but also ensure better access to safe and nutritious foods.

Challenge of malnutrition in India

- The findings from the first round of the Fifth National Family Health Survey suggest that nutrition-related indicators have worsened in most States.
- In addition, findings from the Comprehensive National Nutrition Survey (2016-18) have highlighted the **role of micro-nutrient malnutrition**.
- Pathways for nutritional security consist of improving dietary diversity, kitchen gardens, **reducing post-harvest losses**, making safety net programmes more **nutrition-sensitive**, women's empowerment, enforcement of standards and regulations, improving Water, Sanitation and Hygiene, nutrition education, and effective use of digital technology.

Agri-food system: Significance and challenges it faces

- The agri-food systems are the most important part of the Indian economy.
- India produces sufficient food, feed and fibre to sustain about 18% of the world's population (as of 2020). Agriculture contributes about 16.5% to India's GDP and employs 42.3% of the workforce (2019-20).
- A **sustainable agri-food system** is one in which a variety of sufficient, nutritious and safe foods are made available at an affordable price to everyone, and nobody goes hungry or suffers from any form of malnutrition.

- However, the country's agri-food systems are facing new and unprecedented challenges, especially related to economic and ecological sustainability, nutrition and the adoption of new agricultural technologies.
- The edifice of India's biosecurity remains vulnerable to disasters and extreme events.

Way forward: Reorienting agri-food systems

- There is an urgent need for reorientation of the long-term direction of agri-food systems to not only **enhance farm incomes** but also ensure better **access to safe and nutritious foods**.
- Additionally, the agri-food systems need to be reoriented to **minimise cost on the environment and the climate**.
- This need is recognised by the **theme of World Food Day 2021: 'Our actions are our future. Better production, better nutrition, a better environment and a better life'**.
- FAO's support for the transformation of agri-food systems is rooted in agro-ecology.
- The more diverse an agricultural system, the greater its ability to **adapt to shocks**.
- Different combinations of integrated crop-livestock-forestry-fishery systems can help farmers produce a variety of products in the same area, at the same time or in rotation.
- In January this year, FAO in collaboration with NITI Aayog and the Ministry of Agriculture convened a National Dialogue to evolve a framework for the transition to a more sustainable agri-food systems by 2030 and identify pathways for enhancing farmers' income and achieving nutritional security.

Conclusion

Food systems can help combat environmental degradation or climate change. Sustainable agri-food systems can deliver food security and nutrition for all, without compromising the economic, social and environmental bases.

5. Agriculture Infrastructure and Development Cess (AIDC)

In News : In a bid to curb the persistently high inflation in edible oils, the government has decided to exempt **crude palm, soya-bean and sunflower seed oils** from customs duty, and slash the Agriculture Infrastructure and Development Cess (AIDC) levied on their imports from October 14 till March 31, 2022.

Key takeaways

- Imports of crude palm, soya-bean and sunflower seed oils attract a basic customs duty of 2.5% and an AIDC of 20%.
- The customs duty has been dropped to zero, while the cess has been reduced to 5% for crude soya-bean and sunflower seed oil. In the case of crude palm oil, the AIDC cess has been reduced to 7.5% instead of the original 20%.
- **Benefits:** The decision would help in reducing price burden on ultimate consumers amid the surging edible oil prices.

What is Agriculture Infrastructure and Development Cess (AIDC)?

- Agriculture Infrastructure and Development Cess (AIDC) was proposed in the Budget 2021-22.
- **Purpose:** To raise funds to finance spending on developing agriculture infrastructure aimed at not only boosting production but also in helping conserve and process farm output efficiently.
- The new cess will be levied on 29 products, prominent among which are gold, silver, imported apple, imported alcohol (excluding beer), imported pulses, imported palm oil, imported urea, and petrol/diesel including branded ones.
- It will only offset the reduction in customs or excise duty and thus will not raise the tax incidence for consumers.

6. Deconstructing climate finance

Context

- Media reports have highlighted that developed countries are soon going to meet the target of providing \$100 billion annually in climate finance to developing countries by 2025.
- The Organisation for Economic Co-operation and Development (OECD) has also claimed that climate finance provided by developed countries had reached \$78.9 billion in 2018.
- The article evaluates if the claims are genuine or are erroneous.

Flawed claims

1. Finances from Developed to the Developing Countries

- Awarding finances from the developed to the developing countries should be from public sources either in the form of grants or as concessional loans.
- However, the OECD report makes it clear that the public finance component amounted to only \$62.2 billion in 2018, with bilateral funding of about \$32.7 billion and \$29.2 billion through multilateral institutions.

- Concern
 - Of the public finance component, loans comprise 74%, while grants make up only 20%. The report does not say how much of the total loan component of \$46.3 billion is concessional.
 - From 2016 to 2018, 20% of bilateral loans, 76% of loans provided by multilateral development banks and 46% of loans provided by multilateral climate funds were non-concessional.
 - Between 2013 and 2018, the share of loans has continued to rise, while the share of grants decreased.
- Inference
 - The numbers clearly reveal a higher proportion of finances were conferred as loans and not as grants increasing the debt burden of many low-income countries.

2. Inflating Climate Finances

- The OECD reports are also criticized for bloating climate finances.
- It had included development projects such as health and education that only notionally target climate action.

3. Biennial Reports

- The 2018 Biennial Assessment of UNFCCC's Standing Committee on Finance reports that on average, developed countries provided only \$26 billion per year as climate-specific finance between 2011-2016.
- This rose to an average of \$36.2 billion in 2017-18.

4. Oxfam report

- The Oxfam report on climate finance takes into picture the estimate of how much climate finance is actually targeting climate action, discounts for grant equivalence and thus takes into perspective the outcome of such investments.
- In contrast to the OECD report, Oxfam estimates that in 2017-18, out of an average of \$59.5 billion of public climate finance reported by developed countries, the **climate-specific net assistance ranged only between \$19 and \$22.5 billion per year.**

5. U.S. climate funding

- U.S. President Joe Biden has promised to double US international climate finance by 2024.
 - However, it is the US congress that has to decide on the quantum of finances and the US in the past has also broken commitments.
- Example

- It had promised \$3 billion to the Green Climate Fund (GCF) under President Barack Obama, but delivered only \$1 billion before President Donald Trump withdrew U.S. support from the GCF.
- Even if the finances are mobilized it will be mostly from the Private sector and such investments from the private sector will be based on benefits they wish to derive and not as per the priorities and needs of the developing countries.

6. Adaptation and Mitigation

Climate change mitigation means avoiding and reducing emissions of heat-trapping greenhouse gases into the atmosphere to prevent the planet from warming to more extreme temperatures.

Climate change adaptation means altering our behaviour, systems, and – in some cases – ways of life to protect our families, our economies, and the environment in which we live from the impacts of climate change.

- Climate finance has also remained tilted towards mitigation, despite the repeated calls for maintaining a balance between adaptation and mitigation.
- Currently available adaptation finance is significantly lower than the needs expressed in the Nationally Determined Contributions submitted by developing countries.

Conclusion

- Developing countries should continue to put pressure on developed countries to live up to their promises and commitments as the history of climate negotiations has not been in their favor.

THE INDIAN EXPRESS

GS 2 : Polity, Governance, International Relations

1. China-Taiwan tussle

Recently China flew over 100 fighter jets into Taiwan's air defence identification zone setting off alarm around the world that it was preparing to take over the island by force.

Taiwan: the Republic of China (RoC)

- Taiwan, **earlier known as Formosa**, a tiny island off the east coast of China, is where Chinese republicans of the Kuomintang government retreated after the 1949 victory of the communists.
- It has since continued as the Republic of China (RoC).
- Although **largely unrecognized by other countries** as such, self-ruled Taiwan sees itself as no less than an independent nation.
- Its leaders, have **vowed to defend its sovereignty** against the Chinese goal of “reunification”.

Chinese claims over Taiwan

- Since its establishment in 1949, the PRC has believed that Taiwan must be reunified with the mainland, while the RoC claim to be an independent country.
- The RoC became the **non-communist frontier against China** during the Cold War, and was the only ‘China’ recognised at the UN until 1971.
- That was when the US inaugurated ties with China through the secret diplomacy under President Richard Nixon.

Independence politics by Taipei

- In 1975, Taiwan got its first democratic reforms. Trade ties with PRC were established.
- As the British prepared to exit Hong Kong in 1999, the “**One China, Two Systems**” solution was offered to Taiwan as well, but it was rejected by the Taiwanese.
- In 2004, China started drafting an anti-secession law aimed at Taiwan; trade and connectivity, however, continued to improve.

Hurdles for Taiwanese independence

- Taiwan now has **massive economic interests**, including investments in China, and pro-independence sections worry that this might come in the way of their goals.
- Inversely, the **pro-reunification sections** of the polity, as well as China, hope that economic dependence and increasing people-to-people contacts will wear out the pro-independence lobbies.

Global significance of Taiwan

- The island is **located in the East China Sea**, to the northeast of Hong Kong, north of the Philippines and south of South Korea, and southwest of Japan.

- What happens in and around Taiwan is of deep concern to all of East Asia.

Geopolitics: US ties with Taiwan

- Officially, the **US has subscribed to PRC's "One China Policy"** which means there is only one legitimate Chinese government.
- The most serious encounter was in 1995-96, when China began testing missiles in the seas around Taiwan, triggering the biggest US mobilization in the region since the Vietnam War.
- Now, the **US backs Taiwan's independence**, maintains ties with Taipei, and sells weapons to it.
- **Taiwan is entirely dependent on the US** for its defense against possible Chinese aggression.
- This is why every spike in military tensions between China and Taiwan injects more hostility into the already strained relationship between Washington and Beijing.

Challenge for the US

- The Biden Administration has declared "**rock-solid**" **commitment to Taiwan** after an incursion by Chinese warplanes.
- As tensions rise, the world is watching the US, which is **face-saving** after exiting from Afghanistan.
- In East and Southeast Asia, several countries including Japan, South Korea, and the Philippines, which are sheltered under the **Protective umbrella of the US**, are reading the situation.
- The US has also agreed to abide by the "Taiwan Agreement", under which US support for the "One China Policy" is premised on Beijing not invading Taiwan.

Recent initiatives against China

- The **AUKUS** pact among the US, UK, and Australia, under which Australia will be supplied with nuclear submarines, has imparted a new dimension to the security dynamics of the Indo-Pacific.
- Taiwan has welcomed the pact, while **China has denounced** it as seriously undermining regional peace.

Implications for India

- With India facing its own problems with China at the LAC, there have been suggestions that it **should review its One China Policy**.

- It has in any case long stopped reiterating this officially – and use not just the **Tibet card**, but also develop more robust relations with Taiwan to send a message to Beijing.
- India and Taiwan currently maintain “trade and cultural exchange” offices in each other’s capitals.

India-Taiwan Ties: A backgrounder

- India and Taiwan both do not maintain any official diplomatic relations.
- **India recognizes only the People’s Republic of China** (in mainland China) and not Taiwan’s claims of being the legitimate government of Mainland China, Hong Kong, and Macau.
- However, India’s economic and commercial links, as well as people-to-people contacts with Taiwan, have expanded in recent years.
- Major Taiwanese exports to India include integrated circuits, machinery, and other electronic products.

India’s interest

Ans. Semiconductor economy

- Taiwan’s position as a semiconductor superpower opens the door for more intensive strategic-economic cooperation between Delhi and Taipei.
- The talks with Taipei are ongoing to bring a \$7.5-billion semiconductor or chip manufacturing plant to India.
- Chips are used in a range of devices from computers to 5G smartphones, to electric cars and medical equipment.

Way forward

- Delhi must begin to deal with Taiwan as a weighty entity in its own right that offers so much to advance India’s prosperity.
- Delhi does not have to discard its “One-China policy” to recognise that Taiwan is once again becoming the lightning rod in US-China tensions.

Conclusion

- As Taiwan becomes the world’s most dangerous flashpoint, the geopolitical consequences for Asia are real.
- Although Delhi has embraced the Indo-Pacific maritime construct, it is yet to come to terms with Taiwan’s critical role in shaping the strategic future of Asia’s waters.

2. One Sun One World One Grid

The Union Minister for Power and New and Renewable Energy (MNRE) has addressed the Ministerial session of the Green Grids Initiative-One Sun One World One Grid (OSOWOG) Northwest Europe Cooperative Event.

One Sun, One World, One Grid

- The mega plan of OSOWOG calls for trans-national electricity grid supplying solar power across the globe.
- It will **connect 140 countries** through a **common grid** that will be used to transfer solar power.
- The idea was first floated by PM Modi in 2018 during the first assembly of the International Solar Alliance (ISA).
- The vision behind the OSOWOG mantra is “**the Sun never sets**” and is a constant at some geographical location, globally, at any given point of time.

With India at the fulcrum, the solar spectrum can easily be divided into two broad zones viz:

1. **Far East:** It would include countries like Myanmar, Vietnam, Thailand, Lao, Cambodia and
2. **Far West:** It would cover the Middle East and the Africa Region

Implementation phases of the plan

The plan is divided into three phases:

- **Phase 1:** It will connect the Indian grid with the Middle East, South Asia and South-East Asian grids to share solar and other renewable energy resources
- **Phase 2:** It will connect the first phase nations with the African pool of renewable sources
- **Phase 3:** It will be the concluding step of global interconnection

How novel is the idea?

(1) Scale of the program

- Not limited by national boundaries, it can tackle global challenges linked to energy.
- It will tackle access for underserved people and communities the world over.
- It will enable 3 billion people to access clean drinking water (via solar pumps), give 2 billion women access to clean cooking and bring light to the homes of 750 million people.

(2) Pivotal moment in India's energy history

- Going back even further, almost a decade ago, the price of solar energy (then INR 15 a unit) had raised question marks about its commercial feasibility.
- Today OSOWOG envisions dispatching surplus electricity at near-zero cost as India produces the cheapest solar-powered electricity anywhere in the world.

(3) Sustainability

- OSOWOG directly tackles two key problems that are emerging as energy systems try to deliver both energy sustainability and access to underserved populations.
- Countries like Singapore or Bangladesh simply may not have enough empty land to generate solar energy.
- Many nations' policies also prioritise food security (i.e., devoting land to farming) over solar energy. These countries can still benefit from the solar energy dispatched to them via OSOWOG.

(4) India extending leadership

- Having international associations is not a new trend for the energy sector which already has a strong geopolitical organisation such as OPEC.
- Several countries including China have initiated infrastructure projects in other countries, which is seen as a sign of asserting supremacy by several policy experts.
- While India is a partner nation with most trade associations, with ISA and OSOWOG, it is planning to take a leadership position.

Significance of OSOWOG

- **Successful ambitious project:** It is obviously a very grand and ambitious project with a looming success.
- **Pathbreaking idea:** It is also clear that a new energy sector paradigm is needed as we are facing a huge inflection point in electricity generation and consumption.
- **Green benefits:** Potential benefits include widespread scale up in energy access, abatement in carbon emissions, lower cost and improved livelihoods.
- **Energy alternative:** With battery and storage technology becoming cheaper, electricity consumption at source end is a more feasible idea for solar power.

Limitations of OSOWOG

- **Low financial benefits:** This may sound a geopolitically a clever strategy. However, it is to be seen if this makes sense, technology-wise and in terms of financial benefits.
- **Cost-sharing challenge:** The mechanism of cost-sharing will be challenging, given the varied priorities of participating countries depending on their socio-economic orders.
- **Pace of progress:** The OSOWOG will turn out to be an expensive, complex and very slow progress project.
- **Geopolitical issue:** Any disruption caused due to any bilateral/multilateral issues can potentially affect critical services in multiple continents and countries.
- **Grid parameters:** There is a difference in voltage, frequency and specifications of the grid in most regions. Maintaining grid stability with just renewable generation would be technically difficult.

Way forward

- While India has taken baby steps with ISA, a major investment drive is still missing. This is planned to be achieved through OSOWOG.
- India will need a strong coalition of international partners to realise this vision.

3. Northwest Europe Cooperative Event

In News: India participated in the Ministerial session of the Green Grids Initiative-One Sun One World One Grid (GGI-OSOWOG) Northwest Europe Cooperative Event, which saw a multi-layered dialogue for developing cross-border trading of renewable electricity.

India

- Affirmed its commitment to the environment and the cause of clean energy and energy transition
- Highlighted India's target of achieving 450 GW of installed renewable energy capacity by 2030
- Underlined that India is well on its way to achieving its Nationally Determined Contributions (NDCs) relating clean energy and emission reduction well ahead of the target date.

- Presented the GGI-OSOWOG initiative as a possible solution for driving down the need for storage and in effect reduce the costs of the energy transition.
- Sustainable development and climate change mitigation are at the heart of the GGI-OSOWOG initiative, and that the scale of the project could very well make it the next biggest modern engineering marvel.

Background

- The idea for the One Sun One World One Grid (OSOWOG) initiative was put forth by the Prime Minister of India Shri Narendra Modi, at the First Assembly of the International Solar Alliance (ISA) in October 2018. He had called for connecting solar energy supply across borders.
- In May 2021, the United Kingdom and India agreed to combine forces of the Green Grids Initiative and the One Sun One World One Grid initiative and jointly launch GGI-OSOWOG at the COP26 summit being hosted by the UK at Glasgow in November 2021.

4. GI tag for 177 potential tribal products

In News: In addition to marketing 56 GI products, TRIFED is working to get GI tag for the 177 potential products that have been identified from the states under operational areas across the country.

TRIFED's GI intervention and setting up of Atmanirbhar corner in Indian Missions abroad aims at:

- To safeguard the interests of the original producers as well as that of the product and ensure that the producer avails optimum cost for their premium goods even in the highly competitive market scenario.
- To ensure recognition of indigenous products both in India and global market.
- To revive diminishing art and craft from a Tribal specific geographical location.

Tribal Cooperative Marketing Development Federation of India (TRIFED)

- A national-level apex organization, came into existence in 1987
- Objective: To provide good price of the 'Minor Forest Produce (MFP) collected by the tribes of the country.
- It functions under Ministry of Tribal Affairs, Govt. of India.
- TRIFED has its Head Office at New Delhi and has a network of 13 Regional Offices located at various places in the country.

GS 3 : Economy, Science and Technology, Environment

5. Is India's current investor rush too much of a good thing?

Human traits driving financial markets

- To imitate and to conform — do what others around us are doing — are common and very powerful human tendencies.
- In financial markets, “herd behaviour” is a warning sign: When markets are doing well, people invest for no other reason than their neighbours having become wealthier (and vice versa).
- There is another human trait that affects markets — **success increases risk appetite**.
- If someone's financial investments work, they are very likely to invest more, and ignore safety measures.

Factors driving the private equity investments

- Better physical infrastructure (rural roads, electrification, phone penetration, data access).
- Several layers of innovation (universal bank account access, surging digital payments on the “India Stack”).
- **45 lakh** software developers (largest in the world).
- Maturing industries (for example, as research budgets of Indian pharmaceutical manufacturers have grown 10 times in the last 15 years).
- The ecosystem can take on more challenging projects now, versus just generic filings a decade back).
- Strong **medium-term economic growth prospects** create fertile ground for private equity investments.
- Investors with patient capital (knowing that the businesses will not make money for several years) are now betting on and financing a faster transition to electric vehicles than was earlier anticipated.
- In financial services, innovative methods of lending, insurance underwriting and wealth management are being experimented with, which are likely to only expand the market meaningfully.
- An army of **Software-as-a-Service (SaaS) firms** have been funded in the hope of revolutionising the development and distribution of software.
- There are also **new-age distribution and logistics companies**, education technology firms, and branded consumer goods suppliers, in addition to “normal” e-commerce, gaming and food-delivery startups.

Risks involved in a rapid infusion of capital

- **Allocation inefficiency:** Theoretically, an economy India's size is capable of absorbing the **\$52 billion of PE funding** seen over the last 12 months, but in practice, such a rapid surge creates **allocation inefficiency**.
- As investors rush to deploy ever-larger sums of money, they appear to be running out of companies to invest in that can **productively deploy this capital**.
- The result is **companies' valuations rising manifold** within months and small firms getting more capital inflows than they can deploy, often resulting in wasteful business plans.
- When investors rush to deploy funds, **the risk of fraud rises** – inadequate disclosures and weak due diligence are compounded by incentives to misrepresent financial data.
- The discovery of any such frauds would likely **freeze funding for the industry for a few quarters**.

Why now?

- India has never lacked entrepreneurs, but lacked risk capital given the low per capita wealth.
- As savers like **pension and insurance funds in the developed world** responded to record-low interest rates by allocating more to PE as an asset class, private funding markets have grown rapidly in the last 15 years globally.
- In India, **PE funding has exceeded public-market fund-raising** every year in the past decade.
- While earlier, only a few business groups could muster sizeable amounts of risk capital to establish new businesses and disrupt old ones, entrepreneurs can now lay hands on hundreds of millions of dollars if the idea makes sense.

Conclusion

For now, this flow of funds is a welcome booster for the economy as it recovers from the scars of the pandemic-driven lockdowns. While valuations can be volatile in the near term, we are in the early stages of this reshaping of India's corporate landscape.

6. Kunming Declaration on Biodiversity Conservation

The Kunming Declaration was adopted by over 100 countries at the first part of the ongoing virtual 15th meeting of the Conference of the Parties to the United Nations Convention on Biological Diversity.

Kunming Declaration

- It calls upon the parties to “mainstream” biodiversity protection in decision-making and recognise the importance of conservation in protecting human health.
- The theme of the declaration is Ecological Civilization: Building a Shared Future for All Life on Earth.
- By adopting this, the nations have committed themselves to support the development, adoption and implementation of an effective post-2020 implementation plan for the Cartagena Protocol on biosafety.
- Signatory nations will ensure that the post-pandemic recovery policies, programs and plans contribute to the conservation and sustainable use of biodiversity.

About Convention on Biological Diversity (CBD)

- The CBD (wef 1993) known informally as the Biodiversity Convention, is a multilateral treaty.
- The convention has three main goals:
 1. the conservation of biodiversity
 2. the sustainable use of its components
 3. the fair and equitable sharing of benefits arising from genetic resources
- Its objective is to develop national strategies for the conservation and sustainable use of biological diversity, and it is often seen as the key document regarding sustainable development.
- It has two supplementary agreements, the Cartagena Protocol and Nagoya Protocol.

(1) Cartagena Protocol

- It is an international treaty governing the movements of living modified organisms (LMOs) resulting from modern biotechnology from one country to another.

(2) Nagoya Protocol

- It deals with Access to Genetic Resources and the Fair and Equitable Sharing of Benefits Arising from their Utilization (ABS).

7. India retains 3rd position in RE Investment Attractiveness Index

India has retained the third rank in the Renewable Energy Country Attractiveness Index released by consultancy firm EY.

RE Country Attractiveness Index (RECAI)

- The RECAI ranks the world's top 40 markets on the attractiveness of their renewable energy investment and deployment opportunities.
- The rankings reflect assessments of market attractiveness and global market trends.

India's performance

- India remained at the third position since three consecutive years.
- India's thriving renewable energy market conditions, inclusive policy decisions, investment and technology improvements focusing on self-reliant supply chains have pushed the transition.
- RECAI highlights that corporate power purchase agreements (PPAs) are emerging as a key driver of clean energy growth.
- A new PPA Index - introduced in this edition of RECAI - focuses on the attractiveness of renewable power procurement and ranks the growth potential of a nation's corporate PPA market.
- India is ranked sixth among the top 30 PPA markets.

Global scenario

- The US, mainland China and India continue to retain the top three rankings and Indonesia is a new entrant to the RECAI.
- The top-performing markets have held their ground in this latest issue - with no movement into or out of the top eight.
- France (fourth position, up by one) and the UK (fifth position, down by one), while Germany (sixth position, up by one) has edged back ahead of Australia (seventh position, down by one).

8. Input Tax Credit (ITC)

Context GST Network has said it has blocked Rs 14,000 crore worth of input tax credit (ITC) of 66,000 businesses registered under the Goods and Service Tax.

What is Input Tax Credit (ITC)?

- ITC is a mechanism to avoid cascading of taxes. Cascading of taxes, in simple language, is 'tax on tax'.
- Input Tax Credit refers to the tax already paid by a person at time of purchase of goods or services and which is available as deduction from tax payable .
- In simple terms, input credit means at the time of paying tax on output, you can reduce the tax you have already paid on inputs and pay the balance amount.
- **Exceptions:** A business under composition scheme cannot avail of input tax credit. ITC cannot be claimed for personal use or for goods that are exempt.

Concerns over its misuse

- Currently there is a time gap between ITC claim and matching them with the taxes paid by suppliers. There could be a possibility of misuse of the provision by businesses by generating fake invoices just to claim tax credit.
- As much as 80% of the total GST liability is being settled by ITC and only 20% is deposited as cash.
- Under the present dispensation,

there is no provision for real time matching of ITC claims with the taxes already paid by suppliers of inputs.

Prelims Practice Questions

1. Consider the following statements:

1. The National Green Tribunal (NGT) is a statutory body.
2. The NGT also contains non-judicial members.
3. The NGT is mandated to dispose of applications or appeals finally within 6 months of filing the same.

Which of the above statements is/are correct?

- A 1 and 2 only
B 2 only
C 2 and 3 only
D 1, 2 and 3

Answer : D

Explanation

- The **National Green Tribunal Act (NGT)** is a **statutory body** set up under the **National Green Tribunal Act (2010)** for effective and expeditious **disposal of cases relating to environmental protection and conservation of forests and other natural resources. Hence, statement 1 is correct**
- The NGT Act, 2010, prescribes that the tribunal shall consist of a **full-time chairperson and not less than 10 judicial and 10 expert members** but subject to a maximum of twenty full-time judicial and expert members. **Hence, statement 2 is correct.**
- NGT is mandated to **dispose of applications or appeals finally within 6 months of filing the same. Hence, statement 3 is correct.**

2. The Nutrient Based Subsidy Rates for non-urea fertilizers are approved by

- a. Ministry of Finance
- b. NITI Aayog
- c. Ministry of Agriculture
- d. Cabinet Committee on Economic Affairs

Answer: d

Explanation:

For urea, the Centre sets a fixed maximum retail price. The Cabinet Committee on Economic Affairs (CCEA) approves the Nutrient Based Subsidy (NBS) rates of non-urea fertilisers.

3. Consider the following statements:

1. An intermediate black hole is formed by the merger of two black holes.
2. Gravitational Waves are created when two black holes orbit each other and merge.

Which of the statements given above is/are correct?

- A 1 only
- B 2 only
- C Both 1 and 2
- D Neither 1 nor 2

Answer : C

Explanation

- A **black hole merger** is the phenomenon of the merging of two or more black holes.
- Merging of two or more black holes results **in different types of black holes**. For eg, **Intermediate-Mass Black Holes** and Binary Black Holes. **Hence, statement 1 is correct.**
 - Intermediate-Mass black hole (IMBH) is a class of black hole with mass in the range 10²–10⁵ solar masses: significantly more than stellar black holes but less than supermassive black holes.
- **Gravitational Waves** are created when two black holes orbit each other and merge. **Hence, statement 2 is correct.**
 - It travels at the speed of light and squeezes and stretches anything in their path.
 - As a gravitational wave travels through space-time, it causes it to stretch in one direction and compress in the other, any object that occupies that region of space-time also stretches and compresses as the wave passes over them, though very slightly, which can only be detected by specialized devices like LIGO.

4. Recently the term ‘PM Gati Shakti’ was seen in news. What does it refer to?

- a. National master plan for multimodal connectivity and integrated infrastructure development.
- b. Financial inclusion programme aimed at North-Eastern states.
- c. Livelihood generation scheme for migrant workers affected by the pandemic.
- d. A public-private partnership in the commercial space sector.

Answer: a

Explanation:

PM Gati Shakti is a national master plan for multimodal connectivity and integrated infrastructure development.

5. Which of the following best describes the term Circular Economy?

- a. It is an alternative to a traditional linear type “take-make-waste” economy.
- b. It connects freelancers with customers to provide short term services using digital platforms
- c. It is a peer-to-peer based activity of acquiring, providing, or sharing access to goods and services
- d. None of the above

Answer : a

Background

- Since the second industrial revolution, our economy has been linear, working on take-make-use-dispose principles.
- On the one hand, this has resulted in increased economic benefits and prosperity, but on the other hand, it has also led to the overuse of resources by promoting a ‘use-and-throw’ approach.
- According to the Circular Gap Report 2021, 100 billion tonnes of different materials enter the Earth every year.
- This model not only leads to environment degradation and resource depletion, but it also increases the cost of products by disturbing the material supply system.

- This results from fluctuating raw material prices, low materials availability, geopolitical dependence on different materials and increasing demand.
- To address this issue, we need to focus on resource efficiency by adopting a circular economy.

Circular Economy

- The circular economy is defined as an alternative to the linear 'take-make-waste' approach.
- It seeks to design out waste, regenerate natural ecosystems and keep materials and products in use for as long as possible.
- To this end, resources are not consumed and discarded, destroying their value.
- Rather, their value is retained by reusing, repairing, remanufacturing or recycling.
- Adopting a circular economy results in extended life of products and assets by recycling/ upcycling end-of -life products and closing the loop.

6. Which of the following statements is correct with regard to the G20?

- a. It was formed primarily to focus on climate change and environmental issues in 20 major economies.
- b. It comprises 19 countries and the European Union.
- c. G20 countries conduct annual joint military exercises in the Mediterranean Sea.
- d. Russia was recently removed from the group.

Answer: b

Explanation:

The G20 is an annual meeting of leaders from the countries with the largest and fastest-growing economies. It comprises 19 countries and the European Union. The G20 summit founded in 1999 is the premier forum for international cooperation on the most important aspects of the international economic and financial agenda. It brings together the world's major advanced and emerging economies.

Mains Practice Questions

1Q. Indian constitution is federal in nature, but unitary in soul. Examine (150 words)

Approach

- Write the meaning of federal and unitary system of government in the introduction
- Describe the federal and unitary characteristics of Indian constitution.
- Examine how the centre government is more powerful than states.

2Q. Discuss the advantages of river linking projects and its possible impact on the environment. (150 words)

Approach

- Introduce by explaining about the river interlinking project.
- Discuss advantages of the project.
- Enumerate possible impacts of the project on the environment.