

## □ ANNEX: PUBLICATIONS

### ▷ Patents

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- 1 Inventors: Pereira LM, Lacroix M, Gazzani M, Romano MC, **d'Amore F**, Campanari S. Applicants: TotalEnergies OneTech, Politecnico di Milano, Universiteit Utrecht Holding BV. Title: *Carbon Capture System*. Publication number: WO2023144076. World Intellectual Property Organization (WIPO). Patent Cooperation Treaty (PCT). International Publication Date: 03 August 2023. <https://register.epo.org/application?number=EP23701699>
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### ▷ Full-length peer-reviewed international journal articles (\*=corresponding author)

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- Varnier L, Rubinaccio D, Bezzo F, **d'Amore F\***, 2025. Techno-economic analysis of cryogenic carbon capture for cement decarbonisation. *Chemical Engineering Transactions Journal*. Accepted.
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- 26 Cristiu D, **d'Amore F**, Bezzo F\*, 2025. Optimal design of sustainable supply chains for critical raw materials recycling in renewable energy technologies. *Resources Conservation and Recycling*, 218, 108250. <https://doi.org/10.1016/j.resconrec.2025.108250>
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- 25 Cristiu D, You F, **d'Amore F\***, Bezzo F\*, 2025. Strategic design and multi-period optimisation under uncertainties of solid sorbent direct air capture supply chains in Europe. *Industrial & Engineering Chemistry Research*, 64, 5493-5510. <https://doi.org/10.1021/acs.iecr.4c04040>
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- 24 Varnier L, **d'Amore F\***, de Groot B, Melitos G, Bezzo F\*, 2025. Combined electrification and carbon capture for low-carbon cement: techno-economic assessment of different designs. *Journal of Cleaner Production*, 498, 145029. <https://doi.org/10.1016/j.jclepro.2025.145029>
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- 23 Zaryab SA, **d'Amore F**, Colbitaldo P, Romano MC\*, 2024. Utilization or sequestration for captured CO<sub>2</sub> from industrial plants? *Industrial & Engineering Chemistry Research*, 63, 20287–20303. <https://doi.org/10.1021/acs.iecr.4c02268>
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- 22 Visonà M, Bezzo F, **d'Amore F\***, 2024. Techno-economic analysis of onboard CO<sub>2</sub> capture for ultra-large container ships. *Chemical Engineering Journal*, 485, 149982. <https://doi.org/10.1016/j.cej.2024.149982>
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- 21 **d'Amore F\***, Natalucci L, Romano MC, 2024. Optimisation of ship-based CO<sub>2</sub> transport chains from Southern Europe to the North Sea. *Carbon Capture Science & Technology*, 10, 100172. <https://doi.org/10.1016/j.ccst.2023.100172>
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- 20 Cristiu D, **d'Amore F**, Bezzo F\*, 2024. Economic and environmental optimisation of mixed plastic waste supply chains in Northern Italy comparing incineration and pyrolysis technologies. *Computers and Chemical Engineering*, 180, 108503. <https://doi.org/10.1016/j.compchemeng.2023.108503>
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- 19 **d'Amore F\***, Colbitaldo P, Romano MC, 2023. A mathematical tool for optimising carbon capture, utilisation and sequestration plants for e-MeOH production. *Chemical Engineering Transactions Journal*, 105, 175-180. <https://doi.org/10.3303/CET23105030>
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- 18 Cristiu D, **d'Amore F**, Mocellin P, Bezzo F\*, 2023. Multi-Objective optimization of a Carbon Capture and Sequestration supply chain under seismic risk constraints. A case study considering industrial emissions in Italy. *International Journal of Greenhouse Gas Control*, 129, 103993. <https://doi.org/10.1016/j.ijggc.2023.103993>
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- 17 **d'Amore F\***, Pereira LM, Campanari S, Gazzani M, Romano MC\*, 2023. A novel process for CO<sub>2</sub> capture from Steam Methane Reformer with Molten Carbonate Fuel Cell. *International Journal of Hydrogen Energy*, 48, 37366-37384. <https://doi.org/10.1016/j.ijhydene.2023.06.137>
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- 16 **d'Amore F\***, Nava A, Colbitaldo P, Visconti CG, Romano MC, 2023. Turning CO<sub>2</sub> from fuel combustion into e-Fuel? Consider alternative pathways. *Energy Conversion and Management*, 289, 117170. <https://doi.org/10.1016/j.enconman.2023.117170>
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- 15 Del Manso F\*, Casadei S, Faedo D, Lunghi A, Migliavacca G, **d'Amore F**, Romano MC, Perego D, 2022. Feasibility study for the construction of a demonstration plant for the production of e-Fuels. *Chemical Engineering Transactions Journal*, 96, 355-360. <https://doi.org/10.3303/CET2296060>
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- 14 Cristiu D, **d'Amore F**, Mocellin P, Bezzo F\*, 2022. Optimizing carbon capture and sequestration chains from industrial sources under seismic risk constraints. *Chemical Engineering Transactions Journal*, 96, 85-90. <https://doi.org/10.3303/CET2296015>
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- 13 **d'Amore F\***, Nava A, Colbertaldo P, Visconti CG, Romano MC, 2022. Techno-economic modelling of carbon dioxide utilisation pathways at refineries for the production of methanol. *Chemical Engineering Transactions Journal*, 96, 91-96. <https://doi.org/10.3303/CET2296016>
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- 12 Poluzzi A, Guandalini G, **d'Amore F**, Romano MC\*, 2021. The potential of power and biomass-to-X systems in the decarbonization challenge: a critical review. *Current Sustainable/Renewable Energy Reports*. <https://doi.org/10.1007/s40518-021-00191-7>
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- 11 **d'Amore F**, Romano MC, Bezzo F\*, 2021. Optimal design of European supply chains for carbon capture and storage from industrial emission sources including pipe and ship transport. *International Journal of Greenhouse Gas Control*, 109, 103372. <https://doi.org/10.1016/j.ijggc.2021.103372>
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- 10 **d'Amore F**, Romano MC, Bezzo F\*, 2021. Carbon capture and storage for energy and industry: a Europe-wide supply chain optimisation. *Journal of Cleaner Production*, 290, 125202. <https://doi.org/10.1016/j.jclepro.2020.125202>
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- 9 **d'Amore F**, Bezzo F\*, 2020. Optimising the design of supply chains for carbon capture, utilisation and sequestration in Europe: a preliminary study. *Frontiers in Energy Research*, 8, 190. <https://doi.org/10.3389/fenrg.2020.00190>
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- 8 **d'Amore F**, Lovisotto L, Bezzo F\*, 2020. Introducing social acceptance into the design of CCS supply chains: a case study at a European level. *Journal of Cleaner Production*, 249, 119337. <https://doi.org/10.1016/j.jclepro.2019.119337>
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- 7 **d'Amore F**, Bezzo F\*, 2020. Optimal design of European cooperative supply chains for carbon capture, transport and sequestration with costs share policies. *AIChE Journal*, 66, e16872. <https://doi.org/10.1002/aic.16872>
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- 6 **d'Amore F**, Sunny N, Iruretagoyena D, Bezzo F\*, Shah N, 2019. European supply chains for carbon capture, transport and sequestration, with uncertainties in geological storage capacity: insights from economic optimisation. *Computers and Chemical Engineering*, 129, 106521. <https://doi.org/10.1016/j.compchemeng.2019.106521>
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- 5 **d'Amore F**, Mocellin P, Vianello C, Maschio G, Bezzo F\*, 2018. Economic optimisation of European supply chains for CO<sub>2</sub> capture, transport and sequestration, including societal risk analysis and risk mitigation measures. *Applied Energy*, 223, 401-415. <https://doi.org/10.1016/j.apenergy.2018.04.043>
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- 4 Ascenso L, **d'Amore F**, Carvalho A, Bezzo F\*, 2018. Assessing multiple biomass-feedstock in the optimization of power and fuel supply chains for sustainable mobility. *Chemical Engineering Research and Design*, 131, 127-143. <https://doi.org/10.1016/j.cherd.2017.12.023>
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- 3 **d'Amore F**, Bezzo F\*, 2017. Economic optimisation of European supply chains for CO<sub>2</sub> capture, transport and sequestration. *International Journal of Greenhouse Gas Control*, 65, 99-116. <https://doi.org/10.1016/j.ijggc.2017.08.015>
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- 2 **d'Amore F**, Bezzo F\*, 2017. Managing technology performance risk in the strategic design of biomass-based supply chains for energy in the transport sector. *Energy*, 138, 563-574. <https://doi.org/10.1016/j.energy.2017.07.074>
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- 1 **d'Amore F**, Bezzo F\*, 2016. Strategic optimisation of biomass-based energy supply chains for sustainable mobility. *Computers and Chemical Engineering*, 87, 68-81. <https://doi.org/10.1016/j.compchemeng.2016.01.003>
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▷ **Peer-reviewed international conference proceedings** (\*=presenting author)

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- 11 Kumcu S\*, Özyörük B, Bezzo F, **d'Amore F**, 2025. Optimization of carbon capture and sequestration networks: a case study on hard-to-abate industry in Türkiye. *EEPES2025*.
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- 10 Varnier L\*, **d'Amore F**, Clausen K, Bezzo F, 2024. Assessment of Different Carbon Capture and Electrification Configurations for Low-Carbon Cement. *SSRN Electronic Journal*, 17th Greenhouse Gas Control Technologies Conference (GHGT-17), 5058552. <https://doi.org/10.2139/ssrn.5058552>
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- 9 Cieno F, Cristiu D, **d'Amore F\***, Bezzo F, 2023. Economic optimization of the Northern Italian supply chain for residual plastic packaging waste treatment. *Computer Aided Chemical Engineering*, 52, 2125-2130. <https://doi.org/10.1016/B978-0-443-15274-0.50338-3>
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- 8 **d'Amore F\***, Romano MC, 2023. Optimal ship-based CO<sub>2</sub> transport chains from Mediterranean emission points to the North Sea. *Computer Aided Chemical Engineering*, 52, 2741-2746. <https://doi.org/10.1016/B978-0-443-15274-0.50436-4>
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- 7 **d'Amore F**, Marcato G, Mocellin P\*, Bezzo F, 2022. A framework for economic optimization of carbon capture and sequestration from Italian industrial sources under seismic risk constraints. *Computer Aided Chemical Engineering*, 51, 1567-1572. <https://doi.org/10.1016/B978-0-323-95879-0.50262-9>
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- 6 **d'Amore F\***, Romano MC, Bezzo F, 2021. Optimising Carbon Capture and Storage Supply Chains for the European Industry. *IFAC-PapersOnLine*, 54, 609-614. <https://doi.org/10.1016/j.ifacol.2021.08.309>
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- 5 **d'Amore F\***, Lovisotto L, Bezzo F, 2020. A European optimisation tool for carbon capture and storage, accounting for delays in public procurement. *Computer Aided Chemical Engineering*, 48, 1327-1332. <https://doi.org/10.1016/B978-0-12-823377-1.50222-6>
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- 4 **d'Amore F\***, Sunny N, Iruretagoyena D, Bezzo F, Shah N, 2019. Optimising European supply chains for carbon capture, transport and sequestration, including uncertainty on geological storage availability. *Computer Aided Chemical Engineering*, 46, 199-204. <https://doi.org/10.1016/B978-0-12-818634-3.50034-5>
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- 3 **d'Amore F\***, Mocellin P, Vianello C, Maschio G, Bezzo F, 2018. Towards the economic optimisation of European supply chains for CO<sub>2</sub> capture, transport and sequestration, including societal risk analysis. *Computer Aided Chemical Engineering*, 44, 2305-2310. <https://doi.org/10.1016/B978-0-444-64241-7.50379-7>
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- 2 **d'Amore F\***, Bezzo F, 2017. Assessing Technological Options in Biomass-Based Energy Supply Chains through a Quantitative Methodology for Risk and Regret Evaluation. *Computer Aided Chemical Engineering*, 40, 2491-2496. <https://doi.org/10.1016/B978-0-444-63965-3.50417-7>
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- 1 **d'Amore F\***, Bezzo F, 2016. Optimising biomass-based energy supply chains for sustainable mobility. *Computer Aided Chemical Engineering*, 38, 145-150. <https://doi.org/10.1016/B978-0-444-63428-3.50029-1>
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▷ **Peer-reviewed international conference abstracts** (\*=presenting author)

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- 8 Cristiu D, Fengqi Y, Bezzo F, **d'Amore F\***, 2025. Optimisation under uncertainty of direct air capture chains in Europe. AIChE Meeting 2025, Boston, United States.
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- 7 **d'Amore F\***, Bezzo F, 2025. Challenging students with open multidisciplinary problems: A case study concerning sustainable technologies. GRICU2025, Ischia, Italy.
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- 6 **d'Amore F\***, Pereira LM, Campanari S, Gazzani M, Romano MC, 2024. A novel process for blue hydrogen production with molten carbonate fuel cell CO<sub>2</sub> capture. ESCAPE34-PSE24, Florence, Italy. <https://dx.doi.org/10.3303/B0A2401>
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- 5 Cristiu D\*, **d'Amore F**, Bezzo F, 2023. Waste-to-Energy and Chemical Recycling of Mixed Plastic Waste. Economic and Environmental Optimisation of the Northern Italian Supply Chain. AIChE Annual Meeting 2023, Orlando, The United States.
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- 4 **d'Amore F\***, Nava A, Colbertaldo P, Visconti CG, Romano MC, 2023. Techno-economic modelling of carbon dioxide utilisation routes for the production of methanol: e-Fuels vs. er-Fuels. ECCE14-ECAB7, Berlin, Germany.
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- 3 **d'Amore F**, Bezzo F\*, 2019. Optimal design of supply chains for carbon capture, storage, and utilisation. ECCE12-ECAB5, Florence, Italy. Selected as keynote talk.
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- 2 **d'Amore F**, Baldo V, Bezzo F\*, 2019. The contribution of CO<sub>2</sub> utilisation to GHG emission reduction: some results based on a European supply chain optimisation. ECCE12-ECAB5, Florence, Italy.
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- 1 Iruretagoyena D\*, Hedberg S, Puhani D, Zhang D, Sunny N, **d'Amore F**, Costantini T, Shaffer M, Mac Dowell N, Shah N, 2019. Novel hierarchical networks as support for hydrotalcites for pre-combustion CO<sub>2</sub> capture. FOA2019, Cairns, Australia.
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▷ **Other presentations** (\*=presenting author)

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- 7 Varnier L\*, **d'Amore F**, de Groot B, Bezzo F, 2025. Techno-economic analysis of an energy-optimised cryogenic carbon capture process for decarbonisation of cement production. PCCC-8, Marseille, France.

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  - 6 Varnier L\*, **d'Amore F**, Clausen K, Bezzo F, 2024. Optimal integration of carbon capture and electrification for cement plants decarbonisation. GHGT17, Calgary, Canada.

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  - 5 **d'Amore F**, Colbertaldo P\*, Romano MC, 2022. Economic optimization of integrated H<sub>2</sub> and CO<sub>2</sub> chains for CO<sub>2</sub> emission mitigation in a highly industrialized region. GHGT16, Lyon, France.

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  - 4 Cristiu D\*, **d'Amore F**, Mocellin P, Bezzo F, 2022. Multi-objective optimization of a carbon capture and sequestration chain under seismic risk constraints. GRICU2022, Palermo, Italy.

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  - 3 **d'Amore F**\*, Sunny N, Iruretagoyena D, Shah N, Bezzo F, 2019. Ottimizzazione di filiere europee per la cattura, stoccaggio e trasporto della CO<sub>2</sub>, con incertezza nelle capacità dei bacini geologici. GRICU2019, Palermo, Italy.

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  - 2 **d'Amore F**\*, Lovisotto L, Bezzo F, 2019. Can we include acceptance effects in the optimal design of CCS supply chains? A European case study. GRCCCUS, Les Diablerets, Switzerland.

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  - 1 **d'Amore F**\*, Bezzo F, 2016. Multi-objective optimisation of biomass based supply chains in Italy. CAPE-Forum2016, CAPE at EPFL Valais Wallis, Sion, Switzerland.
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