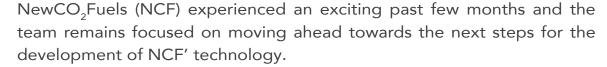
# Newsletter NewCO<sub>2</sub>Fuels

NCF

Issue 8 | August 2015

# Message from the CEO

Dear readers





I would like to take this opportunity to thank all of our stakeholders and supporters that make this venture such an inspiring journey. When starting NCF, we had little idea about the amount of challenges and opportunities lying ahead. Now, while celebrating our fourth anniversary, we look back with pride at our team's accomplishments and look forward with enthusiasm to the upcoming opportunities. We have broadened our horizons, learned about new markets and technologies, met new people and reconnected with old colleagues along the way who can all be of great assistance to the NCF team as we strive towards commercialization of our world changing technology.

Kind Regards, D. Bauet

Dudi (David) Banitt CEO

### **Newsletter Content**

- NewCO<sub>2</sub>Fuels Going Forward
  - The Road to Paris
  - NCF's next steps
- NewCO<sub>2</sub>Fuels Updates
  - Joint Collaboration Funded by BIRD
  - Pre-selected as a candidate for the World Economic Forum
  - Continued collaboration with Greenearth Energy
  - Weizmann institute ranks 10th for research quality
- NewCO<sub>2</sub>Fuels Business Updates
  - Business Development on the Go
  - In the News
- News Around the World



www.newco2fuels.co.il Page

# NCF New CO2 Fuels

# NewCO, Fuels Going Forward

#### The Road to Paris

With the upcoming United Nations Climate Change Conference in Paris, the past months have seen an increased focus on activities, discussions and meetings concerning greenhouse gases, and more specifically  $CO_2$  emissions. Governments are setting national  $CO_2$  emission reduction objectives, creating bilateral accords for carbon reduction and submitting their plans to the public. This activity has a direct impact on the industry, preparing their plans and measures for dealing with the impending changes, and subsequent challenges they face. These challenges have a very positive impact on  $CO_2$  reduction technologies, and in particular NCF.

NCF has successfully demonstrated that it can convert  $CO_2$  from  $CO_2$  emitting facilities into alternative fuels and chemicals using its proprietary technology. NCF's technology allows these industries to reduce their  $CO_2$  emissions while generating additional revenues for their businesses instead of being associated with cost only. The simultaneous dissociation of  $CO_2$  and  $H_2O$  in a clean, single step high temperature process is now a stable capability of NCF technology and offers many advantages to the industry. The flexibility of the NCF system and its modularity are found to be attractive in numerous applications and industries. The scalability of the system is advantageous in lowering the entry level barriers to new customers, enabling them to expand the capacity at their own pace.

#### NCF's next steps

With the proof of concept testing finalized mid-2014 and all the data collected and analyzed, the engineering team of NCF has begun the design and development of its first pilot plant, composed of two commercial reaction units that will be able to convert around 160 tons of  $CO_2$  year. The  $CO_2$  processing capacity of this pilot is equivalent to the  $CO_2$  absorption capacity of around 3000 mature trees, or that of 3 square kilometers of ocean surface. These reaction units, containing multiple dissociating membranes, will first be test-proven in-house before being shipped to an industrial site where it will be connected to an existing plant.

NCF reaction units are the core component of the product, but additional peripheral systems are required as well for installation in industrial plants. Appropriate interfaces and specific performance adaptations are essential for optimizing the overall system performance, technologically as well as economically. The NCF team is currently accelerating the discussions with suppliers of peripheral systems such as  ${\rm CO_2}$  capture, gas conditioning, power generation blocks and high temperature heat exchangers. Simultaneously, NCF continues to review additional markets as they have been approached by various corporations who see the environmental and economic benefits provided by the NCF technology. Some of these industries / markets include gas to liquid (GTL), waste gasification and the chemical market. These efforts are aimed to deepen the knowledge about the added value in each industry and broaden the business opportunities for NCF's product.



NCF's Reaction Unit



NCF's Test Facility

# NewCO, Fuels Updates



#### Joint Collaboration Funded by BIRD

The U.S. Department of Energy's (DOE), the Office of Energy Efficiency and Renewable Energy (EERE) and Israel's Ministry of National Infrastructure, Energy and Water Resources (MIEW) have selected NCF and Acumentrics to receive funding under the 2014 Binational Industrial Research and Development (BIRD) Energy program.

NCF's technology commercialization strategy includes collaboration with a selected group of proven partners that have access to complementary products and technologies. It is one such collaboration, which has been ongoing for a few years that will now be supported by the BIRD Foundation grant.

The one million US dollars funding, awarded to both companies, will support continued technology development aimed at driving major enhancements to NCF and Acumentrics system's performance, cost reduction and reliability, allowing the companies to improve their joint product and reach new markets.

The NCF project was one of only five projects selected in 2014 to receive funding under the BIRD Energy program.

#### Pre-selected as a Candidate for the World Economic Forum

Excitingly, after ongoing success in winning the World Technology Network award in late 2014, NCF was pre-selected as a candidate for the World Economic Forum Technology Pioneers Program. Each year, the Forum recognizes innovative start-ups worldwide that design, develop and deploy new technologies with the potential to have a significant impact on business and society. With this goal in mind, the Forum makes every effort to identify and invite these diverse and transformational companies to apply for this program.

### Continued Collaboration with Greenearth Energy

NCF and Greenearth Energy Ltd (ASX:GER) (an Australian Listed company focused on the clean technology space) have been working together since the inception of the company in 2011, aiming to bring NCF's technology into the market. Both parties believe NCF's technology and system will have a strong and long lasting influence on how carbon emissions are treated while providing a sound economical solution. Under continued agreements, Greenearth Energy has once again expressed its strong commitment and trust towards NCF and is continuing to provide funding to support NCF' development activities.

## Weizmann Institute Ranks 10th for Research Quality

The Weizmann Institute of Science, where NCF's technology originated, was ranked 10th in the world in an international research study by the Centre for Science and Technology Studies (CWTS) of Leiden University, the Netherlands. The Israeli research institution in Rehovot is the only one of the top 10 research institutes that resides outside the United States. NCF is proud to have the Weizmann Institute of Science as partner and continues to enjoy the high-level research that take place at the institute.



www.newco2fuels.co.il Page 3

# NewCO<sub>2</sub>Fuels Business Updates



### **Business Development on the Go**

NCF will attend the following conferences and present its product and business:

- The World Science Conference, Jerusalem, Israel. Aug. 15 20, 2015

  The conference brings together outstanding academics with promising young talent from all over the world providing students with a direct experience of the Israeli spirit of innovation: where basic and applied science generate cutting edge technologies and fresh scientific thinking. 15 Nobel laureates, Wolf Prize and Fields Medal winner as well as other prominent leading scientists and over 400 science students from over 70 countries are attending the conference.

  http://www.wsci.org.il/
- 4th Conference on Carbon Dioxide as Feedstock for Fuels, Chemistry and Polymers, Essen, Germany. Sep. 28 29, 2015

  Connecting more than 200 participants from the leading industrial and academic players in CO<sub>2</sub>

  utilization to share their recent success stories, as well as new ideas and products in implementation. 
  http://co2-chemistry.eu
- Brussels Sustainable Development Summit, Brussels, Belgium. Oct. 19 -20, 2015
   The conference aims to express ideas on how to tackle global warming during and interactive, ambitious and dynamic two-day summit.

   <a href="https://bsds2015.vito.be/">https://bsds2015.vito.be/</a>
- **5th Carbon Dioxide Utilisation Summit**, Dresden, Germany. Oct. 21 22, 2015

  The Summit provides a comprehensive progress update on the global CO<sub>2</sub> utilisation industry, including growth outlook and updates on the latest technological advancements

  <a href="http://www.wplgroup.com/aci/conferences/eu-cco5.asp">http://www.wplgroup.com/aci/conferences/eu-cco5.asp</a></a>
- World Clean Coal Conference, Seoul, Korea. Oct. 21 22, 2015
   The conference highlight the growth potential of Korea coal upgrading and gasification, coal to SNG &IGCC industry and strives to provide meaningful coverage on current trends in the clean coal industry landscape.
   http://www.worldcleancoal.org/kr/index.asp
- Fuel Choice Alternative, Tel Aviv, Israel. Nov. 10 11, 2015

  The Fuel Choices Summit brings together policy makers, business leaders, financiers, researchers and entrepreneurs in the fields of alternative fuels and smart transportation.

  www.fuelchoicesinitiative.com

#### In the News

- BIO-BASED NEWS, Top International Speakers at Europe's Largest Event on Carbon Capture and Utilization (CCU) in 2015 - Jul. 22, 2015
   http://news.bio-based.eu/top-international-speakers-at-europes-largest-event-on-carbon-capture-and-utilization-ccu-in-2015/
- THE GUARDIAN, Can high-tech photosynthesis turn CO<sub>2</sub> into fuel for your car? May. 22, 2015 http://www.theguardian.com/sustainable-business/2015/may/22/solar-fuel-carbon-dioxide-co2-climate-change-photosynthesis
- NOCAMELS, NewCO<sub>2</sub>Fuels Markets Revolutionary Alternative To Fuel Based On Water And CO2 Mar. 18, 2015 http://nocamels.com/2015/03/newco2fuels-fuel-alternatives-co2-water/
- IE SCHOOL OF COMMUNICATION. Make impossible things possible Feb. 2, 2015 http://ieschoolofcommunication.blogs.ie.edu/2015/02/02/1805/
- JSPACE NEWS, Israeli Firm Turns CO<sub>2</sub> Into Fuel Jan. 21, 2015 http://www.jspacenews.com/israeli-firm-turns-co2-fuel/
- ISRAEL21c, Factory waste morphs into clean syngas Jan. 15, 2015 http://www.israel21c.org/headlines/factory-waste-morphs-into-clean-syngas/
- ISRAEL NEWTECH-MINISTRY OF ECONOMY, NCF Wins Technology Award, and Envisions the Efficient Future of Alternative Energy - Dec. 17, 2014
   http://israelnewtech.com/2014/12/ncf-wins-technology-award-envisions-efficient-future-alternative-energy/
- ASX ANNOUNCEMENT AND MEDIA RELEASE: TECHNIP report shows favourable economics for NEW CO<sub>2</sub> FUELS process Dec. 2, 2014 http://tinyurl.com/obuz6kk

www.newco2fuels.co.il Page 4



#### **News Around the World**

# Celebrities use their voice for Climate Change

Morgan Freeman - What's Possible: The U.N. Climate Summit Film https://www.youtube.com/watch?v=8YQlaOld DU8&list=PLZrdETDK6eZgxuzA6lvKvGCFg135 WF4wc

Morgan Freeman's- A World of Solutions: The U.N. Climate Sequel https://www.youtube.com/watch?v=5F8Vv\_vRjF8

Julia Roberts is Mother Nature http://natureisspeaking.org/mothernature.html

Leonardo DiCaprio speaks at UN climate change summit

http://www.theguardian.com/environment/video/2014/sep/23/leonardo-dicaprio-unclimate-change-summit-speech-video

#### World bank carbon pricing; Prices and Trends

This report follows the evolution of carbon pricing around the world. Last year's report mapped the main carbon pricing initiatives. This year, the report presents the status of each of these developing initiatives and explores the emerging trends of carbon pricing. The focus is on the recent highlights from around the world, and on key lessons that can be drawn from the growing experience.

http://www.ecofys.com/files/files/world-bank-ecofys-2014-state-trends-carbon-pricing.pdf

### Wind power generates 140% of Denmark's electricity demand

Unusually high winds allowed Denmark to meet all of its electricity needs – with plenty to spare for Germany, Norway and Sweden too

http://www.theguardian.com/ environment/2015/jul/10/denmark-windwindfarm-power-exceed-electricity-demand

#### NV Energy buys utilityscale solar at record low price under 4 cents/kWh

NV Energy, a subsidiary of Warren Buffett's Berkshire Hathaway Energy, has agreed to a power purchase agreement (PPA) at a \$0.0387 per kWh rate for the 100 MW

http://www.utilitydive.com/news/nv-energy-buys-utility-scale-solar-at-record-low-price-under-4-centskwh/401989/

# Record low India solar bid from SkyPower

SkyPower Southeast Asia Holdings has put in the lowest winning bid ever for solar projects in India at INR5.05 (US\$0.080) per kWh for a 50MW project in Madhya Pradesh. http://www.pv-tech.org/news/record\_low\_india\_bid\_from\_skypower

# CONFERENCES AND EVENTS

International Conference on Green Energy & Expo Orlando, FL, USA 21-23 Sep 2015

http://greenenergy.conferenceseries.com/

### Methanol Policy Forum Brussels, Belgium

13 - 14 Oct 2015 https://eu-ems.com/summary. asp?event\_id=269&page\_id=2428

# World Climate Summit 2015 - UNFCCC COP 21

Paris, France 30 Nov - 11 Dec 2015 http://www.cop21.gouv.fr/en

World Alternative
Transport Fuels Conference
Dubai, UAE

8 - 9 Dec 2015 http://af-conference.com/



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