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Contract

Sustainable Aviation Fuel Plant (Fischer-Tropsch)

UNIVERSITY OF SHEFFIELD

F03: Contract award notice
Notice identifier: 2022/S 000-036026
Procurement identifier (OCID): ocds-h6vhtk-032e9f
Published 20 December 2022, 12:43pm

Section I: Contracting authority

I.1) Name and addresses

UNIVERSITY OF SHEFFIELD

Western Bank

SHEFFIELD

S102TN

Contact

David Middle

Email

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Telephone

+44 1142221560

Country

United Kingdom

Region code

UKE32 - Sheffield

Companies House

RC000667

Internet address(es)

Main address

https://www.sheffield.ac.uk/

I.4) Type of the contracting authority

Body governed by public law

I.5) Main activity

Education

Section II: Object

II.1) Scope of the procurement

II.1.1) Title

Sustainable Aviation Fuel Plant (Fischer-Tropsch)

Reference number

3321/DM

II.1.2) Main CPV code

- 09000000 - Petroleum products, fuel, electricity and other sources of energy

II.1.3) Type of contract

Supplies

II.1.4) Short description

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier

II.1.6) Information about lots

This contract is divided into lots: Yes

II.1.7) Total value of the procurement (excluding VAT)

Value excluding VAT: £3,455,000

II.2) Description

II.2.1) Title

Feed gas clean up and conditioning module

Lot No

1A

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

The tender is for a full turn-key solution including: design, build, installation and commissioning of all elements of the plant from cleaning and preparation of the feed gases, through to conversion of CO2 and H2 to syngas; reaction of the syngas in an FT reactor; and product upgrading steps to achieve the desired product. The selected tenderer will be the Principal Designer and the Principal Contractor for the project with respect to CDM regulations.

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Price - Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Biomass syngas clean up and conditioning module (as add-on to Lot 1A)

Lot No

1B

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE3 - South Yorkshire

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

The tender is for a full turn-key solution including: design, build, installation and commissioning of all elements of the plant from cleaning and preparation of the feed gases, through to conversion of CO2 and H2 to syngas; reaction of the syngas in an FT reactor; and product upgrading steps to achieve the desired product. The selected tenderer will be the Principal Designer and the Principal Contractor for the project with respect to CDM regulations.

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Reverse Water Gas Shift (RWGS) module

Lot No

2

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a

sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

The tender is for a full turn-key solution including: design, build, installation and commissioning of all elements of the plant from cleaning and preparation of the feed gases, through to conversion of CO2 and H2 to syngas; reaction of the syngas in an FT reactor; and product upgrading steps to achieve the desired product. The selected tenderer will be the Principal Designer and the Principal Contractor for the project with respect to CDM regulations

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As per the tender documents

II.2) Description

II.2.1) Title

Blending Skid

Lot No

3

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

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II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 70

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Fischer-Tropsch reactor

Lot No

4

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE3 - South Yorkshire

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

The tender is for a full turn-key solution including: design, build, installation and commissioning of all elements of the plant from cleaning and preparation of the feed gases, through to conversion of CO2 and H2 to syngas; reaction of the syngas in an FT reactor; and product upgrading steps to achieve the desired product. The selected tenderer will be the Principal Designer and the Principal Contractor for the project with respect to CDM

regulations.

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Hydrocracking and hydrogeneration reactor

Lot No

5

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

The University of Sheffield's Translational Energy Research Centre (TERC) is one of the largest and best-equipped national R&D centres in Europe for zero-carbon energy, hydrogen, bioenergy, and Carbon Capture, Utilisation and Storage (CCUS). We are looking to procure a sustainable aviation fuel (SAF) pilot plant based on Fischer-Tropsch technology. The plant will be required to produce at least 1.5 litres/h of sustainable aviation fuel to Jet A-1 ASTM specification D1655 (with flash point minimum of 38°C and a freeze point maximum of -47°C). The SAF plant will utilise CO2 extracted from bioenergy exhaust gases and on-site generated green H2 as feedstocks. It will also have the option to use biomass syngas from an onsite gasifier.

The tender is for a full turn-key solution including: design, build, installation and commissioning of all elements of the plant from cleaning and preparation of the feed gases, through to conversion of CO2 and H2 to syngas; reaction of the syngas in an FT reactor; and product upgrading steps to achieve the desired product. The selected tenderer will be the Principal Designer and the Principal Contractor for the project with respect to CDM regulations.

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Distillation module

Lot No

6

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

As described within the tender documents

II.2.5) Award criteria

Quality criterion - Name: various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

II.2) Description

II.2.1) Title

Online process analyser

Lot No

7

II.2.2) Additional CPV code(s)

- 38970000 - Research, testing and scientific technical simulator
- 73000000 - Research and development services and related consultancy services

II.2.3) Place of performance

NUTS codes

- UKE32 - Sheffield

Main site or place of performance

Translational Energy Research Centre at The University of Sheffield

II.2.4) Description of the procurement

As described within the tender documents

II.2.5) Award criteria

Quality criterion - Name: Various / Weighting: 70

Cost criterion - Name: Cost / Weighting: 30

II.2.11) Information about options

Options: Yes

Description of options

As described within the tender documents

Section IV. Procedure

IV.1) Description

IV.1.1) Type of procedure

Open procedure

IV.1.8) Information about the Government Procurement Agreement (GPA)

The procurement is covered by the Government Procurement Agreement: Yes

IV.2) Administrative information

IV.2.1) Previous publication concerning this procedure

Notice number: 2022/S 000-010243

Section V. Award of contract

Contract No

3321/DM

Lot No

1A (Lot 1)

Title

Feed gas clean up and conditioning module

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

1B (Lot 2)

Title

Biomass syngas clean up and conditioning module (as add-on to Lot 1A)

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

2 (Lot 3)

Title

Reverse Water Gas Shift (RWGS) module

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

3 (Lot 4)

Title

Blending Skid

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

4 (Lot 5)

Title

Fischer Tropsch reactor

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

7 November 2022

V.2.2) Information about tenders

Number of tenders received: 2

Number of tenders received from SMEs: 2

Number of tenders received by electronic means: 2

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Star Hydrogen Ltd.

Carshalton

SM5 3NF

Country

United Kingdom

NUTS code

- UKI62 - Croydon

Companies House

13374348

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Initial estimated total value of the contract/lot: £1,000,000

Total value of the contract/lot: £1,430,000

Section V. Award of contract

Contract No

3321/DM

Lot No

5 (Lot 6)

Title

Hydrocracking and hydrogeneration reactor

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

6 (Lot 7)

Title

Distillation module

A contract/lot is awarded: No

V.1) Information on non-award

The contract/lot is not awarded

No tenders or requests to participate were received or all were rejected

Section V. Award of contract

Contract No

3321/DM

Lot No

7 (Lot 8)

Title

Online process analyser

A contract/lot is awarded: Yes

V.2) Award of contract

V.2.1) Date of conclusion of the contract

7 November 2022

V.2.2) Information about tenders

Number of tenders received: 2

Number of tenders received from SMEs: 2

Number of tenders received by electronic means: 2

The contract has been awarded to a group of economic operators: No

V.2.3) Name and address of the contractor

Star Hydrogen Ltd.

Carshalton

SM5

Country

United Kingdom

NUTS code

- UKI62 - Croydon

Companies House

13374348

The contractor is an SME

Yes

V.2.4) Information on value of contract/lot (excluding VAT)

Initial estimated total value of the contract/lot: £100,000

Total value of the contract/lot: £100,000

Section VI. Complementary information

VI.4) Procedures for review

VI.4.1) Review body

University of Sheffield

Sheffield

S10 2TN

Country

United Kingdom