

# Ramon Arturo Gil-Egui

## Professional Summary

November 2025

Business address: The University of Texas at Austin  
Bureau of Economic Geology  
University Station, Box X  
Austin, TX 78713-8924  
[ramon.gil@beg.utexas.edu](mailto:ramon.gil@beg.utexas.edu)

## Professional Preparation

### Academic Background

- Higher Education Teaching Diploma, Universidad Nacional Abierta (UNA)/Instituto Universitario de Tecnología de los Llanos (IUTLL), Venezuela, May 2004
- B.S. Economics, School of Economics and Social Studies, Central University of Venezuela, December 1993

## Professional Appointments

### **Research Scientist Associate III, Bureau of Economic Geology, the University of Texas at Austin (September 2015-Present)**

My duties are related to energy economics and sustainability, directly aligned with the Department of Energy Carbon Management program and the National 2050 Net Zero plan. I am involved in economic analysis for the viability of large-scale commercial deployment of carbon capture and storage (CCUS) as an option for global greenhouse gas reduction and U.S. 2050 Net Zero targets. I run scenario optimization of available and prospective power and industrial CO<sub>2</sub> sources and how they can be linked to pipeline transport and geological storage systems, with socioeconomic considerations associated with current financial structures and national incentives, such as 45Q tax credits. My duties include identifying CO<sub>2</sub> on and offshore transport and delivery options, logistics, risk, and regulation assessments in the Gulf of Mexico region (GoM), assessing the feasibility of decommissioning and re-purposing existing infrastructure, such as pipelines, platforms, and wells, and mapping to the potential location of storage reservoirs with minimal environmental and socioeconomic risks. Creating an inventory of feasible CO<sub>2</sub> sources, linking source-transport-storage options, and identifying processes to optimize field operations, reservoir response, and operational cost. Developing novel methodologies to assess the whole CCUS value chain sustainability by integrating geoengineering models with environmental and socio-economic performances. Developing sustainable strategies conducive to lowering the carbon balance of CCUS large-scale commercial deployments and CCUS-DAC Hubs. Assessing socioeconomic impacts of CCUS and CO<sub>2</sub> Direct Air Capture (DAC) projects. Active outreach promoting responsible deployment of Carbon Management technologies through different regional consortia such as SSEB-UH CCUS Accelerator Consortium and partnerships like GoMCARB, SECARB, TXLA-CMC, and others. Providing education for graduate and undergraduate students (lectures), the general public, regulators, and technical stakeholders (short courses and workshops), raising awareness of the nation's potential CO<sub>2</sub> geological storage, in particular in the Gulf Coast (on and offshore), reducing environmental concerns, and increasing responsible business developments. Developing an integrated GIS map tool to inform communities and stakeholders on how to de-risk the CO<sub>2</sub> storage site selection from an environmental and socioeconomic perspective. Active work in publications, reports, and presentations to technical audiences promoting Sustainable Carbon Management and Energy Transition Technologies.

### **Most Relevant CCUS Projects:**

**CarbonSAFE III - General Electric (Verona) Houston Area Direct Air Capture (DAC) Hub:**  
DOE-Awarded project to develop one of seven national DAC hubs in a rural area between Houston and Beaumont TX. UT/BEB/GCCC is participating as a sub-recipient in the development and implementation of the project's Community Benefits Plan. DOE's national DAC Hub Program is a critical component of the Carbon Management program and of the federal administration's Climate Change Plan.

**Gulf of Mexico Regional Carbon Sequestration Partnership/ Southeast Regional CO<sub>2</sub> Utilization and Storage Acceleration Partnership (GomCarb/SECARB):** Ongoing projects funded by U.S. DOE. Assisting to address the CO<sub>2</sub> transport and delivery options in the GoM including assessments of (a) existing infrastructure (e.g., pipelines, platforms, and wells) and how such infrastructure assessment may inform storage reservoir identification and evaluation; (b) logistical and regulatory obstacles to CO<sub>2</sub> transport and delivery to offshore targets; (c) process and requirements of decommissioning and whether/how to re-purpose for large-scale offshore CO<sub>2</sub> storage in the GoM. Collaborating to document scenarios/processes to optimize field operations, reservoir response, and operations costs for efficient storage and monitoring of CO<sub>2</sub>. Also collaborating in public engagement and knowledge dissemination via presentations and publications designed specifically for technical audiences, regulatory personnel, or the general public.

**CCUS Societal Consideration and Impacts:** applying different tools and developing novel methodologies to identify and characterize low-income and vulnerable communities potentially impacted by CCUS projects, particularly from the CO<sub>2</sub> Storage perspective. Integrating the EPA's UIC Class VI Injection Well permit application guidance, NEPA's Environment Impact Statement, and different available screening tools to develop a novel methodology assessing groundwater and other environmental indicators impacting disadvantaged, low-income populations within the Area of Review of CCUS projects. Developing community outreach and educational plans for Direct Air Capture (DAC) projects along de GoM (e.g. GE Houston Area DAC Hub)

**Carbon Balance of CO<sub>2</sub>-EOR for Net Carbon Negative Oil (NCNO) Classification:** 3-year project (1 year extended) funded by U.S. DOE. Developing a clear, universal, repeatable methodology for determining whether a CO<sub>2</sub>-EOR operation can be classified as Net Carbon Negative Oil (NCNO). The main focus is on creating a novel methodology to analyze the relationship between energy consumption, oil production, CO<sub>2</sub> injection, GHG emissions, and storage oriented to achieve NCNO classification defining the operational environmental limits and energy-efficiency recommendations. Also applying this novel methodology to other private CO<sub>2</sub>-EOR commercial developments (SACROC and MEPUSA-JOGMEC-DENBURY's operations).

**CCUS Sustainability:** develop a novel methodology for Meso-level decision-making, integrating environmental and socioeconomic performance of CO<sub>2</sub>-EOR operations linking the results of our Dynamic Life Cycle Analysis with the socioeconomic optimum determined through Marginalist Economic Theory allowing to include externalities, incentives impact and different setups to the operation's sustainability

**CarbonSafe:** A 3-yr project funded by U.S. Department of Energy Carbon Storage Assurance Facility Enterprise (CarbonSAFE) initiative, seeks to help mitigate carbon dioxide (CO<sub>2</sub>) emissions from the burning of fossil fuels. Addressing key research gaps in the path toward the deployment of carbon capture and storage (CCS) technologies, including the development of commercial-scale (50+ million metric tons CO<sub>2</sub>) geologic storage sites for CO<sub>2</sub> from industrial sources. Phase I of the project will provide a pre-feasibility study for a commercial-scale geological storage site. Objectives include the formation of a CCS coordination team to address regulatory, legislative, technical, public policy, commercial, financial, and other issues specific to commercial scale deployment of the CO<sub>2</sub> storage projects. The project is developing a plan encompassing technical requirements, as well as both economic feasibility and public acceptance of an eventual storage project near-offshore storage complex on the inner shelf of the Gulf of Mexico.

**Getting-to-Neutral and Roads to Removal:** Assessment for Large-Scale Carbon Removal in the United States: Description of Methods, Feedstocks, and Constraints, Lawrence Livermore National Laboratory, LLNL. The first economy-wide technical evaluation of the options for achieving the carbon dioxide removal (CDR) goal (1Gt/y), evaluating feasibility, performance, and costs on a county level for the entire USA, considering all removal methods that are currently well-enough developed.

**Subsurface mafic and ultramafic rock mapping and analysis for carbon mineralization in the United States (SubMAP-CO<sub>2</sub>).** UT/BEG's DOE-awarded project in collaboration with Petroleum and Geosystems Engineering (PGE), UT Austin, and Columbia University. The central objective of the work is 1) to perform a detailed resource assessment of the location, volume, and characteristics of mafic and ultramafic rock bodies in the subsurface of the USA where large

amounts of CO<sub>2</sub> could be captured and stored via carbon mineralization. 2) perform laboratory tests on actual rock samples previously cored through various mafic/ultramafic formations to assess the reactivity and reaction rates of carbonation in these rocks, and 3) perform a pre-screening a source-to-sink study regarding the availability, and accessibility of CO<sub>2</sub>, and potential permanent subsurface storage capacity to identify optimal locations for this type of CO<sub>2</sub> storage locations for more detailed site evaluation in the future.

**Regional Initiative for Technical Assistance Partnerships (RITAP) at the Gulf Coast and the Permian Basin (DOE-FOA-03914)** Our proposal aims to contribute to satisfying the substantial regional growing demand for technical assistance, and the need for greater specificity on potential storage resources and impacted communities in these regions defined by geologic basins. Given the multitude of stakeholders looking to develop storage projects in these basins, the creation of widely distributed, place-based technical assistance partnerships focused on the basin scale makes sense going forward to ensure carbon storage resources continue to be managed safely and efficiently. Accelerating the equitable and environmentally responsible deployment of storage-based CM in these basins by establishing partnerships comprised of participants with extensive technical, managerial, regulatory, and business expertise specific to carbon transport and storage.

## **Other appointments**

### **Entrepreneurship on Sustainability:**

#### **Founder and General Director, Ser Sustentable C.A, Venezuela (July 2012-Agost 2015)**

Head of energy economics firm that provides consulting services on environmentally sustainable operations, energy management, and efficient use of renewable resources. Cost-effective mid and long-term proposals for changes to and improvement on preventive and corrective maintenance program, system start-up procedures, and capital investment and expenditure plans. Results include 15% average increase on existing internal electric network capacity, and over 22% average savings in power consumption. Ongoing and completed projects to date include:

#### **Waste management:**

Integral Systems Solid Waste Management (based on ISO 14001 and national regulations): Project developed for the Acosta Municipality, Monagas state (area under special environmental administration by the Venezuelan national government). Population of around 18,500 inhabitants. Review and redesign of solid waste management procedures, including the adoption of a new waste classification system and primary recycling activities. (2014)

Energy efficiency:

**Energy Management System (based on ISO 50001) for the Prof. Jose L. Perez Technical High School:** Diagnostic and adjustment of the electric supply system.

**Water Pumps Efficiency Diagnostic for Agua Azul Theme Park (Water Park, 3.000 visitors per day in high season)** in Margarita, Nueva Esparta state, Venezuela.

#### **Clean energy and emissions management:**

Photovoltaic Pumping Systems for the Tamayo Foundation: Pumping and treatment of sewage, and collection of rainwater for greenhouse irrigation (2014).

Bio-digesters for Pork Farms (PLUMROSE and AGROPORK), for the collection and use of methane gas for electric power and cooking (2012).

Photovoltaic power system for an INFOCENTRO at El Pauji: Community library and Internet satellite connection at a small hamlet (population 450 inhabitants, including indigenous groups living in surrounding areas), located 1,500 km south of Caracas, Bolívar state, at the border of the Brazilian Amazon jungle.

### **Professor of Practice, Universidad Nacional Experimental Romulo Gallegos (UNERG), Venezuela (December 2006-August 2015):**

Curricular and course design for the university's different majors in Economics, based on knowledge emerging from my professional practice and research. Development and supervision of applied community projects on infrastructure and utilities, covering project inception and design, fund sourcing, project development, and implementation, training, and operation management.

Applied research: Design and implementation (pilot phase) of a national plan for energy management for public universities (2013); ongoing design, coordination, and assessment of the university's community service projects, with a focus on local development, and industrial and commercial entrepreneurship. Courses designed and taught: Economics I (microeconomics), Economics II (macroeconomics - Curricular Coordinator), Economics and Politics of the Agricultural Sector (Curricular Coordinator), Community-Based Projects (service learning), and entrepreneurship: Economic Feasibility Analysis.

**Thesis Supervision** (Main Academic Advisor): Roldan, F., and Acua, N. (2014). MERCOSUR: Comparative Analysis of Its Agriculture Sector, 2010-2014 (B.S. Economics). Luzon, L. (2014). Socioeconomic Impact Analysis of Handmade Furniture Shops in Magdalena, Aragua State, (B.S. Economics).

**Personal Financial Consultant, Cinetica Financial Services, Venezuela -- USA (September 2006-August 2015)**

Provide customized investment solutions involving international mutual funds, personal insurance, and individual assets protection.

Certified representative for: Investors Trust: code 507377, Best Meridian Insurance (BMI): code 10175, Manhattan Insurance Group: code 54RR107, Best Doctors: code BDDVZRR026

**Adjunct Faculty, Universidad Central de Venezuela (UCV), School of Political and Administrative Sciences, Caracas, Venezuela (2005-2006)**

Courses designed and taught: Political Economy IV, Special Topics Seminar: Agricultural Policy and Food Security in Venezuela (in line with paradigm of sustainable development)

Head of APROSIGUA's Operational and Financial Rescue Team, APROSIGUA (Association of Farmers in the Guárico River Irrigation System) - Calabozo, Venezuela (1999-2004)

Chaired and coordinated activities of a multidisciplinary team created to reactivate and expand the oldest trade association in the region. As a result of my leadership, the association achieved, after 15 years of stagnation, registration and/or readmission of 300 members in less than 2 years. Among other accomplishments of the team I chaired are access to new financing for the cultivation of more than 3,000 hectares, drilling of 90 deep wells for irrigation, and purchase 30 tractors and agricultural implements for association members.

**Lecturer, Instituto Universitario de Tecnología de los Llanos (IUTLL), Venezuela (1998-2004)**

Courses taught:

Economic Theory I (microeconomics),  
Agricultural Planning and Administration,  
Agricultural Projects

**Founding Member and Independent Operator, Bolpriaven (Venezuelan Stock Market Exchange for Agricultural Commodities) - Caracas, Venezuela (1999-2002)**

Transacted Certificates of Deposit, agricultural certificates, future options, rediscounts, and purchase/sale of positions in this private market exchange organization aimed at promoting transparency in price determination for the Venezuelan agricultural sector. Member of the Arbitrage Unit of the Chamber of Commerce in Caracas (Agriculture Team), dedicated to providing mediation in conflict resolution for actions related to operations of Bolpriaven.

**Adjunct Faculty, Colegio Universitario de Administracion y Mercadeo (CUAM) -- Calabozo, Venezuela. (1997-1999)**

Courses taught: Analysis and Management of Capital Investment

**Energy Economics Consultant, Independent (1995-1997)**

Provided analysis of costs and tariffs for several Venezuelan power-supply companies.

Development of plans for the implementation of the Uniform Code of Accounts for Tariff Filing and Calculation for Venezuelan regional electric power companies (EDELCA, ELEBOL, CALIFE, and CADAFAE) and their governmental regulatory body. Performed ad-hoc studies involving cost control,

consumer profiling, and pricing estimation for energy companies with a variety of ownership regimes, supply chains, distribution networks, and demand structures. Adaptation of electric distribution companies' general accounting systems to the Venezuelan regulatory agencies' standardized accounting coding, based on functional cost centers, to comply with mandated operative efficiency and service quality levels. Scenario simulation and sensitivity analysis based on key variables (fixed assets, labor costs, energy, and oil prices, inflation and exchange rates, demand scenarios, and others) aimed at determining and meeting profitability goals

**Researcher, Project Leader, and General Manager (successively), CONSORCIO CS, C.A. (ASINCRO and IMPROMAN, VBL) - Caracas, Venezuela (1987-1995)**

A company specialized in consulting services in the area of pricing studies for public utilities, especially water and electric supply. The position involved service-cost analysis including the design and application of customized marginal and average cost methodologies, which resulted in cost allocation and tariff design for nationwide electricity generation and distribution companies in Venezuela. Developed economic viability analyses. Planned and supervised operative and administrative control of projects. Elaborated final reports for clients. Represented the firm at the National Advisory Team for the design and application of a standard pricing model for the electric power industry in Venezuela, based on marginal-costs analysis (methodology promoted by the World Bank through its Program of Action for Macroeconomic Stabilization). Coordinated studies of costs and tariffs for subsidiary companies and end-users of the then-largest electric power distributor in Venezuela, CADAFE.

**Junior Economist (paid internship), Lagoven** (a subsidiary of the state-run oil company Petróleos de Venezuela [PDVSA]) - Caracas, Venezuela (1987). Temporary staff member at Lagoven's Billing and Costs Control Office

**Theses**

Marginal Costs Theory Applied to the Electric Power Sector: A Proposal for Venezuela, Central University of Venezuela, 1993.

**Continuing Education Courses Taken**

- Photovoltaic Systems: Basic and Advanced Equipment: Organized by Arca de NOE 2312 / Venezuelan Association of Engineers, Caracas, Venezuela, September 2015
- Basics of Carbon Capture and Sequestration: Research and Experience in Carbon Sequestration Program, Southern Company, Birmingham, Alabama, August 6-20, 2015
- Statistical Analysis with INFOSAT: National Institute for Agricultural Research, Calabozo, Guárico state, Venezuela, July 2005
- Holistic Pedagogical Management in the Classroom: Endogenous Development: Instituto Universitario de Tecnología de los Llanos and Institute for Human Integral Development, Valle de la Pascua, Guárico state, Venezuela., May 2005
- Planning, Design, and Evaluation of Agricultural Projects: Instituto Universitario de Tecnología de los Llanos and Venezuelan Association of Agricultural Experts, Calabozo, Guárico state, Venezuela, March 2004
- Management of Silos and Agricultural Storage Facilities: Venezuelan Agency for Commodities Exchange and Agricultural Inputs (BOLPRIAVEN) and the National Center for Research on Experimental Agricultural and Industrial Production (CIEPE), San Felipe, Yaracuy state Venezuela, June 2002
- Negotiation Theory and Tools: The Harvard Negotiation Model: CMI International and the Center for Quality and Productivity of Carabobo State, Valencia, Carabobo state, Venezuela, July 2001
- International Agricultural Trade: Spanish Agency of Cooperation for International Development, and the Universidad Central de Venezuela's Institute of Agricultural Economics, Caracas, Venezuela, September 2000
- Brokerage of Agricultural Commodities Exchange: Venezuelan Agency for Commodities Exchange and Agricultural Inputs (BOLPRIAVEN), the Inter-American Institute for Cooperation on Agriculture (IICA), the Hemispheric Training System for Agricultural Development (SIHICA), and the CIARA Foundation, Caracas, Venezuela, February 1999

- Analysis of Agricultural Networks and Food Policy in the Context of Globalization: Hemispheric Training System for Agricultural Development (SIHICA), the Inter-American Institute for Cooperation on Agriculture (IICA), and the CIARA Foundation, Caracas, Venezuela, September 1998
- Financing of Utilities and Public Services: Electricity Company of Caracas (EDC) and the Institute of Advanced Studies in Administration and Management Studies (IESA), Caracas, Venezuela, October 1995
- Government Reform and the Role of Public Services Administration: the Electricity Company of Caracas (EDC) and the Institute of Advanced Studies in Administration and Management Studies (IESA), Caracas, Venezuela, May 1995
- Customs Law: Organized by the Venezuela Bank of Foreign Trade (BANCOEX) and the Venezuelan Ministry of Production and Commerce, Caracas, Venezuela, October 2001-Present  
Incursion into New International Markets: Venezuela Bank of Foreign Trade (BANCOEX) and the Venezuelan Ministry of Production and Commerce, Caracas, Venezuela

### **Areas of Expertise**

- Carbon Management Sustainability
- Economics and Energy Sustainability of CO<sub>2</sub>-Enhanced Oil Recovery, Surface Operations
- Energy transition economics (CCUS, DAC, CO<sub>2</sub> mineralization, and Clean energy economy)
- Carbon Management Societal Considerations (Environmental Justice, Justice40, DEIA, Job Creation, etc.)
- Low-carbon ecosystems (Gulf of Coast)
- Energy Efficiency
- Higher Education
- Project Management
- Sustainable Solutions

### **Committees and Panels Participation**

- Chair at IEA-GHGT-17 Conference 2024, for Session 10E – Life cycle Analysis. Calgary, Canada.
- Technical Committee Member (reviewer and panelist) of the First EAGE Latin America Workshop on H<sub>2</sub> and CCUS, (2023) Casa del Egresado, Medellin University. September, 5<sup>th</sup> to 6<sup>th</sup> Medellin, Colombia.
- Chair at IEA-GHGT-16 Conference 2022, for Session 6G - Regulatory Experiences USA and Session 11E - Wellbore and leakage modelling. Lyon France
- Liaison leader between the Bureau of Economic Geology, the University of Houston's Center for Carbon Management in Energy (UHCCME), and the Southern States Energy Board (SSEB) CCUS Commercialization Consortium. The Consortium is comprised of subject matter experts from over 50 companies and organizations, including the four DOE-funded Regional Initiatives. Its main goal is the commercial-scale deployment of CCUS technologies. Houston TX, since February 2020.
- Liaison leader between the Bureau of Economic Geology and Baker Hughes-General Electric (potential sponsor). Seminar and exploratory meeting on potential areas of collaboration with program coordinators (TORA, CEE, GCCC, and U.T. EI). Bureau of Economic Geology., Austin TX, December 2019
- Panelist on the BHP Petroleum ESG Month, E & Tea Panel – Session: The Path Forward for Decarbonization, getting to net-zero and the role of Critical Tech-CCS- in the energy transition. BHP Petroleum Houston Headquarters, March 2022.

## External Committees Participation

Deputy Representative of Venezuela at the Rice Advisory Committee, Committee created by the Council of Agriculture Ministers of the member countries of CAN (Decision No. 445), Comunidad Andina de Naciones (CAN) [Andean Community of Nations], Recommendations for the consolidation of the rice market in the Andean zone and for the improvement of the supply chain for that commodity in South America, Lima, Perú, October 1999

## Awards

Bureau First Author Publication Awards 2020 (Tinker Family BEG Publication Award). The highlight: "given in recognition of an exemplary publication of demonstrated or expected scientific or economic impact, or that otherwise increases the visibility of the Bureau scientific community."

**Awarded research:** "Environmental and operational performance of CO<sub>2</sub>-EOR as a CCUS technology: a Cranfield example with dynamic LCA considerations".

## Presentations

### Invited Presentations

- *Societal Considerations on Offshore CCS projects, Corpus Christi study case.* REPSOL Offshore Technical, HSE, and External Relations Teams assessing the company's CCS project in Corpus Christi, (2023) November 2, Online presentation.
- *CCS's Global status and CO<sub>2</sub>-EOR sustainability, opportunities for the Cement industry Decarbonization,* presentation to ARGOS Cements Environmental Board. (2023) Argos Cement Headquarters. September 17<sup>th</sup> Medellin, Colombia
- *Environmental Justice Screening Tools applied to CO<sub>2</sub> Storage Projects (Lecture).* Energy and Earth Resources (EER) course at Jackson School of Geoscience (JSG) at University of Texas (U.T.) at Austin, March 2022.
- *BHP E&T Panel: The Path Forward for Decarbonization. Environmental & ESG Week.* Invited Panelists on the status of existing technologies that will help decarbonize our economy, Market drivers, and barriers. BHP headquarters. Houston, March 2022
- *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (particular oral presentations),* Baker Hughes-General Electric, and Shell. Houston, TX, September 2019.
- *The professional education of sustainability-conscious economists: Challenges and opportunities: presented to National Meeting of Economics Students (ENEE),* presented at Panel on Sustainability and Climate Change Forum (Chair), San Juan de Los Morros, Guárico state, Venezuela, September 2014.
- *Liability of cost structure for the subsidiaries of the National Electricity Company CADAPE: presented at Calculation of Energy Sales Price: CADAPE Charges to Its Subsidiaries, Regional Locations Workshops:* Valencia, Carabobo state; Valera, Trujillo state; and Cumana, Sucre state, Venezuela, 1993.
- *Characterization of electricity consumption by regions and types of clients: presented at Workshop: Calculation of the New Specification Fee for End-Users of the National Electricity Company (CADAPE),* Caraballeda, Vargas state, Venezuela, 1991.
- *Marginal electricity costs in context: Methodological review of the cases of Brazil, Chile and France:* presented to the Venezuelan Ministry of Energy and Mines (MEM), and by the Electricity of the Caroní Region Company (EDELCA), presented at Forum: Marginal Costs, Operating Costs, and System Expansion in the Venezuelan Electricity Sector, Caracas, Venezuela, 1990.

### Presentations

- *Access-Constrained CO<sub>2</sub> Mineralization in Serpentinite Mafic and Ultramafic Rocks in the U.S. Subsurface mafic and ultramafic rock mapping and analysis for carbon mineralization in the United States (SubMAP-CO<sub>2</sub>), Task 3 (Nano talk and poster),* R Gil-Egui, E. Ukar, E. Owusu-

- Adjapong, 11th Annual Bureau Research Symposium 2025. Bureau of Economic Geology, September 2025. Austin TX
- *Socioeconomic and environmental barriers to CO<sub>2</sub> storage injection site selection*, R. Gil-Egui, J. E. Ubillus, 10th Annual Bureau Research Symposium 2024. Bureau of Economic Geology, September 2024. Austin TX
  - *Impact of Societal Risks on CO<sub>2</sub> Storage Capacity of Proposed Storage Sites*, R. Gil-Egui, J. E. Ubillus, S. Hovorka, Theme 8: ESG and Stakeholder Engagement. 2024. SPE-AAPG-SEG CCUS 2024 Conference, March 2024, Houston TX.
  - *Handling Societal Considerations on Carbon Management Technologies: From Global to Local Perspective*. R. Gil-Egui, K. Romanak, S. Hovorka, CCS Environmental Justice Workshop. UTCCS-6 Bureau of Economic Geology Biannual Sponsors Meeting, January 2024. Austin TX
  - *Class VI Injection Wells Site Selection Using an Integrated GIS-Based Screening Tool (poster)* AGU 2023, R. Gil-Egui, J. E. Ubillus, San Francisco, California. December 2023.
  - *Gulf Coast CO<sub>2</sub> Storage Window Societal Constraints (poster)*. DOE-2023 FECM / NETL Carbon Management Research Project Review Meeting. Pittsburgh, PA. August, 2023.
  - *First Attempts of Societal Considerations and Impacts (SCI) Regarding Class VI Injection Well Permitting: Implications for Onshore and Offshore Carbon Capture and Storage (CCS) Sites along the Gulf of Mexico (oral)*. SPE–AAPG– SEG CCUS 2023 Houston, TX, April, 2023.
  - *CCS-CCS – Community Benefit Plan: enabling business in the Gulf of Mexico (poster)*. DOE/NETL GoMCARB/SECARB Annual Technical Review Meeting. UT-BEG-GCCC, UT Pickle Research Campus, Austin Texas, April 2023.
  - *Societal Considerations and Impacts of CCUS projects (poster)*, Public Engagement workshop Department of Energy-Harte Research Institute for the Gulf of Mexico, Corpus Christi, TX, November 2022.
  - *Societal Considerations and Impacts Risk Assessment on CCS Class VI Well Permit Applications*, BEG Symposium 2022, Austin TX, September 2022.
  - *CCS' Environmental Justice, Storage perspective (poster)*. DOE-NETL Annual Technical Report 2022 Meeting. Philadelphia, Pennsylvania, August 2022
  - *Environmental Justice considerations on CCS projects (poster)*. AAPG CCUS 2022 Conference. UH Hilton, Houston March 2022
  - *The value of various CO<sub>2</sub>-EOR approaches as elements of CCUS in our Big Plan (2014-2018) Retrospective (session 5: The "U" in CCUS.)*. Bureau of Economic Geology Biannual Sponsors Meeting-UTCCS-6, January 2022. Austin TX.
  - *Environmental Justice Considerations for CCS projects and NCNO as outreach (Session 1: CCUS Ecosystem, oral)*. Bureau of Economic Geology Biannual Sponsors Meeting-UTCCS-6, January 2022. Austin TX.
  - *First approach to Environmental Justice considerations on Class VI Injection Well permit applications (oral presentation, online)*, Bureau of Economic Geology – Gulf Coast Carbon Center Biannual Sponsors Meeting, Bureau of Economic Geology, September 2021, Austin, TX.
  - *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (oral presentations)*, Texas' Groundwater Protection Council, 2020 UIC Conference, February 2020. San Antonio, Texas
  - *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (oral presentations)*, Bureau of Economic Geology Biannual Sponsors Meeting-UTCCS-5, January 2020. Austin, TX
  - *The sustainability of CCUS technologies: CO<sub>2</sub>-EOR case of study (oral presentation)*. World Congress on Oil and Gas, Valencia, Spain, October 2019
  - *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (poster)*. 2nd Energy@UT Research Expo. AT&T Conference Center, Austin, Texas, October 2019.
  - *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (nano-talk and poster)*. 7<sup>th</sup> Annual Bureau Research Symposium. Bureau of Economic Geology. Austin TX, September 2019.
  - *Impact of 45Q and Staked Storage in the sustainability of CO<sub>2</sub>-EOR (poster)*, Bureau of Economic Geology Biannual Sponsors Meeting, August 2019, Houston, TX
  - *Is CO<sub>2</sub>-EOR Sustainable? (Oral presentation)*. Bureau of Economic Geology Biannual Sponsors Meeting, Austin TX. January 2019.

- *A Sustainable Approach to Decision-Making in CCUS Systems (oral presentation)*. International Energy Agency, GHGT-14 conference, Melbourne, Australia, October 2018
- *Carbon Life Cycle Analysis of CO<sub>2</sub>-EOR for Net Carbon Negative Oil (NCNO) Classification (DE-FE0024433)*, 2018 NETL CO<sub>2</sub> Capture Technology Project Review Meeting, Pittsburgh, Pennsylvania, August 2018.
- *CCUS Ecosystem. A new conceptualization of the CCUS landscape. The role of economics studies underway and planned (them 1) and, The "U" in CCUS, Unconventional EOR (them 4, complement presentation)*, Bureau of Economic Geology Biannual Sponsors Meeting (Big Plan 2018-2022 presentation), Bureau of Economic Geology, September 2017, Houston, TX
- *Lifecycle Analysis of CO<sub>2</sub>-EOR for Net Carbon Negative Oil Classification Cranfield case (poster)*. 2018 Internal Update on ExxonMobil LRRM and next steps, AT&T Conference Center, Austin, Texas, May 2018.
- *A new conceptualization of the CCUS landscape, the role of economics studies underway and planned (them A, retrospective 2014 – 2018) and The NCNO project Update (them C, retrospective 2014 – 2018)*. Bureau of Economic Geology Biannual Sponsors Meeting (Big Plan 2018-2022 proposal), Bureau of Economic Geology, January 2017, Austin, TX
- *A Sustainable Approach to Decision-Making in CCUS Systems (poster)*. 6th Annual Bureau Research Symposium, Bureau of Economic Geology, September 2018, Austin, TX.
- *CO<sub>2</sub>-EOR, an option for Green Oil? Approaching an NCNO Classification*, (presentation), Biannual Bureau of Economic Geology Sponsors Meeting, Bureau of Economic Geology, September 2017, Houston, TX.
- *CO<sub>2</sub>-EOR, an option for Green Oil? Approaching an NCNO Classification (poster)*. 5th Annual Bureau Research Symposium, Bureau of Economic Geology, September 2017, Austin, TX
- *Matching Environmental and Economic Performance of CCUS systems: an approach to a decision-making methodology for sustainable development*, (presentation), Carbon Management Technology Conference (CMTC) 2017 Conference, Houston TX., May, 2017
- *Carbon balance of CO<sub>2</sub>-EOR for NCNO classification (poster)*: presented to 4th Annual Bureau Research Symposium, Bureau of Economic Geology, Austin, Tex., September 2016.
- *Analysis of CO<sub>2</sub>-EOR operations: An approach to its main variables and uncertainty parameters*, (presentation) to GCCC Staff Seminars, Gulf Coast Carbon Center, Bureau of Economic Geology, Austin, Tex., May 2016.
- *A study of comparative advantages of irrigated rice production in Venezuela*, presented at Latin American Economic Network of Rice Production Forum: Methodological Design, Cases and Prospects for the Region, Porto Alegre, Brazil, November 1999.
- *Conceptual implications of the theory of marginal cost applied to the electricity sector: presented to Venezuelan Association of Engineers and Venezuelan Association of Electrical and Mechanical Engineers*, (presentation) at Congress of Electricity Generation and Distribution, Porlamar, Nueva Esparta state, Venezuela, November 1988.
- *Study of the national market for the industrial subsector of oil valves*, (presented) to School of Economics, Universidad Central de Venezuela, presented at Student Research Conference: Industrial Projects, Caracas, Venezuela, May 1985.

## **Funding Research Support**

Principal Investigator (PI): General Electric (Verona) Houston Area Direct Air Capture (DAC) Hub: DOE-Awarded project to develop one of seven national DAC hubs in a rural area between Houston and Beaumont TX. UT/BEB/GCCC is participating as a sub-recipient in the development and implementation of the Community Benefits Plan which is constituent of four sub-plans: 1) Community Engagement, 2) Workforce development, 3) Diversity equality, Inclusion, and Adaptability, and 4) Justice40 (determining community benefits and local economic development). DOE's national DAC Hub Program is a critical component of the Carbon Management program and the federal administration's Climate Change Plan. (\$370.000)

UT/BEB/GCCC's Principal Investigator (PI): Regional Initiative for Technical Assistance Partnerships (RITAP) at the Permian Basin (DOE-FOA-03914, submitted proposal). The proposal is a collaboration

between Texas Tech University, University of Texas at Permian Basin, Southwest University, New Mexico University, and the University of Texas at Austin. UT/BEB/GCCC is participating as a sub-recipient in the development of 1) a dedicated ArcGIS mapping tool to inform communities, stakeholders, and regulators of technical and non-technical aspects of regional CCUS developments, 2) a Carbon Management Educational Program for Permian Basin's K-12 and higher School Teachers and 3) collaboration in the Community Benefits Plan. The information and data generated will support project developers, state policymakers, regulators, and investors to address challenges, create conditions for CCS project success, and lower risks and barriers in this area of multi-uses of the subsurface (hydrocarbon production, wastewater disposal, hydrogen storage, geothermal energy development). As well as realistic information about risks from trusted sources informed by our decades of research in the area. (\$347.000)

Program Leader: Conceptual and Methodological Proposal for the Implementation of a Comprehensive Solid Waste Management Program, the Urban Development Office of the Acosta Municipality, Monagas state, Venezuela (August 2014-May 2015).

Chief Coordinator: Proposal for an Energy Management Plan for Public Universities in Venezuela (Competitively selected by the Dean of Research, Universidad Nacional Experimental Rómulo Gallegos [UNERG]), The Universidad Nacional Experimental Rómulo Gallegos (UNERG). San Juan de los Morros, Guárico state, Venezuela (March 2013-May 2015).

## Publications

### Peer review

- Nuñez-López, V., Gil-Egui, R., Hosseini, S. A.: *Environmental and Operational Performance of CO<sub>2</sub>-EOR as a CCUS Technology: A Cranfield Example with Dynamic LCA Considerations*. Energies Journal's special issue, I.D. energies-412775. December 2019, 27p. (cited on the IPCC 6<sup>th</sup> report on Climate Change Mitigation Options, March 2022-Working Group III)

### Non-peer review

- J. Pett-Ridge, M. Ashton, S. E. Baker, B. Basso, M. Bradford, H. Breunig, A. Bump, I. Busch, E. Rodriguez Calzado, J.W. Chirigotis, M. Ducey, J. Dumortier, N. C. Ellebracht, R. Gil Egui, A. Fowler, K. Georgiou, H. Goldstein, D. Hayes, C. Hellwinckel, S. Hovorka, et al. (2023), *Roads to Removal: Options for Carbon Dioxide Removal in the United States*, Lawrence Livermore National Laboratory, LLNL-TR-852901, 496p
- J. Pett-Ridge, M. Ashton, S. E. Baker, B. Basso, M. Bradford, H. Breunig, A. Bump, I. Busch, E. Rodriguez Calzado, J.W. Chirigotis, M. Ducey, J. Dumortier, N. C. Ellebracht, R. Gil Egui, A. Fowler, K. Georgiou, H. Goldstein, D. Hayes, C. Hellwinckel, S. Hovorka, E. et al (2022), *Initial Considerations for Large-Scale Carbon Removal in the United States: Description of Methods, Feedstocks, and Constraints*, Lawrence Livermore National Laboratory, LLNL-TR-832805-DRAFT, 50p
- Gil-Egui, R., Nuñez-López, V., (2018), *A Sustainable Approach to Decision-Making in CCUS Systems*. 14<sup>th</sup> International Energy Agency, GHGT-14 conference, Melbourne, Australia, October 2018.
- Nuñez-López, V., Gil-Egui, R. (2018). *CO<sub>2</sub>-EOR and GCS co-optimization with carbon lifecycle analysis considerations*, 14th International Conference on Greenhouse Gas Control Technologies. Melburn, Australia, October 2018.
- Nuñez-López, V., Gil-Egui, R., Gonzalez, A, Hosseini, S. A., Hovorka Carbon. (2018). *Life Cycle Analysis of CO<sub>2</sub> -EOR for Net Carbon Negative Oil (NCNO) Classification 2018* NETL Mastering the Subsurface through Technology Innovation, Partnerships and Collaboration: Carbon Storage and Oil and Natural Gas Technologies review meeting. Pittsburgh August 2018

## Conference Proceedings Volumes

- Dhandha, P., Gil-Egui, R.2, Bakhshian S., Dashtian H., *The Emotional Landscape of Carbon Capture and Sequestration: Insights from Social Media and Public Forums*. (poster) AGU 2024, Washington DC. December 2024

- Gil-Egui, R., Ubillus, R., and Hovorka, S. (2023), *Gulf Coast CO2 Storage Window Societal Constraints* DOE-2023 FECM / NETL Carbon Management Research Project Review Meeting. Pittsburgh, PA. August, 2023
- Gil-Egui, R., Hovorka, S., (2022). Environmental Justice Considerations for CCS Projects, NETL's Carbon Management Research Project Review Meeting, Pittsburgh, PA August 2022
- Chen, Y., Lee, N., Gil-Egui, R. (2020). *True cost to market for Blue Hydrogen for Europe vs North America (abstract accepted)*. The 43rd IAEE International Conference. the Palais des Congrès Paris, France, at 21 – 24 June 2020
- Chen, Y., Lee, N., Gil-Egui, R. (2020). *Scenario planning of hydrogen integration with Gas infrastructure system for Europe* (abstract accepted). The 43rd IAEE International Conference. the Palais des Congrès Paris, France, at 21 – 24 June 2020
- Chen, Y., Lee, N., Gil-Egui, R. (2020). *Become a serial winner, how to replicate H-2 vision in Netherlands elsewhere in the world?* (abstract accepted). The 43rd IAEE International Conference. the Palais des Congrès Paris, France, at 21 – 24 June 2020
- Gil-Egui, R., Nuñez-López, V., (2019). *The sustainability of CCUS technologies: CO2-EOR case of study (oral presentation)*. World Congress on Oil and Gas, Valencia, Spain, October, 2019
- Gil-Egui, R., Nuñez-López, V., (2018), *A Sustainable Approach to Decision-Making in CCUS Systems*. 14<sup>th</sup> International Energy Agency, GHGT-14 conference, Melbourne, Australia, October 2018.
- Nuñez-López, V., Gil-Egui, R. *CO2-EOR and GCS co-optimization with carbon lifecycle analysis considerations*, 14th International Conference on Greenhouse Gas Control Technologies, , Melburn, Australia, October 2018.
- Nuñez-López, V., Gil-Egui, R., Gonzalez, A, Hosseini, S. A., and Hovorka Carbon Life Cycle Analysis of CO2 -EOR for Net Carbon Negative Oil (NCNO) Classification 2018 NETL Mastering the Subsurface through Technology Innovation, Partnerships and Collaboration: Carbon Storage and Oil and Natural Gas Technologies review meeting. Pittsburgh August 2018
- Gil-Egui, R., Nuñez-López, V., 2017, *Matching Environmental and Economic Performance of CCUS systems: an approach to a decision-making methodology for sustainable development*, Carbon Management Technology Conference (CMTC) 2017 Conference, Houston TX, 2017.
- Nuñez-López, V., Gil-Egui, R., Gonzalez, A, Hosseini, S. A., and Hovorka, S. D., 2016, *Carbon balance of CO2-EOR for NCNO classification*, 13th International Conference on Greenhouse Gas Control Technologies, GHGT-1314-18, Lausanne, Switzerland.

## Contract Reports

- Ukar, E., Dr. Bhattacharya, S., Horne, E., Smye, K., Childress, T., Fall, A., Gil-Egui, R., Kelemen, P., Tielke, J., et al, (2025) Subsurface mafic and ultramafic rock mapping and analysis for carbon mineralization in the US (SubMAP-CO2) DE-FE0032249. Prepared for the Department of Energy. December, 2025.
- Gil-Egui, R, Bakhshian, S., and Ringe, D. (2023), Final Report: Conceptual Life Cycle Analysis (LCA) of Oyster Bayou CO2-EOR Operations (Denbury, LLC.). Independent Consulting service requested by Mitsui E&P USA LLC (MEPUSA). Submitted to Japan's Organization for Metals and Energy Security (JOGMEC). March 2023.
- Hovorka, S., Gil-Egui, R., 2022, Engineering Scale Testing from Coal and Natural Gas-based Flue Gas and Initial Engineering Design for Industrial Sources. Identifying a plausible set of transport and storage options for this facility, targeting regional storage resources in the Mt Simon Formation. Dastur-Burns Harbor, Arcelor Mittal, and Dastur International, Contract report, Inc. OSP #: 202002800.
- Nicot, J.-P., Hosseini, S. A., Dashtian, H., Kamali, A., Romanak, K. D., Darvari, R., and Gil-Egui, R., 2019, *Headspace gas monitoring to infer dissolved gas concentrations at the Glenhaven Site (QLD)*: prepared for Australian National Low Emissions Coal Research & Development (ANLEC R&D), Canberra, Australia, 94 p.
- Nuñez-López, Vanessa; Gil-Egui, Ramon; Hosseininoosheri, Pooneh; Hovorka, Susan D.; Lake, Larry W. (2019). FINAL REPORT: *Carbon Life Cycle Analysis of CO2-EOR for Net Carbon*

*Negative Oil (NCNO) Classification*. Work performed under agreement DE-FE0024433, submitted to U.S. Department of Energy. National Energy Technology Laboratory, Mary Sullivan – Federal Project Manager (412) 386-7484 (mary.sullivan@netl.doe.gov), April 2019.

- Gil-Egui, R, Hovorka, S., Tutton, P., Prentice, S., Fifariz, R., Omar, R., Treviño, R., Meckel, T. (2018), *Linking CO<sub>2</sub> capture at source industries to storage in sediments in the nearshore Gulf of Mexico – case study of the CO<sub>2</sub> and energy ecosystem of the upper Texas coast*, CarbonSAFE Phase I: *Integrated CCS Pre-Feasibility – Northwest Gulf of Mexico*, FINAL RESEARCH PERFORMANCE PROGRESS REPORT, DE-FE 0029487. Austin, TX. 68 p.
- Nuñez-Lopez, V., Hosseini S. and, Gil-Egui, R. A. 2017 Interim report to DOE: *Performance Model for CO<sub>2</sub> Storage System. As part of the project: Carbon Life Cycle Analysis of CO<sub>2</sub>-EOR for Net Carbon Negative Oil (NCNO) Classification*, July 2017, Austin, TX, 60 p
- Nuñez-Lopez, V., Hosseini S. and, Gil-Egui, R. A. 2017, Milestone Report: *Reservoir Mass Accounting Methodology. As part of the project: Carbon Life Cycle Analysis of CO<sub>2</sub>-EOR for Net Carbon Negative Oil (NCNO) Classification*, December 2016, Austin, TX, 18 p
- Nuñez-López, V., Gil-Egui, R., and Gonzalez, A, 2015, *Identification of Critical Energy Intensive Components and Project Framework*: Interim Report prepared for DOE-NETL, under contract no. DE-FE0024433, 12 p.

### **Published Reports**

- Mendez-Arocha, A, and Gil-Egui, R., 1990, Marginal costs in the Venezuelan electric power sector: A methodological framework proposed by the World Bank: 256 p.

### **Published Abstracts**

- Gil-Egui, R., Nuñez-López, V., (2017), Matching Environmental and Economic Performance of CCUS systems: an approach to a decision-making methodology for sustainable development, Carbon Management Technology Conference (CMTC) 2017 Conference, Houston TX., May, 2017
- Nuñez-López, V., Gil-Egui, R., Gonzalez, A., and Hovorka, S. D., 2016, Carbon balance of CO<sub>2</sub>-EOR for NCNO classification (abs.): 13th International Conference on Greenhouse Gas Control Technologies, Lausanne, Switzerland.
- Nuñez-López, V., Gil-Egui, R., and Hosseini, S. A., 2015, Validating CO<sub>2</sub>-EOR as a CCUS technology (abs.): Carbon Management Technology Conference: Sustainable and Economical CCUS Options, Sugar Land, TX.