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FEATURED Q&A

Will Costa Rica's Green Hydrogen Plan Be a Success?

Kenneth Lobo (L), the director of planning and sustainability at Costa Rica's Institute of Electricity, and Kadelco CEO Faye Duncan (R) on Feb. 23 signed an agreement for the production of green hydrogen. // Photo: Australia-Latin America Business Council.

Q **Costa Rican officials last month signed a memorandum of understanding to produce green hydrogen in collaboration with Australia-based company Kadelco. Several other countries in Latin America have included green hydrogen production in their sustainability plans, but so far, the fuel has been too costly to produce to be commercially viable on a large scale. What could the investment in green hydrogen mean for the Costa Rican economy, and what is its potential to generate significant revenue for the country? What would investments in green hydrogen mean for the progress of Costa Rica's 2018-2050 National Decarbonization Plan?**

A **Cecilia Aguillón, director of the Energy Transition Initiative at the Institute of the Americas:** "Recently, former Costa Rican President and current candidate José María Figueres tweeted his support for a national green hydrogen strategy. His tweet made clear that green hydrogen could be a decisive factor in support of Costa Rica's plan to decarbonize its economy by 2050. Clearly, high volume production of green hydrogen used for export and domestic consumption could create economies of scale to help decarbonize the country's heavy duty transport sector. It would also foster trade, which would be difficult if Costa Rica only produced green hydrogen for its domestic market. Green hydrogen production could also benefit the country's economy through job creation and revenues for incentives to lower emissions in other sectors, such as agriculture and personal transportation—the latter by facilitating increased deployment of electric vehicles.

Continued on page 3

TOP NEWS

OIL & GAS

Ecuador's Oil Firm to Double Output Over Next 5 Years

Ecuadorean state-run oil company Petroecuador said it plans to double its production to an average of 800,000 barrels of oil per day equivalent (boed) over the next five years.

Page 2

OIL & GAS

Brazil's Petrobras to Raise Prices on Diesel, Gasoline

Brazilian state-run oil company Petrobras said it raised fuel prices as of March 11, an encouraging sign for investors but one that is at odds with President Jair Bolsonaro, who is up for re-election in October.

Page 3

OIL & GAS

Paraguay Will Subsidize Diesel After Protests

Paraguay will create a fund to subsidize diesel fuel after a price-spike led to protests in at least two cities by transport workers, Finance Minister Oscar Llamosas announced on Monday.

Page 2

Llamosas // File Photo: Paraguayan Government.

OIL & GAS NEWS

Petroecuador Hopes to Double Production in 5 Years

Ecuadorean state-run oil company Petroecuador hopes to double its production to 800,000 barrels of oil per day equivalent (boed) over the next five years, Reuters reported last Friday. To do this, the company plans to team up with private oil companies in a consortium arrangement to help it develop drilling sites on land and offshore, the report added. "In order to complete these projects within the planned deadlines, private capital and adequate regulations to provide legal certainty to those keen to invest in the hydrocarbon sector will be needed," Petroecuador said in a statement released last week, the wire service reported. One project Petroecuador is considering is the integration of three blocks, two of which it already operates, in order to boost their combined production to 250,000 boed over the next few years, Reuters reported. Another project involves the development of the Pungarayacu oil field, which has proven oil reserves, though its exploitation has not begun. The state oil company says the field needs private investment in order for oil extraction to take place. "It is important to point out that the approximate total investment [needed] to achieve the plan to double oil production would be $12 billion," Petroecuador said on its website. Petroecuador has also identified six new gas prospects in the Gulf of Guayaquil, Reuters reported. The oil producer is seeking to close out 2022 with an output of around 495,000 boed.

Petrobras Eyes Sale of Controlling Stake in Gas Pipeline to EIG

Brazilian state oil firm Petrobras is in talks with private equity firm EIG Energy Partners to sell a controlling interest in the natural gas pipeline that connects Bolivia with Brazil, Reuters reported Monday. Petrobras and the U.S. investment firm are negotiating a 51 percent stake in Transportadora Brasileira Gasoduto Bolivia-Brasil (TBG), which operates the Brazilian section of the pipeline, known as Gasbol, the report added. The TBG deal could fetch $500 million but could be worth as much as $1 billion depending on the negotiations, the wire service reported. The sale talks come just little over a year after EIG sold its 27.5 percent stake in the TBG pipeline to Belgian gas infrastructure firm Fluxys for an undisclosed sum, online oil industry trade magazine hydrocarbons-technology.com reported in January 2021. The 1,600-mile pipeline runs from landlocked Bolivia to southern Brazil and is the main source of natural gas for Latin America's largest economy. It generated $180 million in operating profit for Petrobras in the first nine months of 2021, according to Reuters. Gasbol can transport as much as 1.1 billion cubic feet per day of natural gas from Bolivia to consumer markets in Brazil, it added. The deal would continue the trend of the state-run oil firm selling off its natural gas assets. In 2019, Petrobras sold its domestic pipeline company TAG to a Canadian-French consortium for $8.7 billion.

Paraguay to Start Subsidizing Fuel Prices Amid Spike

Paraguay's government announced Monday it would begin subsidizing fuel prices after a price spike led to protests by transport workers, Reuters reported. The price of oil shot up when Russia invaded Ukraine in February, then jumped again when U.S. President Joe Biden and some allied countries last week announced plans to ban oil imports from Russia. The Paraguayan government has plans to create a fund that will apply to diesel, the most commonly used fuel in public transport and agricultural production, said Finance Minister Oscar Llamosas, Reuters reported. "The main aim is to reduce these fluctuations, to give some predictability to economic actors," said Llamosas, the wire service reported. The subsidy must pass through Paraguay's Congress before it can be

NEWS BRIEFS

Polaris Buying Solar Projects in Panama, Hydro Power Plant in Ecuador

Canadian renewable energy company Polaris said it was in the process of closing deals for the purchase of a hydroelectric power plant in Ecuador and two solar projects in Panama, the firm announced Thursday, Renewables Now reported. The firm will purchase a hydroelectric power plant on the Cubi River in northern Ecuador for $20.4 million. Polaris will also pay $600,000 for the two solar projects in central Panama and will invest another $10 million to bring them to operational capacity.

Venezuelan Oil Production Could Rise by 40,000 Barrels Per Day: Chamber

Venezuelan oil output could potentially increase by at least 400,000 barrels per day (bpd) if the U.S. government authorizes partners of state-run PDVSA to trade Venezuelan crude, Reuters reported last Friday. The increase would push Venezuela's daily oil production to rise to approximately 1.2 million barrels, said the president of Venezuela's Petroleum Chamber, Reinaldo Quintero. The news came less than a week after a U.S. delegation traveled to Caracas for talks with Venezuelan President Nicolás Maduro's government.

Honduran Government Seeks to Absorb Half of Diesel Price Increases

Honduran President Xiomara Castro said Monday that her government is seeking to absorb half of the increase in diesel prices as officials explore other alternatives to mitigate the rising cost of fuel, Reuters reported. Castro said she had instructed the county's finance minister to make arrangements for the government to absorb part of the rising diesel prices. Castro, who took office in January, said she made the decision despite inheriting a state deep in debt.

enacted. The war in Eastern Europe has pushed up fuel prices globally, though the price of oil has fallen over the past several days. The government said it would hold steady fuel prices of state firm Petropar for the next two months. Truckers, taxi drivers and other people who rely on fuel for their livelihoods protested at various points in Paraguay's capital Asunción and Ciudad del Este, Reuters reported.

Brazil's Petrobras Announces Fuel Price Increases

Brazilian state-run oil company Petrobras said it had raised fuel prices as of March 11, an encouraging sign for investors but one that is at odds with President Jair Bolsonaro, Reuters reported last Thursday. Petrobras said in a securities filing that it would raise gasoline prices 18.8 percent to 3.86 reais ($0.7653) per liter and that it was hiking diesel prices 24.9 percent to 4.51 reais per liter, Reuters reported. The state oil company added that it was raising the price of liquefied petroleum gas by 16 percent to 4.48 reais per kilogram. The moves led Petrobras' shares to rise 1 percent in midday trading in São Paulo. Meanwhile, the benchmark Bovespa stock index declined nearly 2 percent. "After oil prices were seen at consistently high levels, it became necessary for Petrobras to adjust prices so the Brazilian market continues to be supplied, without the risk of shortages," the company said. Domestic fuel prices remained below international rates. Petrobras also pointed out that it had not raised fuel prices in almost two months, Agence France-Presse reported. Bolsonaro has frequently criticized Petrobras, saying its prices are too high. The president is facing a tough re-election campaign ahead of this October's presidential election, and rising inflation is likely to hinder his chances at winning. Petrobras' fuel price hikes also may lead it to a clash with truckers' associations, AFP reported. A powerful truckers' association leader, Wanderlei "Dedeco" Alves, threatened to repeat strikes that hamstrung much of the country and caused shortages of several goods in 2018.

FEATURED Q&A / Continued from page 1

In many ways, Costa Rica offers green hydrogen producers an ideal place to invest, given its relatively low-cost electricity, skilled work force and political stability. Government support of green hydrogen production is useful, but success hinges on cost-competitiveness. Current high oil and gas prices might make clean hydrogen production in Costa Rica cost effective now, but will that remain the case should hydrocarbon fuel prices drop to 2021 levels? If Costa Rica is able to produce green hydrogen at scale and at a competitive price point, then the country could become a regional leader in sustainable development. Costa Rica would also serve as an example on how to maximize renewable energy resources, attract new investment and reach decarbonization goals."

A **Luis Diazgranados, Colombia operations manager at sustainable energy consultancy Hinicio:** "Low-carbon hydrogen has been included in several Latin American countries' mid- and long-term sustainability plans. Even though green hydrogen is currently not cost-competitive as compared to conventional fuels, governments in the region understand its potential to help them achieve their decarbonization goals, as well as other social and economic benefits. Latin American countries also understand that cost parity can be achieved by 2025-2030 through a combination of technology cost reductions and local regulations—such as renewable energy tax incentives, increased taxes on CO_2 emitters and carbon credit trading schemes. A clear example that we have studied in detail is Costa Rica, where green hydrogen could have a massive impact on the environment and the economy. According to our study (which is publicly available), a big push into green hydrogen would have a major impact in three areas. The first is job creation. It is likely that by 2030, green hydrogen investment in Costa Rica could generate from 20,000-30,000 new jobs—with that number increasing to 80,000-220,000 by 2050. Most of those jobs would be associated with the construction of the renewable energy plants needed to fuel green hydrogen production, followed by the demand for skilled workers needed for hydrogen plant operations. The second major impact is on tax revenue. Tax revenues on the green hydrogen market alone could reach millions of dollars per year by 2050. The third is emissions reduction. Local and international green hydrogen demand could support the achievement of Costa Rica's 2018-2050 National Decarbonization Plan by reducing emissions to between 6 million and 13 million metric tons of CO_2 equivalent. This would translate to a cutback of approximately 30 to 60 percent of the target emissions reduction outlined in the plan."

A **Nate Graham, interim director, and MK Vereen, program assistant,both in the Energy, Climate Change & Extractive Industries Program at the Inter-American Dialogue:** "Green hydrogen production is a promising opportunity for Costa Rica, which already produces more renewable electricity than it consumes and has ambitious plans to decarbonize its transport sector as well. Renewable sources have generated more than 98 percent of Costa Rica's electricity for years, and in 2021, net power exports were equivalent to around 9 percent of domestic consumption. With studies on offshore wind potential planned, on top of nearer-term renewable expansion measures, Costa Rica will likely see renewable power supply continue to outstrip demand, making green hydrogen production an attractive industry. In the short term, Kadelco's investment could contribute to the goals of Costa Rica's National Decarbonization Plan, particularly in heavy transport—the project's potential annual production of 50,000 tons could decarbonize 16 percent of the country's diesel transport (equivalent to around 3.5 percent of total national energy consumption in 2019), based on figures from a 2021

Continued on page 6

POLITICAL NEWS

U.S. to Designate Colombia as a Major Non-NATO Ally

The United States will designate Colombia a major non-NATO ally, a designation that will change how the U.S. military interacts with the Andean nation, U.S. President Joe Biden announced on March 10 during a visit to the White House by Colombian President Iván Duque. "This is a recognition of the unique and close relationship between our countries," Biden said alongside Duque during the meeting. "We stood with Colombia as you fought for your country and negotiated historic peace. And we're going to continue to stand together and build peace, reconciliation, and, God willing, a prosperous future for all Colombians," Biden added. Duque said the two countries have built a "bilateral relationship ... based on values and based on principles," adding "We appreciate a lot that you have made the decision to designate Colombia a primary non-NATO ally because that is the recognition of the values and the principles that we have shared." Major non-NATO allies are not entitled to specific security guarantees like NATO member nations, but the designation does allow closer interactions between them and the U.S. military, according to the U.S. State Department. The designation makes countries eligible for loans of supplies or equipment for research, development, testing or evaluation. It also allows them to be used as a location for U.S.-owned war reserve stockpiles, and it opens the possibility of them entering agreements with the United States for bilateral or multilateral training, according to the State Department. The meeting between Biden and Duque came just days after high-level U.S. officials flew to Caracas to meet with Venezuelan President Nicolás Maduro and officials of his government last weekend. The United States is reportedly considering the possibility of easing sanctions on Venezuela in an effort to allow it to export more oil at the same time that the United States is cutting off oil imports from Russia following its invasion last month of Ukraine. After the meeting with Biden, Duque was asked about the contacts between top U.S. officials and Maduro's government.

Duque and Biden met March 10 at the White House.
// Photo: @IvanDuque via Twitter.

ADVISOR Q&A

Will Impeachment Keep Looming Over Peruvian President Pedro Castillo?

Q Peru's Congress confirmed President Pedro Castillo's fourth cabinet in seven months on March 9, a vote that came as opposition lawmakers launched a second attempt to impeach him. Castillo's government has been plagued by instability, and his most recent former prime minister lasted just days in office. How important of a win was Congress' approval of Castillo's current cabinet, and what does the close 64-58 vote mean for the government's stability? Will Castillo keep facing repeated impeachment attempts during his term? What consequences have the impeachment attempts and cabinet shakeups had on Castillo's ability to govern and on investors' willingness to put money into projects in Peru?

A Mercedes Aráoz, senior professor of finance at the Universidad del Pacífico and former vice president of Peru: "Despite Congress' approval of Castillo's cabinet, the government is facing an unstable equilibrium. It is true that the president achieved political momentum, but anything can happen. Another corruption scandal or a confession of one of his closest advisors can strengthen the possibility that he will be removed. But opposition parties in Congress are divided. In almost all groups there are members who support Castillo for different reasons—some because of their management of a ministry or other positions in government; some due to promises of infrastructure projects in their home areas; some due to political calculations as they try to benefit their candidates, or worse, related contractors; and some because they seek to protect some informal or illegal activities. However, the threat of impeachment exists, and Castillo will face it many times from now on. His power has weakened, and his popularity is dropping rapidly. The threat of further changes of cabinet members also remains because of ministers who are ill-prepared for their positions and have horrible backgrounds. These conditions make for a meager ability to govern for any administration, but it is worse in the case of Castillo, who displays no clear objective other than survival. Investors are not blind, and surveys show a reluctance to invest given the political uncertainty."

> **"The threat of impeachment exists, and Castillo will face it many times from now on."**
> **— Mercedes Aráoz**

EDITOR'S NOTE: More commentary on this topic appears in the Q&A of Wednesday's issue of the Latin America Advisor.

NEWS BRIEFS

Salvadoran Judge Orders Arrest of Former President Cristiani

A Salvadoran judge last Friday ordered the arrest of former President Alfredo Cristiani and five others for their alleged links to the 1989 murders of six Jesuit priests, a domestic worker and her 16-year-old daughter during the Salvadoran Civil War, Agence France-Presse reported. Prosecutors filed charges against the group on Feb. 25, and on Friday the judge ordered them to be placed "under provisional detention." Cristiani, whose whereabouts are unknown, denies the allegations, the wire service reported.

U.S., Costa Rica to Work More Closely on Immigration Controls

Costa Rican Minister of Security Michael Soto and U.S. Secretary of Homeland Security Alejandro Mayorkas on Tuesday signed a letter of understanding between the two countries to work together on strengthening immigration and border policing in the Central American country, Reuters reported. The agreement is meant to "strengthen the fight against the smuggling of migrants and human trafficking," said a Costa Rican government statement.

Southern Copper Suspends Operations at Cuajone Mine in Peru

Southern Copper has halted operations at its Cuajone mine in Peru since Feb. 28 because of protests by local residents who cut off water to the mine and also blocked access to a key railroad, Peruvian mining chamber SNMPE said Monday, Reuters reported. "The refusal of residents to restore water supply to Cuajone and free the railroad prevent us from resuming operations at the mine," Southern Copper said Sunday in a statement. Cuajone is the company's second largest mine in Peru.

Guatemala Shelves Controversial Abortion Legislation

Guatemala's Congress on Tuesday shelved controversial legislation that called for increasing prison terms for women who have abortions and would have explicitly banned same-sex marriage and discussion of sexual diversity in schools, local newspaper Prensa Libre reported. Lawmakers shelved the so-called "Protection of Life and Family" bill on a vote of 119-15, with 26 abstentions. The vote came a week after 101 lawmakers voted to approve the legislation. Days later, President Alejandro Giammattei threatened to veto the legislation, saying it violated the country's constitution and two international conventions to which Guatemala is a signatory. Under the legislation, women would have faced sentences of 10 years in prison, an increase from the current three-year penalty, for terminating a pregnancy, the Associated Press reported. Abortion is legal in Guatemala only in cases where a woman's life is in danger.

ECONOMIC NEWS

Monthly Inflation Rises to 4.7 Percent in Argentina

Argentina's monthly inflation rate in February spiked to 4.7 percent, the highest since March of last year, Reuters reported, citing a Tuesday statement by the National Institute of Statistics and Census, or Indec. In January and February of this year, inflation has accumulated to 8.8 percent, which is 1 percent higher than the first two months of 2021, MercoPress reported. The increase was primarily driven by hikes in food prices related to droughts, heat waves and fires in the country, the news agency reported. The Argentine Economy Ministry has blamed a significant part of these figures on the war between Russia and Ukraine. "The indicator was affected by the impact of the increase in international prices of the main commodities, due to the drought and the conflict in Ukraine," the ministry said in an official statement, MercoPress reported. Argentine President Alberto Fernández promised to launch an anti-inflation package by the end of this week, Reuters reported. "I promise another fight will start on Friday, the war against inflation in Argentina," he said.

Mexico Legislation Would Push for Loans to Small Businesses

Mexico's Senate majority leader, Ricardo Monreal, is preparing legislation that would push banks to make low-cost loans to small- and medium-sized businesses in an effort to help fuel economic recovery, Bloomberg News reported last Friday. The bill would seek to help the "great many" businesses that have suffered during the pandemic, Monreal told the news service in an interview. "It's important that banking is opened up to make low-interest loans to people who lost their businesses or people who closed their businesses during the pandemic," said Monreal. [Editor's note: See related **Q&A** in the March 8 issue of the Dialogue's daily Latin America Advisor.]

Puerto Rico Exits Bankruptcy After Debt Restructuring

Puerto Rico's government formally exited bankruptcy on Tuesday, completing the largest-ever restructuring of public debt in the United States, the Associated Press reported. The exit came seven years after the U.S. territory announced that it was unable to pay more than $70 billion in debt. In January, U.S. District Judge Laura Taylor Swain approved a $135 billion debt adjustment arrangement, and on Tuesday transactions detailed in that plan take effect, Reuters reported. Those transactions include some $10 billion in settlements with creditors.

FEATURED Q&A / Continued from page 3

study by the consultancy Hinicio. However, the same study suggests that in the longer term, Costa Rica must keep capitalizing on its vast solar and wind potential to scale up production and cautions that Costa Rica's prospects as a green hydrogen exporter are questionable due to cost and relatively small potential volumes. Still, Kadelco's investment of $3.3 billion would be significant, creating 2,600 direct jobs, and include the construction of a port and a research center. This concrete step could lead to additional investments and, along with Costa Rica's forthcoming hydrogen strategy, would solidify its regional leadership on this issue and its commitment to emissions reduction and full decarbonization."

A **Enrique Egloff, president of the Costa Rican Chamber of Industries:** "Even the cheapest electricity tariff of the Costa Rican Institute of Electricity, or ICE—in terms of cost per unit of energy—is more expensive than the fuels sold by the state company RECOPE. This is due in part to the country's overcapacity in the generation of electricity, mainly from renewable sources. If the construction of green hydrogen plants implies a greater use of that capacity, a greater supply of energy will help keep electricity costs low and promote decarbonization, boost the country's competitiveness and drive job creation. However, we must be prudent. It would be a misstep if the production of green hydrogen is used as an excuse for ICE to build expensive projects to meet the demand of companies that could eventually leave the country, leaving the cost of these projects on the backs of Costa Ricans, and result in an increase in electricity costs. In addition, to carry out the electrolysis required to produce hydrogen, large amounts of electricity and extremely pure water are required—the latter being a finite resource. Therefore, before Costa Rica pushes ahead with large-scale green hydrogen production, we must assess whether the country can sacrifice a significant amount of its water resources to produce this kind of energy."

> **"It would be a misstep if the production of green hydrogen is used as an excuse for ICE to build expensive projects..."**
> **— Enrique Egloff**

The Advisor welcomes comments on its Q&A section. Readers can write editor Gene Kuleta at **gkuleta@thedialogue.org**.

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