This is a published notice on the Find a Tender service: <a href="https://www.find-tender.service.gov.uk/Notice/036026-2022">https://www.find-tender.service.gov.uk/Notice/036026-2022</a>

#### 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**

dave.middle@sheffield.ac.uk

### **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.

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: 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: <u>2022/S 000-010243</u>

# **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

# **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

# **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

### **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

# **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

### **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