Track 3: CCU - Closing the carbon loop: Carbon dioxide Capture and Utilisation

Coordinators: Frans Snijkers – Guy Marin

	Timing	Presentations	Organisation/Company	Title presentation
Day 1 **Monday 19 October**				
	12:00 – 12:30	**Invited**: Joost Vanden Berghe	DNV-GL, Belgium	*Market dynamics in CO_2-conversion to gas and chemicals*
	12:30 – 12:50	Erin Schols, Earl Goetheer, Rob van der Stel	TNO, The Netherlands	*Integrated CO_2 capture and utilization through algae production*
	12:50 – 13:10	Carl De Maré	ArcelorMittal	*Building a first of a kind commercial gas fermentation plant producing ethanol from steel process waste gases*
	13:10 – 14:00	*Lunch + possibility to participate in a 1/6 meeting (subjects will be communicated on beforehand) "meet with ……"*		
	14:00 – 14:20	**Invited:** Liisa Rihko-Struckmann	Max-Planck-Institute of Dynamics for Complex Technical Systems Magdeburg, Germany	*Modelling of cyclic chemical conversion processes for CO_2*
	14:20 – 14:40	Koen Michiels, Jeroen Spooren, Vera Meynen	University of Antwerp/Flemish Institute for Technological Research (VITO), Belgium	*Hydrothermal Conversion of Carbon Dioxide into Formic Acid with the Aid of Zero-valent Iron: the Potential of a Two-Step Approach*
	14:40 – 15:00	Alexandre F. P. Ferreira, Ana M. Ribeiro, Alírio E. Rodrigues	LSRE-Laboratory of Separation and Reaction Engineering, Associate Laboratory LSRE/LCM, Faculdade de Engenharia, Universidade do Porto, Portugal	*CO_2 separation with MOF based adsorptive processes*
	15:00 – 15:20	Lindsey Garcia Gonzales	Flemish Institute for Technological Research (VITO), Belgium	*Valorization of CO_2 off-gas to biopolymers through biotechnological process*
	15:20 – 15:40	Grégoire Léonard	Department of Chemical Engineering, University of Liège,	*Air Capture and Power-to-Fuel to close the Carbon Loop.*

Day 1 Monday 19 October			Belgium	
	15:40 – 16:00	Aditya Dharanipragada, Lukas Buelens, Hilde Poelman, Vladimir Galvita and G.B. Marin	Ghent University, Belgium	*Mg-Fe-Al-O as novel oxygen storage material for CO_2 utilization*
	16:00 – 16:30	Break and refreshments		
	16:30 – 16:50	**Invited:** Katy Armstrong	UK Centre for Carbon Dioxide Utilization, University of Sheffield, United Kingdom	*Understanding the potential of Carbon Dioxide Utilisation*
	16:50 – 17:10	Suman Bjaracharya, Srikanth Sandipam, Mohanakrishna Gunda, Karolien Vanbroekhoven, Deepak Pant	Flemish Institute for Technological Research (VITO), Belgium	*Bio-electrochemical conversion of CO_2 to chemicals: electro-synthesis via bacteria and enzymes*
	17:10 – 17:30	Sunil A. Patil, Jan B.A. Arends, Kun Guo, Korneel Rabaey	Laboratory of Microbial ecology and Technology, Faculty of Bioscience Engineering, Ghent University, Belgium	*Microbial electro-synthesis: A promising approach for fixing CO_2 and storing surplus electricity into chemicals/fuels using microorganisms*
	17:30 – 17:50	Ramses Snoeckx, Annemie Bogaerts	Department of Chemistry, University of Antwerp, Belgium	*Plasma-based conversion of greenhouse gases to value-added chemicals and fuels*
	17:50 – 18:00	Wrap up		
Day 2	**Timing**	**Presentations**	**Organisation/Company**	**Title presentation**
	10:30 – 10:50	**SUCCESS**: Stefan Penthor, Tobias Mattisson, Juan Adanez, Stephane Bertolin, Pascal Fede, Yngve Laring, Oyvind Langorgen, Jochen Ströhle, Frans Snijkers, Knuth Albertsen, Gareth Williams, Otmar Bertsch, Olivier Authier, Ytalo Davila, Mahdi Yazdanpanah, Tobias Pröll, Hermann Hofbauer	TU Vienna, Austria	*The EU-FP7 project SUCCESS – Project overview and results of the first two years*
	10:50 – 11:10	SUCCESS: Tobias Mattisson, Marijke Jacobs, Mehdi Pishahan, Juan Adanez	Chalmers University of Technology, Gothenburg, Sweden	*Development of low cost and high performance calcium manganite oxygen carrier materials produced by spray-drying*

Tuesday 20 October	**11:10 – 11:30**	SUCCESS: Pilar Gayán, A. Cabello, A. Abad, F. García-Labiano, L. F. de Diego, J. Adánez	Instituto de Carboquímica, Zaragoza, Spain	*Development of impregnated oxygen carriers at industrial scale for CH_4 combustion in a Chemical Looping Combustion process*
	11:30 – 11:50	SUCCESS: Mehdi Pishahang, Yngve Larring, Martin Sunding, Kari Anne Andreassen	SINTEF, Oslo, Norway	*Redox performance and H_2S tolerance of doped $CaMn_{1-x}B_xO_{3-d}$ perovskite-type oxides as oxygen carrier materials for natural gas based chemical looping combustion*
	11:50 – 12:10	SUCCESS: Karl Mayer, Stefan Penthor, Ellen Schanz, Michael Stollhof, Hermann Hofbauer	TUVienna, Austria	*Adaptation, recommissioning and first operation of a 120kW_{th} chemical looping combustion pilot plant*
	12:10 – 12:30	SUCCESS: Michael Reitz, Peter Ohlemüller, Jochen Ströhle, Bernd Epple	TUDarmstad, Germany	*Adaptation of a 1MW_{th} chemical looping pilot plant for gaseous fuel operation*
	12:30 – 14:00	*Lunch + possibility to participate in a 1/6 meeting (subjects will be communicated on beforehand) "meet with ……"*		
Day 2 **Tuesday 20 October**	**14:00 – 14:30**	Lionel Dubois, Sinda Laribi, Nicolas Meunier, Guy De Weireld and Diane Thomas	Chemical & Biochemical Engineering and Thermodynamics Departments, Faculty of Engineering, University of Mons, Belgium	*Global optimization of the CO_2 capture and reuse applied in the cement industry*
	14:30 – 14:50	Jan Mertens	Laborelec – Engie, Belgium	*Environmental impacts of amine based carbon capture: pilot testing and life cycle assessment*
	14:50 – 15:10	David scheiner	Newco2fuels, Israel	*Converting CO_2 and H_2O into syngas using high temperature heat*
	15:10 – 15:30	An Verberckmoes, Yesid Hernández Marilien Van Oudenhove, Pascal Van Der Voort	University Ghent, Belgium	*Synthesis of glycerol carbonate from glycerol and urea by using gold-supported catalysis*
	15:30 – 15:50	Stefanie Roth	Research Centre Jülich (FZJ), Germany	*The German R&D programme for CO_2-utilisation*
	15:50 – 16:00	Wrap up		

KEYNOTE LECTURES:

- Liisa Rihko-Struckmann - Senior scientist Max-Planck-Institute of Dynamics for Complex Technical Systems Magdeburg, Germany
- Katy Armstrong - Network manager UK Centre for Carbon Dioxide Utilization, University of Sheffield, United Kingdom
- Joost Vanden Berghe - Principal Consultant DNV-GL, Belgium