



Fellow	Host Institution No.1: University of Seville Host Institution No.2: European Turbine Network	Country: Spain Country: Belgium
DC2	Supervisor (academic): Prof. David Sánchez Martínez Supervisor (industrial): Rene Vigjen	WP No: 1
Title: Market uptake of supercritical CO ₂ power systems to enable carbon-neutrality by 2050		
<p>Research Objectives: (1) To understand and characterise the roles of different thermal energy sources (renewable and non-renewable) in the transition towards a future carbon-neutral power generation. (2) To identify relevant business cases for the technology and the associated costs of energy in different scenarios. (3) To assess the social and environmental impacts of directly and indirectly heated sCO₂ technologies in terms of Life Cycle Assessment and Natural Capital Valuation. (4) To develop a roadmap towards the commercialization of direct sCO₂ systems.</p>		
<p>Mobility rules (eligibility of applicants): more information here</p> <ul style="list-style-type: none"> • Researchers funded by Doctoral Networks should comply with the mobility rules: in general, they must not have resided or carried out their main activity (work, studies, etc.) in the country of the recruiting organisation for more than 12 months in the 36 months immediately before their recruitment date¹. • In addition, they: <ul style="list-style-type: none"> ○ must not have a doctoral degree at the date of their recruitment. ○ can be of any nationality. 		
<p>Applicant - specifications: in addition to the general specifications (eligibility criteria) listed above, the applicant must feature the following requirements:</p> <ul style="list-style-type: none"> • Earned degree: <ul style="list-style-type: none"> ○ MSc in Mechanical or Environmental Engineering (or related area). Preference will be given to candidates with a major in energy or related areas • Background (mandatory): <ul style="list-style-type: none"> ○ Thermodynamics ○ Power plant engineering (design and analysis) ○ Simulation of thermal systems ○ Matlab/Python programming • Additional background that will be valued in the selection process: <ul style="list-style-type: none"> ○ Optimisation techniques in engineering systems ○ Project appraisal and finance ○ Environmental Life Cycle Assessment 		

¹ This rule applies to the first contract only (University of Seville)





<ul style="list-style-type: none">○ Energy markets and policy● English language:<ul style="list-style-type: none">○ A certified C1 level of English is required
<p>Scheme:</p> <ul style="list-style-type: none">● M1-M24: the applicant is employed by University of Seville● M19-M24: the applicant is seconded to Azero CO₂● M25-M36: the applicant is employed by European Turbine Network, without undergoing another selection process
<p>Locations (place of work):</p> <ul style="list-style-type: none">● M1-M18: the applicant will be hired by University of Seville and located at the Department of Energy Engineering: Escuela Técnica Superior de Ingeniería (ETSI) - School of Engineering Camino de los descubrimientos s/n 41092 Seville (Spain) Google Maps: link● M19-M24: the applicant will be seconded to Azero CO₂: Azero CO₂ Via Genova 23 00184 Rome (Italy) Google Maps: link● M25-M36: the applicant will be hired by Empresarios Agrupados Internacional European Turbine Network Chau. de Charleroi 146/148, 1060 Brussels (Belgium) Google Maps: link
<p>Planned secondments: DC2 is expected to carry out the following secondment:</p> <ul style="list-style-type: none">● Azero CO₂: define the legal, regulatory and financial boundary conditions of future power systems in a carbon-neutral society.
<p>How to apply: submit application package (see below) to Prof. David Sánchez ds@us.es before May 31st 2020, 17:00 h CET.</p> <p>The Application Package is comprised of:</p> <ul style="list-style-type: none">● CV Europass (https://europa.eu/europass/en/create-europass-cv)● Letter of motivation● <i>Analysis of the challenges faced by the energy sector to accomplish Carbon Neutrality by 2050, and the associated needs for technology development (max 3 pages)</i>● Short video (less than 2min): <i>why I should be selected for the position</i>. The candidates should address some of the following questions:<ul style="list-style-type: none">○ D1: Why did you decide to apply for a position in ISOP?○ D2: What do you expect/want to gain from an MSCA programme?○ D3: How do you think you can add value to an MSCA programme?





- D4: Summarise your strengths and weaknesses.
- D5: Describe a time when you had to deliver a challenging project. What was your role and what was the outcome?
- D6: Where do you see yourself in 10 years?
- D7: Why should you be selected for the position?
- Letters of recommendation (not mandatory)
- The application package must not exceed 15 Mb

Contract:

- Start date (estimate): September 2023
- Type: full-time exclusive
- Annual gross salary:
 - University of Seville: € 34,128.59
 - European Turbine Network: € 38,114.00
- An additional (family) allowance is available for candidates who have family obligations (applied from and until this condition applies)

Equal Opportunity Employers:

University of Seville and European Turbine Network are Equal Opportunity Employers. We believe that no one should be discriminated against because of their differences, such as age, disability, ethnicity, gender, gender identity and expression, religion or sexual orientation. All employment decisions shall be made without regard to age, race, creed, color, religion, sex, national origin, ancestry, disability status, sexual orientation, gender identity or expression, genetic information, marital status, citizenship status or any other basis as protected by European laws.

