



Project No:
764697

Project acronym:
CHEERS

Project full title:
Chinese-European Emission-Reducing Solutions

Type of Action: **RIA**

Call/Topic:
European Horizon 2020 Work Programme 2016 – 2017, 10. 'Secure, Clean and Efficient Energy',
under the low-carbon energy initiative LCE-29-2017: *CCS in Industry, including BioCCS*

Start-up: 2017-10-01
Duration: 72 months

Deliverable

D6.3 Procedures for start-up and operations of a 3MWth CLC-CCS demonstrator

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Organisation name of lead beneficiary for this deliverable:
TSINGHUA

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| Dissemination Level | | |
| PU | Public | |
| CO | Confidential, only for members of the consortium (including the Commission Services and MOST) | x |

ABSTRACT

The auto-thermal circulation of solid oxygen carriers flowing between the two fluidised bed reactors is a critical issue. This will be handled in the following way:

First, at a cold start-up, natural gas will be burned inside the fluidised bed reactors to increase the system temperature. Under this heating operation, solid oxygen carriers will circulate within the reactors.

Second, when the temperature exceeds 500°C, lignite will be fed into the air reactor to increase the bed temperature to above 900°C.

Third, the reactor system will enter into CLC operating mode once the bed temperature is stabilised, and the solid particles attain smooth circulation. At this stage, the planned test campaigns will start.