# GoMCarb & SECARB Joint Partnership Meeting for Offshore Carbon Storage

The first two DOE-funded carbon capture and storage (CCS) partnerships to research offshore geological carbon storage meet to discuss progress and future plans.

Location: Setzer Center at Lamar University in Beaumont, Texas

### DAY 1: MONDAY, FEB. 11

On Monday, 23 speakers from the Gulf of Mexico Partnership for Offshore Storage (GoMCarb) and the SECARB Offshore partnerships gave project updates on global and national projects that store carbon dioxide (CO<sub>2</sub>) offshore.

Download and view all presentation slides from the day 1 presentations here.

### International panel

Several international CCS researchers and project managers attended, including <u>Tim Dixon</u> of IEAGHG who set the stage by telling of the importance of GoMCarb in the international deployment of carbon capture and offshore storage. While only four countries are currently actively storing CO<sub>2</sub> offshore (Norway, Netherlands, Brazil, and Japan), projects in these countries have demonstrated viability of storage in areas where offshore is preferred over onshore sites. K12-B in the Netherlands was the first site in the world where CO<sub>2</sub> is injected into the same reservoir from which it originated. This project resides on a still-productive natural gas platform in the North Sea and has operated for 12 years without incident. In the Lula Oil Fields of Brazil, a CO<sub>2</sub>-EOR and storage operation takes place as part of a floating production, storage, and offloading (FPSO) offshore facility. Seven megatons have been injected as of December 2017. The CarbonNet project in Australia is investigating the feasibility of a commercial-scale, multi-user CCS network.

<u>Philip Ringrose</u> conference-called in to give an overview of Norway's three big offshore CCS projects, Sleipner, Snøhvit, and Northern Lights, which have stored more than 22 megatons of  $CO_2$  in 22 years of operation. Looking forward, scientists and strategists are setting their sights on a regional hub that could be a catalyst for CCS and  $CO_2$  value chains in Europe.

<u>Jiro Tanaka</u> and <u>Ziqiu Xue</u> reviewed the progress of CO<sub>2</sub> injection at the Tomakomai CCS full-chain project in a busy port area of northern Japan. The Japanese project injects 200,000 tonnes per year of CO2 captured from a nearby hydrogen production unit at an oil refinery. After 2.5 years of operation, the region experienced a non-project-related earthquake with a magnitude of 6.7 and an epicenter depth of 37 kilometers. After a two-month pause, the CCS project resumed injecting after confirmation that CO<sub>2</sub> containment was not affected. The researchers presented data and results from their offshore monitoring before, during, and after the earthquake. Short summary: there was no leakage from the reservoir or damage to the facilities.

Andrew Jupiter, former permanent secretary of the Ministry of Energy and Energy Industries for Trinidad and Tobago and now distinguished fellow at the University of the West Indies, discussed the potential of CCS to sustain the country of Trinidad and Tobago while simultaneously decreasing greenhouse gas emissions that put the small, natural-disaster-prone Caribbean island nation at risk. Andrew stated that, after exploring several mitigation options, CCS stands to be their best option. More than 80% of the country's emissions originate from the petrochemical and power sectors (56% and 27%, respectively.) Within the larger petrochemical sector, more than 80% of greenhouse gases originate from ammonia and methanol production. The best CO<sub>2</sub> sources to target (largest and most highly concentrated) are from ammonia synthesis (4 million metric tonnes annually) and process emissions from Atlantic (1 million metric tonnes per annum). The twin island republic is addressing this concern through innovative collaborations with government energy institutions toward sustainable development of known oil reserves using their Carbon Dioxide Enhanced Oil Recovery Road Map (CERM).

### Seeking first projects in the U.S. offshore

<u>Susan Hovorka</u>, senior research scientist at the Gulf Coast Carbon Center (GCCC), presented "Seeking First Projects in the U.S. Offshore" to provide context for the GoMCarb partnership. Essentially, deep saline geologic storage beneath near-shore waters contributes a significant amount of storage capacity to the U.S. while simultaneously reducing multiple risks associated with onshore storage. This is not only the case for national emission offsets. Rather, it's a globally underused resource that's available offshore of every continent, especially where a continental margin sedimentary wedge is thick and near offshore oil and gas industry infrastructure can be re-purposed for CO<sub>2</sub> storage, saving time, energy, and most importantly, money and environmental impact.

Hovorka posed the question, "Are we ready for investment in the U.S.?", while pulling up a slide showing the various projects, ranging from planning to complete deployment in Europe, Japan, China, and Australia.

### Extensive storage resource

The GoMCarb partnership focuses on the Gulf Coast for many reasons. The high concentration of refinery- and chemical- and electric-power plant sources along the coast, particularly from just south of Corpus Christi through East Texas to Louisiana, have high economic and environmental potential. One way to move this forward, is to invest in future CO<sub>2</sub> pipelines for CO<sub>2</sub>-EOR, providing an economic incentive to store a greenhouse gas, offsetting global emissions.

Although a pilot storage site has yet to be initiated in U.S. waters, there has been substantial progress in feasibility studies, many of which originate from GCCC-led research. Studies include a SECARB study (2008) overall regional capacity assessment; characterization studies 1) Texas Mega-Transect, 2) (SOSRA [link] and 3) TXLA GoM [link]) that focus on the capacity and quality of CO<sub>2</sub>

storage in specific regions. Additionally, two source-sink matching studies optimize (highest volume for lowest cost) feasible pipeline- and transport-routes between industry centers to the closest, capable storage site (CarbonSAFE Phase [link]); in addition to studies in the eastern U.S. and West Coast. The next step will be to demonstrate how and where the best pilot storage site should be in the Gulf of Mexico.

The high density of high concentration source industries and their demonstrated and predicted investment and expansions along the Gulf Coast demonstrate the immediate need for this technology implementation.

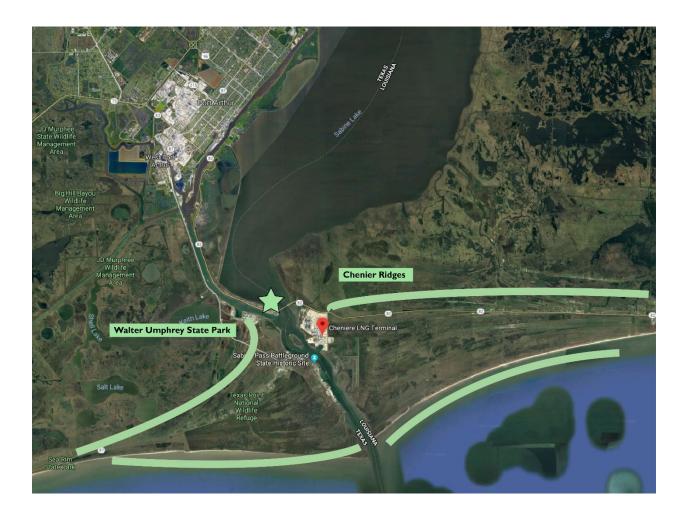
Thick, areally-extensive permeable sandstones, high-quality and proven ductile seals, near-shore location close to sources, and state single-ownership of offshore districts ease the way forward.

### Staging a project for commercial development

<u>Ramon Trevino</u> (GCCC) provided an overview of the GoMCarb Partnership's scope of work, partners, available datasets, previous work and current research.

Other GoMCarb research and outreach members gave short progress updates. <u>Reynaldy Fifariz</u> (GCCC) showed current detailed analyses of the analog High Island focus area, a geologicallyrepresentative reservoir within the GoM region of focus. <u>Marcie Purkey Phillips</u> (UT GBDS – Gulf Basin Depositional Synthesis) presented the integrated approach being utilized for the Chandeleur Sound focus area (i.e., biostratigraphy, wireline wells logs interpretation, seismic interpretation). <u>Hilary Olson</u> (UT PGE – Petroleum & Geosystems Engineering) discussed the project's stakeholder communication and public outreach plan. <u>Darshan Sachde</u> of Trimeric reviewed CO<sub>2</sub> transport infrastructure and scenario optimization from source to the wellhead. <u>Quanlin Zhou</u> (LBNL – Lawrence Berkeley National Lab) presented CO<sub>2</sub> storage modeling and flow migration in heterogeneous saline formations. <u>Curt Oldenburg</u> (LBNL) discussed (via conference call) simulations of onshore and offshore CO<sub>2</sub> well blowouts. <u>Jonathan Ajo-Franklin</u> (LBNL) presented an overview of integrated seismic MVA, including DAS (distributed acoustic sensing) and persistent sources. <u>Joshua</u> <u>White</u> (LLNL – Lawrence Livermore National Laboratory) reviewed geomechanical risk assessment, including rock deformation fault responses to injection.

## DAY 2: TUESDAY, FEB. 12



On the Tuesday morning field trip, the group stopped at Walter Umphry State Park at the southern end of Sabine Lake and across a bridge from the Cheniere LNG (liquefied natural gas) facility in Cameron Parish, Louisiana. The discussion centered on modern geologic depositional systems as analogs for subsurface reservoirs that comprise the proposed geological storage capacity of the Gulf of Mexico. The specific topic was the Chenier Plain in southwest Louisiana. The root of the word, Chenier—chêne—means "oak" in French and *chenier* means "place of the oaks" because oaks prefer growing on the sandy beach ridges of the plain as opposed to the intervening mudflats.

The paleo-beach ridges of the Chenier Plain resulted from progressive deltaic sedimentation and reworking of deltaic sediments by longshore currents over the past 3,000 years in the Sabine Pass area and points east.

When we arrived at Walter Umphry State Park in Jefferson Country, Robert Finley, who retired from the Illinois State Geological Survey and is currently an advisory committee member of the GoMCarb partnership, presented the story of shoreline and fluvial-deltaic geology with Dallas Dunlap and Ramon Trevino offering support. His talk titled, "A Brief Look at the Role of Gulf Coast Geology in Effective Carbon Dioxide Storage: Analogs and Insights," explored the Sabine Delta's and the

migrating Sabine Pass Channel's role in accumulating ridges of sand that result in the landscape "striping" visible in aerial photos (strandplain deposits) and the inspiration behind the Cheniere LNG facility logo seen in the photo below.

Finley explained how this regional geology and its depositional heterogeneity may affect reservoir capacity in a CO<sub>2</sub> storage project. The reservoirs in this region that would be targeted are lower- to middle-Miocene age fluvial deltaic and shore-parallel sediments which form a 1,500-foot thick sand package deposited 16 to 22 million years ago. The target sand package is overlain by a major transgressive unit, the *Amphistegina B* shale, which would form an areally extensive, regional seal for stored CO<sub>2</sub>. Geologists assessing any near-offshore Gulf of Mexico CO<sub>2</sub> storage project will need to consider the areal and vertical extent of individual sandstones that form channel deposits or form ridges, such as found in the modern Chenier Plain. Changes in sandstone morphology and sediment type can result in flow barriers or baffles which in turn can impact injection pressure and storage capacity.

The three posters presented during the Umphry State park stop provided a great overview of the role of depositional systems in macro-reservoir characteristics:

- 1. Injectivity: The liquid-like dense-phase CO<sub>2</sub> must flow into the storage reservoir at safe and economic pressures. Studies range in scale from the pore spaces to larger barriers to flow like faults and facies changes.
- 2. Capacity: Injection wells must access reservoir volumes with enough pore space and flow capacity to warrant pipelines, platforms, and wells. Mapping how reservoirs were deposited and their burial history helps determine the boundaries of continuous, porous sand volumes.
- 3. Containment: We want the CO<sub>2</sub> to stay where we inject it so we know it is safely isolated from the environment. We map what is above and laterally adjacent to the reservoir looking for widespread mud layers that serve as barriers to the flow of CO<sub>2</sub> in the pore space; we assess faults to determine if they are Miocene traps for oil and natural gas, which also suggests they will be barriers to CO<sub>2</sub>.

### Cheniere facility tour

Next stop on the Tuesday morning field trip was to Cheniere's <u>Sabine Pass liquefaction project</u>, or SPL project, nearby. Cheniere purchases natural gas from multiple sources, processes the natural gas into liquid natural gas (LNG) and offers it at their facility port for customer pick up or transports it to regasification facilities around the world.

Cheniere Energy states that their company is the leading producer of LNG in the U.S. and is expected to be the top five producer globally by 2020. More than 500 cumulative cargoes have been shipped to 30 countries and regions worldwide.

After viewing a presentation on the company, their facilities and the science behind their process while eating lunch, a Cheniere representative answered a variety of questions from our group.

Afterwards, another Cheniere representative gave us a tour of the facilities by bus. We viewed their gas-fired turbines, their supercooled refrigerated tanks for their step refrigeration process to liquefy the gas that includes propylene, ethylene, and methane refrigerants. Six liquefaction units (or "trains" as they're known in the industry) are on the property. The land they acquired on the Louisiana coast allows room for growth and capacity expansion.

Just one of the several 183-feet-tall storage tanks on the 1,000-acre-plus property along Sabine Pass Channel holds approximately 27 million metric tons or about 3.4 billion cubic feet equivalent (BCFE) of LNG. One of these tanks is the equivalent amount that one ship cargo will transport from their terminal. It takes about 20-30 hours to fill a ship, which happens about six times per week, varying with the outside temperature (cooler temperatures produce more.)

With the 45Q federal tax credit now being used, one of the representatives suggested that their strategy personnel may review if carbon storage may be a future option for their company.

### Afternoon working group sessions

The GoMCarb and SECARB Offshore Partnerships met separately to discuss and plan their research plans for the coming year. The GoMCarb research and outreach group shared informal updates with open discussions on their progress for each of the project tasks: resource characterization; risk assessment, simulation, and modeling; monitoring, verification, and assessment; infrastructure, operations, and permitting; and outreach. Please reach out to one of the principal investigators for any questions regarding each task's discussions. You can view an overview of each task on the GoMCarb project webpage.

Thank you to Tracy Benson at Lamar University for organizing the meeting logistics in collaboration with GCCC and being a generous local host. We look forward to seeing everyone at the next partnership meeting!

# Attendees

First Name	Last Name	Company		
Jonathan	Ajo-Franklin	Lawrence Berkeley National Laboratory		
Juan	Anguiano	BP		
Sahar	Bakhshian	UT, BEG, GCCC		
Tracy	Benson	Lamar University		
Patti	Berry	Southern States Energy Board		
Sean	Brennan	U.S. Geological Survey		
Daniel	Chen	Lamar University		
Darin	Damiani	DOE Office of Fossil Energy		
Tim	Dixon	IEAGHG		
Andrew	Duguid	Battelle		
Dallas	Dunlap	UT, BEG, GCCC		
Ye	Feng	UT, BEG, GCCC		
Reynaldy	Fifariz	UT, BEG, GCCC		
Robert	Finley	FinleyGeology		
Ramon	Gil Egui	UT, BEG, GCCC		
Ellen	Gilliland	Virginia Tech		
Michael	Godec	Advanced Resources International, Inc.		
Tim	Grant	U.S. DOE/NETL		
Kimberly	Gray	Southern States Energy Board		
Herve	Gross	TOTAL		
Neeraj	Gupta	Battelle		
Brian	Hill	Crescent Resource Innovation		
Denise	Hills	Geological Survey of Alabama		
Seyyed	Hosseini	UT, BEG, GCCC		
Susan	Hovorka	UT, BEG, GCCC		
Stephanie	Ingle	Fugro		
Andrew	Jupiter	University of the West Indies		
Camelia	Knapp	Oklahoma State University		
George	Koperna	Advanced Resources International, Inc.		
Joe	Lundeen	Trimeric Corporation		
Adhish	Madugula	Lamar University		
Antoine	Mazuyer	Stanford/Total		
Emily	Moskal	UT, BEG, GCCC		
Vanessa	Nunez Lopez	UT, BEG, GCCC		
Hans Petter	Oevrevik	Aker Solutions		
Hilary	Olson	University of Texas at Austin		
Ingvild	Ombudstvedt	IOM Law		
Ruth	Pannill	Southern States Energy Board		
Jack	Pashin	Oklahoma State University		

Joseph	Patterson	ExxonMobil	
Karishma	Piler	Lamar University	
Marcie	Purkey Phillips	University of Texas at Austin Institute for Geophysics	
Donald	Remson	U.S. DOE/NETL	
David	Riestenberg	Advanced Resources International, Inc	
Hazel	Robertson	Pale Blue Dot Energy	
Traci	Rodosta	U.S. DOE/NETL	
Katherine	Romanak	UT, BEG, GCCC	
Darshan	Sachde	Trimeric Corporation	
Mary	Sullivan	U.S. DOE/NETL	
Jiro	Tanaka	Japan CCS Co., Ltd.	
Ramon	Trevino	UT, BEG, GCCC	
Chris	Walker	BP	
Joshua	White	Lawrence Livermore National Laboratory	
Ziqiu	Xue	Research Institute of Innovative Technology for the Earth (RITE)	
Mehdi	Zeidouni	Louisiana State University	
Quanlin	Zhou	Lawrence Berkeley National Laboratory	
Muhammad	Zulqarnain	Louisiana State University	
Nate	Way	ExxonMobil	

# Attendees via web

*	Lucy	Atkinson	University of Texas at Austin
*	Lydia	Cumming	Battelle
*	Michael	DeAngelo	UT, BEG, GCCC
*	Jun	Kita	Marine Ecology Research Institute
*	John	Koster	Geological Survey of Alabama
*	Curtis	Oldenburg	Lawrence Berkeley National Laboratory
*	Marcella	Redden	Geological Survey of Alabama
*	Melissa	Batum	BOEM
*	Philip	Ringrose	Equinor

# **Itinerary**

All locations at the Setzer Center except the Sunday reception and Tuesday morning field trip

	7 p.m.	Welcome reception, complimentary hors d'oeuvres and bar in the Fountain View area at the MCM Eleganté Hotel		
Monday	, Feb. 11			
	9:00 a.m.	Welcome; value of CCS and offshore storage to local stakeholders		
	10:30 a.m.	Global progress on developing commercial offshore storage		
	12:30 p.m.	Overview of GoMCarb progress: BEG, UTIG, UT Advertising, Trimeric, LBNL, and LLNL		
	2:45 p.m.	Overview of SECARB Offshore progress: ARI, SSEB, OSU, LSU, Aker Solutions, Battelle		
	5:00 p.m.	Meeting adjourns		
<b>luesday</b>	/, Feb. 12			
	8:30 a.m.	Meet at C-1 lot outside of the Setzer Center at 8:30. We'll explore "A Brief Look at the Role of Gulf Coast Geology in Effective CO2 Storage: Analogs and Insights"; then visit the Cheniere LNG facility, boxed lunches included. Wear closed-toed shoes.		
	1:40 p.m.	Two tracks (GoMCarb and SECARB Offshore) of back-to-back 30-minute working group updates and discussion		
	5:00 p.m.	Meeting adjourns		

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# Agenda for Speakers (Detailed)

All locations at the Setzer Center except the Sunday reception and Tuesday morning field trip

### Sunday, Feb. 10

7PM Welcome reception in the Fountain View area at the MCM Eleganté Hotel

# Monday, Feb. 11

9-9:15AM Welcome, introductions and safety briefing (Tracy Benson and Susan Hovorka) 9:15-10:30 Panel 1 Chair: Tracy Benson

9:15-9:30: Russell Buss, Introduction to the business environment in the Beaumont/Port Arthur area

9:30-9:45: Dave Riestenberg, Outcomes of the ECO2S project

9:45-10:00: Susan Hovorka, Preparing for first mover CCS projects in the Gulf Coast area 10:15-10:30: Jack Pashin, Outcomes of the SOSRA project

10:30-11:30 Panel 2 Chair: Tim Dixon

10: 30-10:35: Tim Dixon from IEAGHG, Global context and review of global offshore CCS 10:35-10:50: Philip Ringrose from Equinor (*by Webex*), Sleipner, Snovit & Northern Lights 10:50-11:00: Jiro Tanaka from JCCS, Tomakomai

11:00-11:10: Ziqiu Xue from RITE, Develop. & Challenges for Offshore CO2 Storage in Japan

11:10-11:20: Andrew Jupiter, Trinidad and Tobago interest in offshore CO2-EOR and storage 11:20-11:30: Questions

- 11:30-12:30: Lunch and welcome from Lamar Univ. president Kenneth Evans
- 12:30-2:20: Overview of GoMCarb progress, Chair: Susan Hovorka
  - 12:30-1:15 BEG progress with Ramon Trevino & Reynaldy Fifariz
  - 1:15-1:30: UTIG Gulf Basins Depositional Synthesis with Marcie Purkey Phillips

1:30-1:40: UT Advertising with Hilary Olson

1:40-1:55 Trimeric infrastructure with Darshan Sachde & Joe Lundeen

1:55-2:15 LBNL with Quanlin Zhou, Jonathan Ajo-Franklin & Curt Oldenburg (*Curt by Webex*) 2:15-2:30 LLNL progress with Josh White

2:30-2:45 Break

2:45-4:45 Overview of SECARB Offshore progress, Chair: Patti Berry

2:45 – 3:15pm: "SECARB Offshore Gulf of Mexico Project Overview & Status" Mike Godec (ARI) & Brian Hill (SSEB)

3:15 – 3:30pm: "Temporal and Spatial Response to Natural Perturbations of a Cold Seep Hydrate System: Woolsey Mound, Gulf of Mexico" Camelia Knapp (OSU)

3:30 – 4:00pm Mehdi Zeidouni and Muhammad Zulgarnain (LSU)

4:00 – 4:30pm Hans Petter Øvrevik (Aker Solutions)

4:30 – 4:45: Andrew Duguid (Battelle)

4:45-5:00 Day 1 wrap-up



Setzer Center, Lamar University 4405 Jimmy Simmons Blvd Beaumont, TX 77705

MCM Eleganté Hotel 2355 I-10 Beaumont, TX 77705

GoMCarb & SECARB Offshore Joint Partnership Meeting

# Tuesday, Feb. 12

8:30-1:35: Geology and LNG facility field trip

8:30-9:40 Geology trip

8:30 Meet in the C-1 parking lot near buses outside of the Setzer Center on Lamar Campus. Tracy and Rob in bus 1 with bus 2 and Ramon

9:05 Arrive at Walter Umphrey Park

9:10-9:35 Get out of buses and start talk with questions at end

9:35-9:40 Load buses and leave park

9:55-10:00: Arrive at Cheniere LNG facility: Stop at front gate, then drive and turn into Gate 4 to the brick building with flags in front. Meet Amy Miller (337-274-3336.)

10:00-1:00: Cheniere field trip, Must have filled out prior form, closed toed shoes & no heels; don't take photos Arrival / Check in procedures; Welcome and Video; Facility Tour; Lunch with discussion;

1:00-1:40: Departure back to Setzer Center

1:40-4:45: Parallel working sessions in break out rooms in Setzer Center,

no Powerpoints, handouts OK, informal group discussions of status, next steps, data needs, shortintermediate term targets (e.g. research task or publication). Emphasis on collaborative efforts.

Main room GoMCarb

Room 2 SECARB Offshore

 2 -2:30
 Task 2 (Curt, Webex)

 2:30 -3:00
 Task 3 (Curt, Webex)

 3:00-3:15
 Break

 3:15 - 3:45
 Task 4

 3:45 -4:15
 Task 5

 4:15-4:45
 Task 6

4:45-5:00 Meeting adjourns



**Agenda for Speakers (Detailed)** 



# Dinner

We will provide coffee, tea, water and light snack throughout both days as well as lunch. Everyone will be on their own for dinner; however, here's a list of local popular dining venues.

### At the hotel:

The MCM Eleganté hotel where we will be staying has three restaurants: a Cajun- and Texasinspired cuisine "down-home cooking" at Hemingway's Café on the lobby level, Itza Pizza (can be delivered to your room) next door, and Tradewinds Tavern with a full menu by the pool.

There are several other restaurants, including **local favorites close to the hotel:** 

Carrabba's Italian Grill 1550 I-10, Beaumont 77707

Lupe Tortilla 2050 I-10, Beaumont 77707

Floyd's Cajun Seafood & Texas Steakhouse 2290 I-10, Beaumont 77707

Saltgrass Steak House 325 I-10, Beaumont 77707

### A little further from the hotel:

Pappadeaux Seafood Kitchen 4040 I-10, Beaumont 77705

### And in downtown Beaumont:

Suga's Deep South Cuisine & Jazz Bar 461 Bowie St., Beaumont 77701

New York Pizza & Pasta 790 Neches St., Beaumont 77701



Additional information MCM Eleganté hotel mainline: 409-842-3600 GoMCarb & SECARB Offshore Joint Partnership Meeting

## Directions MCM Elegante Hotel to the Setzer Center

**Depart:** MCM Elegante Hotel 2355 I-10, Beaumont, TX 77705

Head north on Executive Blvd toward Corporate Dr 233 ft

Continue onto Corporate Dr 0.2 mi

Turn right onto Washington Blvd 3.1 mi

Slight right toward S M L King Jr Pkwy 161 ft

Turn right onto S M L King Jr Pkwy 0.8 mi

Turn right onto Adams St 249 ft

Continue straight onto Jimmy Simmons Blvd 0.4 mi

Arrive: 4400 Jimmy Simmons Blvd Beaumont, TX 77705

# Directions from the Setzer Center to the MCM Elegante Hotel

**Depart:** 4400 Jimmy Simmons Blvd Beaumont, TX 77705

Get on US-287 N/US-69 N/US-96 N 4 min (1.4 mi)

Head south on Jimmy Simmons Blvd toward E Virginia Ave 0.9 mi

Turn right onto E Cardinal Dr 0.4 mi

Use the left lane to merge onto US-287 N/US-69 N/ US-96 N via the ramp to I-10 0.1 mi

Follow US-287 N/US-69 N/US-96 N to Interstate 10 Access Rd. Take the exit toward Washington Blvd from US-287 N/US-69 N/US-96 N 4 min (3.8 mi)

Merge onto US-287 N/US-69 N/US-96 N 3.7 mi

Take the exit toward Washington Blvd 0.2 mi

Continue on Interstate 10 Access Rd. Drive to Executive Blvd 43 s (0.2 mi)

Merge onto Interstate 10 Access Rd 420 ft

Turn right toward Executive Blvd 351 ft

Turn right onto Executive Blvd Destination will be on the right 233 ft

Arrive: MCM Elegante Hotel 2355 I-10, Beaumont, TX 77705

