



# PRESENTATION

## FINANCING ENERGY TRANSITION IN ASIA

11 November 2021

# YOG INFRA

## About Us

**Our objective is to drive economic growth and make positive social impact through sustainable infrastructure development.**

YOG INFRA is an infrastructure focused financial advisory firm. We work with Developers and Development Finance Institutions (DFIs) and help them make informed investment decisions across infrastructure development lifecycle.

With our offices in Singapore and India, we work on projects globally, and the team brings strong experience in supporting development of infrastructure projects.

## OUR SECTOR COVERAGE



Renewable Energy (Solar, Wind, Hydro)



Energy Transition (storage, hybrids, EV)



Water and Waste Management



Transport (Road, Rail, Ports, Airports)



Urban Infra (Affordable Housing, Real Estate)



Social Infra (Health, Education, Sports)

## OUR SERVICES

YOG INFRA provides following services in infrastructure advisory:

*Public Private Partnerships (PPP) Transaction Advisory*

*Business Plans And Market Entry Strategy*

*Financial Modelling And Model Reviews*

*Commercial And Contractual Due-diligence*

*Project Finance Raise*

*Training And Capacity Building*

## ABOUT THE SPEAKER



**Abhinav Mittal, CFA**  
Managing Director, YOG INFRA

Abhinav has more than 11 years of experience in PPP Transactions and Financial Advisory across infrastructure sectors in Asia, and has worked with DFIs, private sector and government agencies.

# CONTEXT



# ENERGY TRANSITION

In News...

The number of coal-fired plants on which construction has begun each year has fallen by 84% since 2015, and was 39% in 2018 alone.

Solar and wind power generation will grow five to ten times faster than any other power-generation technology will in the next few years.

## USAID launches new initiative to accelerate clean energy transition, improve energy access in South Asia

ANI | Updated: Oct 29, 2021 00:55 IST

■ WORLD / AFRICA

## Funding critical for a just energy transition

Business > Top Business

## Fast energy transition to aid economic recovery

By Janderson B. Lopez | November 1, 2021 | 50

# ENERGY TRANSITION

## Key Drivers



### Paris Agreement

- Legally binding international treaty on climate change adopted by 196 Parties at COP21 in Paris, on 12 December 2015 and entered into force on 4 November 2016. Its goal is to limit global warming to well below 2, preferably to 1.5 degrees Celsius, compared to pre-industrial levels.



### Net Zero

- Net zero emission means that all man-made greenhouse gas emissions must be removed from the atmosphere through reduction measures, thus reducing the Earth's net climate balance, after removal via natural and artificial sink



### Renewable energy appetite accelerates

- Despite concerns over COVID-19, 2020 saw an estimated US\$303.5 billion invested in renewable energy capacity, up 2% on 2019
- Clean energy is outperforming in the stock market too.



### Fossil fuels are losing favor

- Concerns about stranded assets and the carbon bubble are beginning to have an impact, with investor concerns about physical, policy and liability risk making the markets a challenge for the oil majors.
- In 2030, 53% of coal-fired power plants would be unprofitable and overall global coal consumption was expected to fall by 8%.



### Green investment goes mainstream

- The green bond market saw a great 2020, hitting \$1 trillion in issuance since 2007.
- Overall, the market is expanding with \$665 billion, or nearly three-quarters of a trillion dollars, in sustainable debt issued in 2020.



### Sustainability concerns drive corporate PPAs

- ESG and net zero are becoming popular among the corporate world.

# ENERGY TRANSITION

## Types of investments

### GREENFIELD



- **Renewable Energy**

Renewable energy includes new solar power plants , Geothermal , Wind, Hydro etc.



- **Biogas Fuel**

Biogas is a renewable fuel produced by the breakdown of organic matter such as food scraps and animal waste. It can be used in a variety of ways including as vehicle fuel and for heating and electricity generation.



- **Hydrogen**

Hydrogen is becoming popular these days as a mean of fuel Many studies are being done on hydrogen and it might become prominent mean of producing electricity in future

### BROWNFIELD



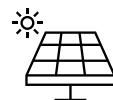
- **Coal To Gas**

By converting coalfired generation to gas, we can reduce CO2 emissions by up to 70%. A further 10% can be gained by co-firing gas with hydrogen (H2) before shifting to firing with H2 on its own takes us to the desired 100% reduction.



- **Carbon Capture and Storage (CCS)**

Carbon capture and storage (CCS) is the process of capturing carbon dioxide (CO2) before it enters the atmosphere, transporting it, and storing it for centuries or millennia.



- **Alternative Energy Solutions**

C&I Rooftop Solar: The electricity demand of commercial and industry which was earlier using coal fired power can now setup a solar plant on the roof top of the commercial space.



# FINANCING ENERGY TRANSITION

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## Types of finance



### DEBT

Increasing awareness among corporate for achieving net zero targets

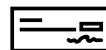
Financial institution are supporting energy transition, by providing easy debt facility with lower spread on the sustainable energy.



### GREEN FUNDS

Green funds are mutual funds or other types of investment vehicles that promote socially and environmentally conscious policies and business practices.

Green funds might invest in companies engaged in green transportation, alternative energy, and sustainable living



### GREEN BONDS

A green bond is a type of fixed-income instrument that is specifically earmarked to raise money for climate and environmental projects.

These bonds are typically asset-linked and backed by the issuing entity's balance sheet, so they usually carry the same credit rating as their issuers' other debt obligations.



### EQUITY

Equity of the company, working to increase environmental sustainability and using raised capital for this cause.

Net zero and ESG integration are the main drivers for equity investment in energy transition



# FINANCING ENERGY TRANSITION

## Source of Finance

### Commercial Banks and DFIs

- International Banks and Developing Financial institutions are one of the major source of finance.
- Many commercial bank have reduced financing fossil fuel project and are promoting green loans.
- **Driver : Bad Climate Impact**



### Governments/regulators

- Governments and regulators play a vital role in the energy transition.
- Government are promoting energy transition by providing subsidies on energy transition investment
- **Driver : Sustainable living environment for the country**



### Oil Companies

- Oil companies are investing in CCS (Carbon capture and storage) and would be most likely interested in investment in hydrogen.
- **Driver : Reducing demand of Oil and Gas**



### Corporate Energy Buyers

- Corporates are transitioning toward efficient and low carbon option in energy
- **Driver : Net Zero Targets**



# ADB ENERGY TRANSITION MECHANISM

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# CASE STUDY

## Energy Transition Mechanism

- **Energy Transition Mechanism (ETM)** stand for Energy transition mechanism set up by Asian Development Bank (ADB).
- It will set up funds to purchase coal-fired power stations, and then bring forward their retirement to replace them with cleaner, renewable alternatives.
- ETM is a scalable, collaborative initiative that will leverage a market-based approach to accelerate the transition from fossil fuels to clean energy.
- Two (2) countries have announced commitment for first phase of support of ADB's ETM in Asia – **Indonesia and Philippines**.

### ADB launches Energy Transition Mechanism with Indonesia and the Philippines

By Nicholas Nhede - Nov 9, 2021

### ADB, Indonesia, Philippines launch partnership to set up Energy Transition Mechanism

The ETM Southeast Asia Partnership is the first of its kind in Asia and the Pacific and aims to help accelerate Southeast Asia's clean energy transition.

ADB | Glasgow | Updated: 04-11-2021 11:52 IST | Created: 04-11-2021 11:52 IST

## BENEFITS OF ETM

### *Accelerating climate action*

- Countries participating in ETM will be able to reach more ambitious emissions targets than their current commitments.

### *Reducing energy cost*

- Speeding up the retirement of coal-fired electricity will increase the demand for clean energy by 2-3 times, lowering overall energy generation costs in the long run.

### *Driving investment in the energy transition*

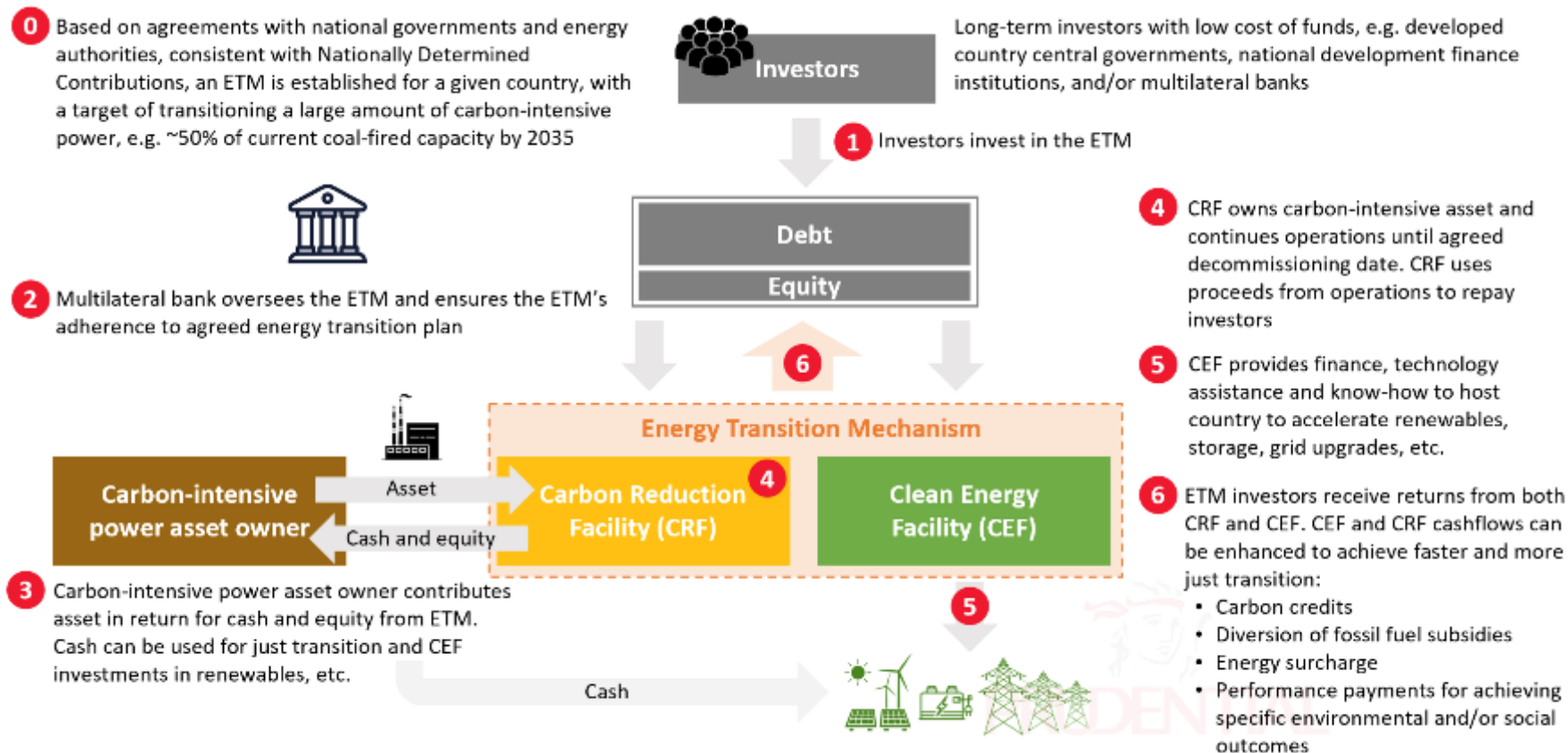
- ETM will help unlock or “crowd in” investments in cost-effective renewable generation and support and enable technologies such as smart grids, hydrogen, electric vehicles, and other clean technologies.

### *Providing a scalable model*

- ETM has the potential to be scaled up to other parts of Asia and the Pacific, as well as Latin America and Africa, which could drive significant reductions in global emission

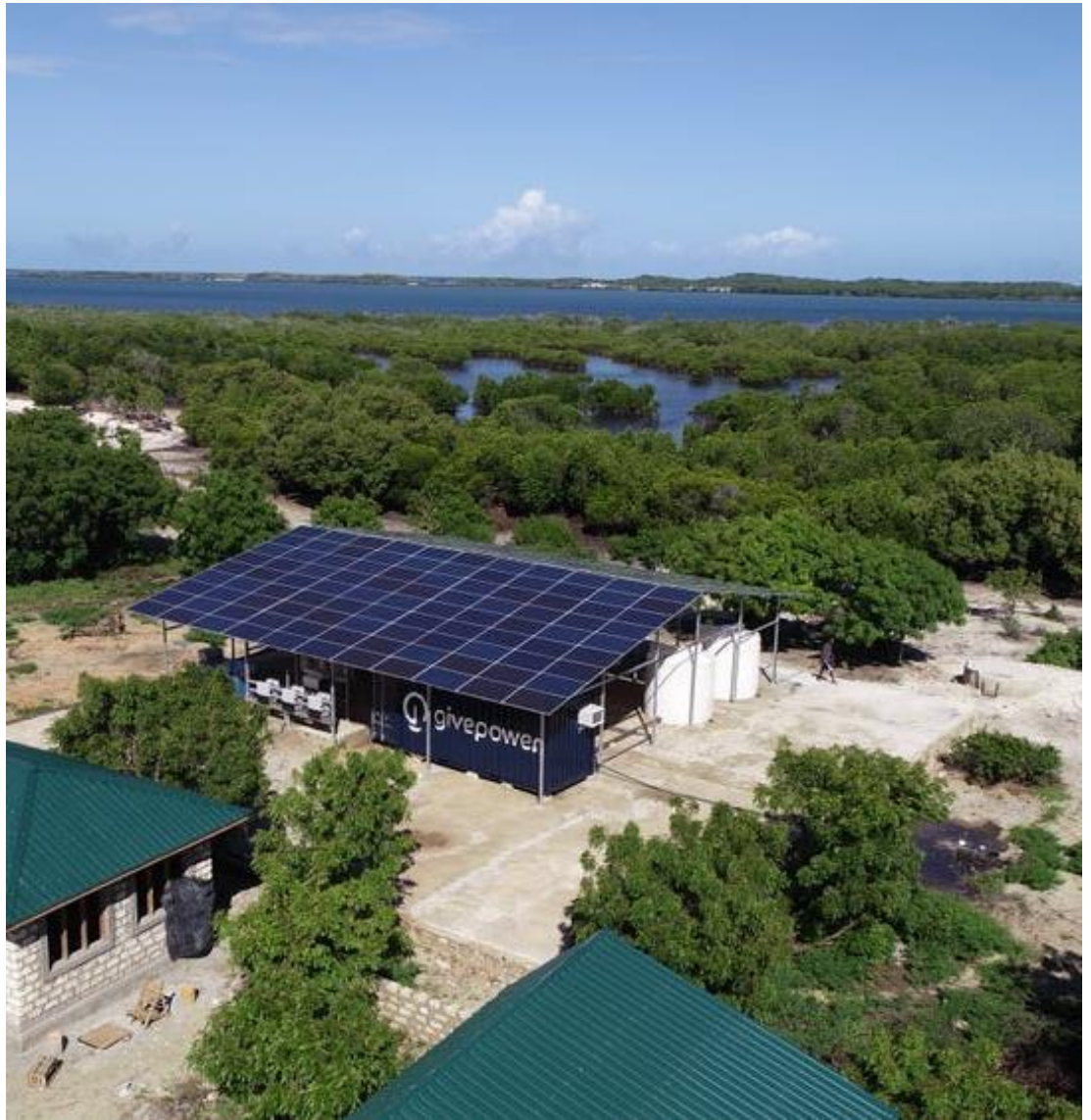
# CASE STUDY

## Energy Transition Mechanism (contd.)



Source: Asian Development Bank (ADB), Publicly available information, YOG INFRA analysis

# ALTERNATIVE SOLUTIONS





# CASE STUDY

## Alternative Solutions

### Solar Water Solution – Kenya

- Climate fund managers (CFM) has provided funding for solar PV powered desalination plant to roll out 200 stand-alone solar PV-powered desalination units in Kitui county (Kenya) from 2020 – 2023.
- The Plant is under development by Finland based Solar water solutions (SWS)
- Currently , It includes piloting 8 additional systems – 5 funded by CFM DF and 3 by SWS.

#### Project Highlights

<b>Funding</b>	USD 1.9 million
<b>Co2 Eq/Year Avoided</b>	317 tCO2
<b>People served with improved drinking water</b>	22,500
<b>Water Treated</b>	1,667 m3/day

Source: Publicly available information, YOG INFRA analysis



**CLIMATE**  
FUND MANAGERS



# CORPORATE FINANCING

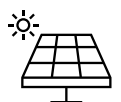


# CASE STUDY

## Corporates - Financing Energy Transition

### Facebook Sunseap VPPA

- Sunseap Group has signed a multi-year virtual power purchase agreement (VPPA) with Facebook for solar energy from the Singapore's largest offshore floating solar farm in the Straits of Johor.



# 1200

Sunseap and Facebook also have an agreement for renewable energy exported from solar systems installed on rooftops

# 5 MWp

floating offshore solar



# 100%

Renewable energy will be used to support its operation

# 75%

Reduction in Greenhouse gases

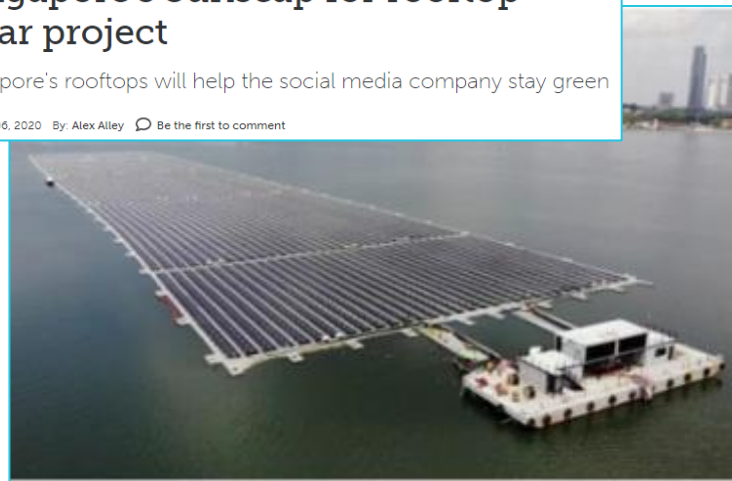
Source: Publicly available information, YOG INFRA analysis

HOME > NEWS > SOUTHEAST ASIA

## Facebook signs 100MW PPA with Singapore's Sunseap for rooftop solar project

Singapore's rooftops will help the social media company stay green

October 06, 2020 By: Alex Alley Be the first to comment



# CASE STUDY

## Corporates - Financing Energy Transition (contd.)

**Nike aims to use 100% renewable energy by 2025**

BY **Google, Microsoft, Intel Ranked as Top Green Power Users**



Emma C.  
August 5

**Baker Hughes and Shell collaborate on net-zero targets**

Shell will provide Baker Hughes with renewable power in return for digital solutions in the energy transition

10 November 2021 22:54 GMT UPDATED 10 November 2021 22:54 GMT

By Naomi Klinge in Houston

**Nestlé Thailand Announces Roadmap to Net Zero Greenhouse Gas Emissions by 2050**

PUBLISHED : 28 OCT 2021 AT 09:00

**Microsoft says new tech, industries have to be developed to reach net zero carbon emissions target**

Jun 23, 2021, 06:04am EDT | 1,501 views

**Corporate Demand Drives Renewables As Amazon Becomes World's Largest Buyer**

**Adani group commits 70% capex until 2030 to energy transition**

PTI - Last Updated: Oct 19, 2021, 07:17 PM IST

SHARE FONT SIZE SAVE PRINT COMMENT

**New tech, industries can help world achieve net zero emissions: Microsoft**

Source: Publicly available information, YOG INFRA analysis

# FIRM PROFILE

*A brief firm profile of YOG INFRA with an introduction to our service offerings.*



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With our offices in Singapore and India, we work on projects globally, and the team brings strong experience in supporting development of infrastructure projects.

### OUR SECTOR COVERAGE

The team members of YOG INFRA have experience in advisory services across below mentioned infrastructure sectors:



*Renewable Energy (Solar, Wind, Hydro)*



*Energy Transition (storage, hybrids, EV)*



*Water and Waste Management*



*Transport (Road, Rail, Ports, Airports)*



*Urban Infra (Affordable Housing, Real Estate)*



*Social Infra (Health, Education, Sports)*



#### INTERNATIONAL EXPERIENCE

We bring international experience across Asia, Middle East and Africa, which enables us to incorporate best industry practices in our services to help clients deliver sustainable infrastructure projects.



#### VARIED SECTOR KNOWLEDGE

We possess working knowledge of various infrastructure sectors to deliver sectoral learnings in our service offerings to clients and meet their specific objectives.



#### STRONG COUNTRY RELATIONSHIPS

We have developed strong relationships with local partners across Asia; which has proven valuable to get insight in the country specific context for our advisory services.



#### QUALIFIED PROFESSIONALS

All our team members are qualified and subject matter experts in their respective fields. We also have an expert panel with experienced professionals across multiple geographies.



#### ISO CERTIFICATION

We are ISO 9001:2015 certified company; an international standard that specifies requirements for a quality management system (QMS). We strive to consistently provide high quality deliverables.



#### VALUE-ADD SERVICES

We partner with other firms to provide complimentary value-add advisory services (technical, legal and tax) as per client requirements specific to the project/ transaction.

# OUR SERVICE OFFERINGS

## Infrastructure Advisory



### **PUBLIC PRIVATE PARTNERSHIPS (PPP)**

- PPP Feasibility/ Options Assessment
- PPP Transaction Advisory



### **BUSINESS PLANS AND MARKET ENTRY STRATEGY**

- Strategic Business Plans
- Country Assessments/ Market Entry Strategy



### **FINANCIAL MODELLING**

- Development of Financial Models for infrastructure projects across sectors
- Model Reviews



### **DUE-DILIGENCE**

- Commercial and Contractual due-diligence
- Review of transaction structure, project risk assessment and review of project agreements



### **PROJECT FINANCE**

- Assessment of financing options
- Project Finance – Debt and Equity Raise for infrastructure projects



### **DEBT REFINANCING & RESTRUCTURING**

- Debt refinancing
- Debt restructuring to improve or restore liquidity for infrastructure projects



### **TRAINING AND CAPACITY BUILDING**

- Capacity Building for government agencies and private sector
- Training done by deal practitioners



### **RETAINERSHIP SERVICES**

- Monthly retainer with our existing or new clients to help them meet their financial advisory needs across the board

# CONTACT

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