



**MANIPAL UNIVERSITY  
JAIPUR**

MUJ/Q&C/22/F/1.01



**MANIPAL UNIVERSITY  
JAIPUR**

**FACULTY OF ENGINEERING**

**SCHOOL OF CIVIL AND CHEMICAL ENGINEERING**

**DEPARTMENT OF CHEMICAL ENGINEERING**

**Webinar on**

**Energy Efficient CO<sub>2</sub> Capture Systems**

**December 15, 2022**



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## 1. Introduction of the Event

The Department of Chemical Engineering and Indian Institute of Chemical Engineers (IICChE) Student Chapter, Manipal University Jaipur organized a Webinar entitled “Energy Efficient CO<sub>2</sub> Capture Systems” on December 15, 2022 (12:30 p.m. – 02:00 p.m.). Prof. Agus Saptoro (Professor, Curtin University, Malaysia) was the speaker at the event.

## 2. Objective of the Event

- a. Exposure for the UG and PhD students to the research on CO<sub>2</sub> capturing.

## 3. Beneficiaries of the Event

- a. Higher semester (2<sup>nd</sup>, 3<sup>rd</sup>, and 4<sup>th</sup> year) UG and Ph.D. students of Chemical Engineering.

## 4. Details of the Guests

Agus Saptoro is currently a Professor at Curtin University Malaysia. He received Bachelor of Engineering (First Class Honours) in chemical engineering from Gadjah Mada University Indonesia and obtained his PhD in chemical engineering (process system engineering) from Curtin University Australia. He has been a Visiting Professor/ Academic for University of Hyogo, Japan, National Institute of Technology (ITENAS), Bandung, Indonesia, and University of Aberdeen, UK. His research expertise and interest include energy efficient CO<sub>2</sub> capture processes, intelligent data and image analysis, process modelling, simulation and optimization, and thermal engineering, especially microwave technology. He is Chartered Professional Engineer with Engineers Australia, Senior Fellow Higher Education Academy (SFHEA) with AdvanceHE (formerly known as Higher Education Academy UK) and Executive member of Malaysian Process Control Society (MyPCS). He is also serving as Editorial Board Member of Digital Chemical Engineering Journal and Associate Editor of International Journal of Food Engineering.

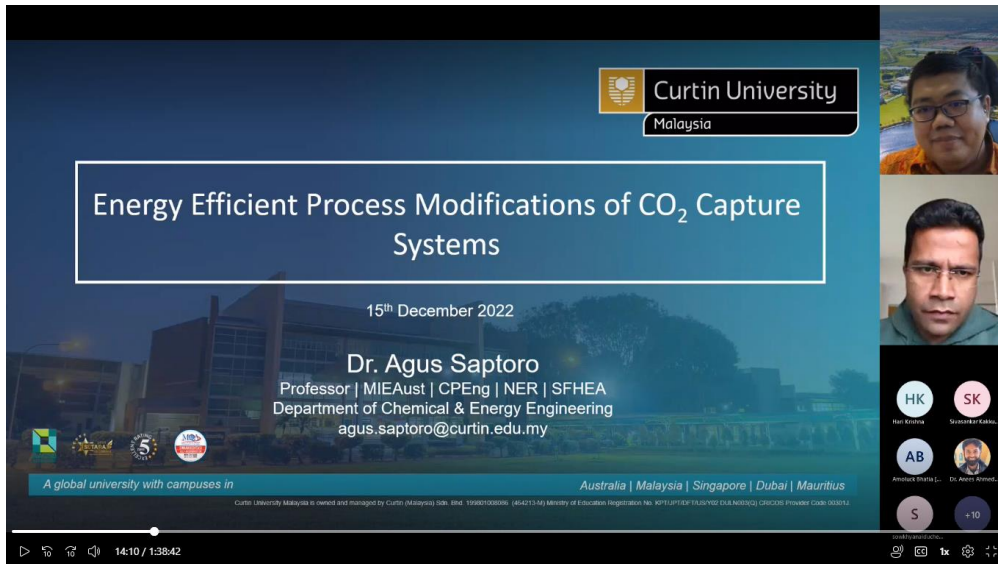
## 5. Brief Description of the event

The Department of Chemical Engineering and Indian Institute of Chemical Engineers (IICChE) Student Chapter, Manipal University Jaipur organized a Webinar entitled “Energy Efficient CO<sub>2</sub> Capture Systems” on December 15, 2022 (12:30 p.m. – 02:00 p.m.). Prof. Agus Saptoro (Professor, Curtin University, Malaysia) will be the speaker at the event. The talk was conducted on Microsoft Teams and was attended by 25 participants from inside and outside MUJ.

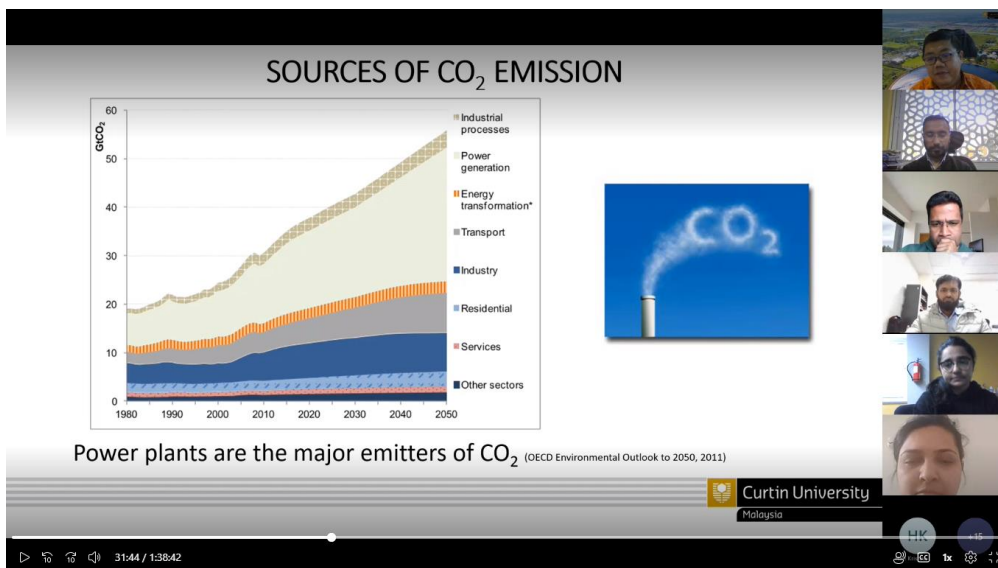
Dr. Saptoro delivered the talk to share his team's work on CO<sub>2</sub> capture using various solvents with and without a promoter. The talk started with the overall scenario of CO<sub>2</sub> emission and the need to capture the same. He discussed the major drawbacks of the current industry solvent (MEA). The solvent requires a high amount of energy for its regeneration. He discussed various other solvents like

boric acid, ammonia etc. which can be less energy extensive and can have a higher CO<sub>2</sub> capture capacity with the help of specific promoters. The talk was very informative for the participants and would help them to generate new ideas for their future research areas.

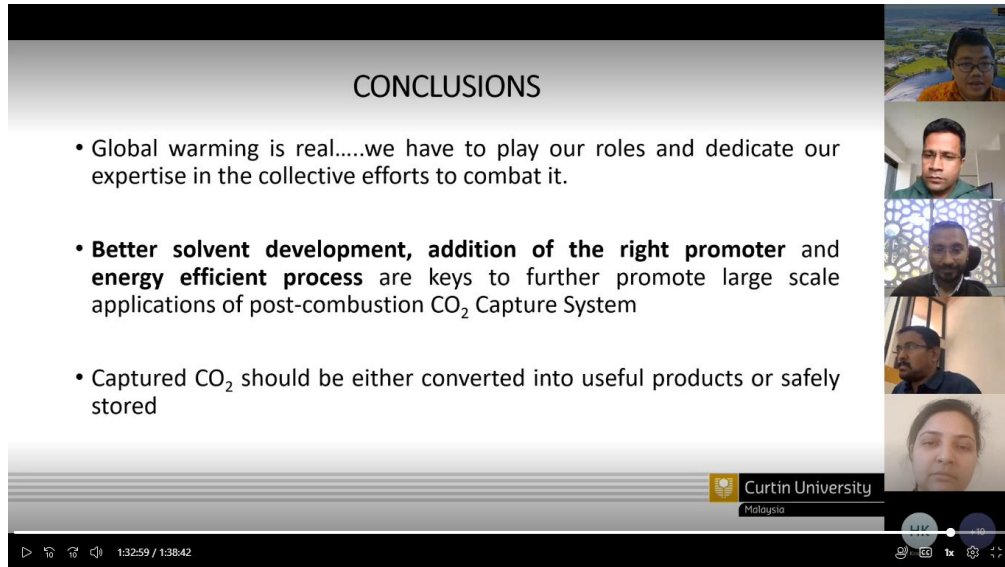
## 6. Photographs



Pic 1: Prof. Agus Saptoro talk



Pic 2: Prof. Agus Saptoro discussing the source of the problem



**CONCLUSIONS**

- Global warming is real.....we have to play our roles and dedicate our expertise in the collective efforts to combat it.
- **Better solvent development, addition of the right promoter and energy efficient process** are keys to further promote large scale applications of post-combustion CO<sub>2</sub> Capture System
- Captured CO<sub>2</sub> should be either converted into useful products or safely stored

Curtin University  
Malaysia

1:32:59 / 1:38:42

Pic 3: Prof. Agus Sptoro concluding his talk

## 7. Brochure or creative of the event



 **MANIPAL UNIVERSITY  
JAIPUR**  
*(University under Section 2(f) of the UGC Act)*

**WEBINAR**

on

**Energy Efficient CO<sub>2</sub> Capture Systems**

Organized by

**Department of Chemical Engineering**

and

**Indian Institute of Chemical Engineers (IChE) Student Chapter**  
**Manipal University Jaipur**



**Speaker**  
**Prof. Agus Sptoro**  
**Professor, Curtin University, Malaysia**

**Date: December 15, 2022 (Thursday)**  
**Time: 12:30-14:00**



## 8. Schedule of the event

The event was scheduled on December 15, 2022, from 12:30-14:00

## 9. Attendance of the Event

Total attendee - 25

Sr. No	Name of Institution	Place of Institution	Registration Number/Employee code	Name of Attendee	Name of Dept
1	MUJ	Jaipur	209101001	Amoluck Bhatia	Chemical Engg.
2	MUJ	Jaipur	219101007	Chirayu Agrawal	Chemical Engg.
3	MUJ	Jaipur	MUJ0569	Dr. Abhishek Sharma	Chemical Engg.
4	MUJ	Jaipur	MUJ0860	Dr. Anees A. Y. Khan	Chemical Engg.
5	MUJ	Jaipur	MUJ0895	Dr. Harsh Pandey	Chemical Engg.
6	MUJ	Jaipur	MUJ0538	Dr. Manisha Sharma	Chemical Engg.
7	MUJ	Jaipur	MUJ1002	Gaurav Kataria	Chemical Engg.
8	MUJ	Jaipur		Hari Krishna	Chemical Engg.
9	SRICT	Ankleshwar	170501603	Hemant Balsora	Chemical Engg.
10	MNIT	Jaipur		Prof. Kailash Singh	Chemical Engg.
11	MUJ	Jaipur	202303004	Kanchan Drugkar	Chemical Engg.
12	SRICT	Ankleshwar	170501601	Kartik	Chemical Engg.
13	MUJ	Jaipur	219101008	Pankaj Vyas	Chemical Engg.
14	MUJ	Jaipur	219101005	Ruqaiya Hitawala	Chemical Engg.
15	MUJ	Jaipur	MUJ0495	Sagar Gupta	Chemical Engg.
16	MUJ	Jaipur	199101004	Samir Jain	Chemical Engg.
17	MUJ	Jaipur	219151001	Sivasankar Kakku	Chemical Engg.
18	Independent	Jaipur		Sohan Lal Arora	Chemical Engg.
19	MUJ	Jaipur	219151005	Sowkhya Naidu	Chemical Engg.
20	MUJ	Jaipur	219101002	Swayam Ghosh	Chemical Engg.
21	MUJ	Jaipur	219101004	Yash Saxena	Chemical Engg.
22	MUJ	Jaipur	209101005	Yashasvi Negi	Chemical Engg.
23	MUJ	Jaipur	202303003	Yashasvi Trivedi	Chemical Engg.
24	MUJ	Jaipur	209101008	Yogesh Malani	Chemical Engg.

15<sup>th</sup> December 2022

**Seal and Signature of Head with date**