



Low Emissions Intensity Lime and Cement

Fact Sheet

Project Information

LEILAC

Grant agreement ID: 654465

[Project website](#)

DOI

[10.3030/654465](https://doi.org/10.3030/654465)

Project closed

EC signature date

30 November 2015

Start date

1 January 2016

End date

30 June 2021

Funded under

SOCIETAL CHALLENGES - Secure, clean and efficient energy

Total cost

€ 20 970 635,00

EU contribution

€ 11 932 231,00

Coordinated by

LEILAC SARL



France

Objective

LEILAC, Low Emissions Intensity Lime And Cement, will successfully pilot a breakthrough technology that will enable both Europe's cement and lime industries to reduce their emissions dramatically while retaining, or even increasing, international competitiveness. LEILAC will develop, build and operate a 240 tonne per day pilot plant demonstrating Direct Separation calcining technology which will capture over 95% of the process CO₂ emissions (which is 60 % of total CO₂ emissions) from both industries without significant energy or capital penalty.

Direct Separation technology uses indirect heating in which the process CO₂ and

furnace combustion gases do not mix, resulting in the simple capture of high quality CO₂. This innovation requires minimal changes to the conventional processes for cement, replacing the calciner in the Preheater-Calculator Tower. For lime there is no product contamination from the combustion gas. The technology can be used with alternative fuels and other capture technologies to achieve negative CO₂ emissions. The project will also enable research into novel building materials with a reduced CO₂ footprint, as well the upgrade of low value limestone fines and dust to high value lime applications.

The high potential of the project is complemented by high deliverability. The requested grant will secure €8.8m of in-kind funding and support from the LEILAC consortium members, which include world leading engineering, cement, lime and R&D organisations.

To accelerate further development, LEILAC will deliver a techno-economic roadmap, and comprehensive knowledge sharing activities including a visitor centre at the pilot site near Brussels. In order to reach the required 80% emissions reductions by 2050, CCS will need to be applied to 85% of European clinker production, and LEILAC is uniquely placed to allow Europe to achieve these targets in a timely, effective and efficient manner.

Fields of science (EuroSciVoc)

[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > **[renewable energy](#)**

[engineering and technology](#) > [environmental engineering](#) > [energy and fuels](#) > [fossil energy](#) > **[natural gas](#)**

[engineering and technology](#) > [chemical engineering](#) > **[separation technologies](#)**

[natural sciences](#) > [physical sciences](#) > [classical mechanics](#) > [fluid mechanics](#) > [fluid dynamics](#) > **[computational fluid dynamics](#)**

[engineering and technology](#) > [environmental engineering](#) > **[carbon capture engineering](#)**



Keywords

Direct Separation calcining technology to eliminate carbon dioxide emissions from lime and Portland cement manufacture at low capital and operating cost and minimal process change

Programme(s)

[H2020-EU.3.3.2.3. - Develop competitive and environmentally safe technologies for CO2 capture, transport, storage and re-use](#)

Topic(s)

[LCE-15-2015 - Enabling decarbonisation of the fossil fuel-based power sector and energy intensive industry through CCS](#)

Call for proposal

[H2020-LCE-2014-2015](#) 

[See other projects for this call](#)

Sub call

H2020-LCE-2015-1-two-stage

Funding Scheme

[RIA - Research and Innovation action](#)

Coordinator



LEILAC SARL

Net EU contribution

€ 1 051 428,75

Total cost

€ 1 051 428,75

Address

5 RUE DE CASTIGLIONE

75001 Paris

 **France** 

SME 

Yes

Region

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Participants (14)



HEIDELBERG MATERIALS AG

Germany

Net EU contribution

€ 2 431 095,00

Address

BERLINER STRASSE 6
69120 Heidelberg

Region

Baden-Württemberg > Karlsruhe > Heidelberg, Stadtkreis

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#)
- [Website](#)
- [Participation in EU R&I programmes](#)
- [HORIZON collaboration network](#)

Total cost

€ 5 489 622,50



CEMEX RESEARCH GROUP AG

Switzerland

Net EU contribution

€ 0,00

Address

ROMERSTRASSE 13
2555 Brugg Bei Biel 

Region

Schweiz/Suisse/Svizzera > Espace Mittelland > Bern / Berne

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

- [Contact the organisation](#) 
- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 1 002 687,50



TARMAC TRADING LIMITED

 United Kingdom

Net EU contribution

€ 0,00

Address

MILLFIELDS ROAD ETTINGSHALL
WV4 6JP Wolverhampton 

Region

West Midlands (England) > West Midlands > Wolverhampton

Links

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- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 173 125,00



LHOIST RECHERCHE ET DEVELOPPEMENT SA

 Belgium

Net EU contribution

€ 0,00

Address

RUE CHARLES DUBOIS 28
1342 Limelette 

Region

Région wallonne > Prov. Brabant Wallon > Arr. Nivelles

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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- [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 343 750,00



AMEC FOSTER WHEELER ENERGY LIMITED 

 United Kingdom

Net EU contribution

€ 528 738,00

Address

BOOTHS PARK CHELFORD ROAD KNUTSFORD
WA16 8QZ Cheshire 

Region

North West (England) > Cheshire > Cheshire East

Links

- [Contact the organisation](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 528 738,75



CALIX LTD

 Australia

Net EU contribution

€ 0,00

Address

LEVEL 1 9-11 BRIDGE STREET
2073 Pymble Nsw 

SME 

Yes

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

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- [HORIZON collaboration network](#) 

Total cost

€ 3 946 562,50



STICHTING ENERGIEONDERZOEK CENTRUM NEDERLAND 

 Netherlands

Net EU contribution

€ 197 510,00

Address

WESTERDUINWEG 3
1755 LE Petten 

Region

West-Nederland > Noord-Holland > Kop van Noord-Holland

Activity type

Research Organisations

Links

- [Contact the organisation](#)  [Website](#) 
- [Participation in EU R&I programmes](#) 
- [HORIZON collaboration network](#) 

Total cost

€ 197 510,00



IMPERIAL COLLEGE OF SCIENCE TECHNOLOGY AND MEDICINE

 United Kingdom

Net EU contribution

€ 366 282,00

Address

**SOUTH KENSINGTON CAMPUS EXHIBITION ROAD
SW7 2AZ LONDON** 

Region

London > Inner London — West > Westminster

Activity type

Higher or Secondary Education Establishments

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 366 282,50



SIEMENS PROCESS SYSTEMS ENGINEERING LIMITED

 United Kingdom

Net EU contribution

€ 402 280,00

Address

**HAMMERSMITH GROVE 26-28 6TH FLOOR EAST
W6 7HA London** 

SME 

Yes

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 402 280,00



QUANTIS

 Switzerland

Net EU contribution

€ 0,00

Address

PARC SCIENTIFIQUE EPFL PSE D
1024 Ecublens Vd 

SME 

Yes

Region

Schweiz/Suisse/Svizzera > Région lémanique > Vaud

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 313 750,00



THE CARBON TRUST

 United Kingdom

Net EU contribution

€ 350 000,00

Address

DORSET HOUSE 27/45 STAMFORD STREET
SE1 9NT London 

Region

London > Inner London — West > Camden and City of London

Activity type

Other

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 350 000,00



NEDERLANDSE ORGANISATIE VOOR TOEGEPAST NATUURWETENSCHAPPELIJK ONDERZOEK TNO

 Netherlands

Net EU contribution

€ 149 267,25

Address

ANNA VAN BUERENPLEIN 1
2595 DA Den Haag 

Activity type

Research Organisations

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 149 267,50



SOLVAY SA

 Belgium

Net EU contribution

€ 0,00

Address

RUE DE RANSBEEK 310
1120 Bruxelles / Brussel 

Region

Région de Bruxelles-Capitale/Brussels Hoofdstedelijk Gewest > Région de Bruxelles-Capitale/ Brussels Hoofdstedelijk Gewest > Arr. de Bruxelles-Capitale/Arr. Brussel-Hoofdstad

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost
€ 200 000,00



CALIX (EUROPE) LIMITED

 United Kingdom

Net EU contribution

€ 6 455 630,00

Address

CHIPPER LANE 21 OLD LIBRARY CHAMBERS
SP1 1BG Salisbury Wiltshire 

SME 

Yes

Region

South West (England) > Gloucestershire, Wiltshire and Bristol/Bath area > Wiltshire CC

Activity type

Private for-profit entities (excluding Higher or Secondary Education Establishments)

Links

[Contact the organisation](#)  [Website](#) 

[Participation in EU R&I programmes](#) 

[HORIZON collaboration network](#) 

Total cost

€ 6 455 630,00

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European Union, 2025