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Ecuador's Energy Policy Mix: Development, Conservation and Nationalism with Chinese Loans (ARI)

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Theme: Ecuador's energy policy faces a complex variety of political and economic objectives that are difficult to reconcile in a consistent manner. Tensions arise between conservation aims and development imperatives, as well as between resource nationalism and much-needed foreign financing.

Summary: Ecuador is a small oil producer and exporter with significant renewable (mainly hydropower) resources, hosting some of the richest biodiversity areas in the world, part of which are inhabited by so far un-contacted peoples. The Ecuadorean Amazon has unexploited hydrocarbon resources and some of the already operated lots have a poor environmental record. As a developing country, Ecuador seeks to maximise income from its resource base, but its developmental instinct is being challenged by opposition from conservationists, be they ecologists, indigenous associations or both. Resource nationalism, loosely linked with populist measures regarding energy policy (fuel subsidies), is also suspected of having hampered energy sector development. Despite both explanations, the really limiting factor seems to be government's constraints in financing its development and redistributive policies. With international markets closed to the country for having defaulted on its debt, Ecuador has turned to Chinese loans-for-oil contracts. While Ecuador's energy policy may be plagued by inconsistencies and tensions between conflicting objectives, resorting to Chinese financing may be part of the solution in the short term. However, it can only be a temporary substitute for a well-designed, consistent energy policy, which involves is a complex task with uncertain (but presumably high) political costs.

Analysis:

Developmental Imperatives

Ecuador ranks 83rd in the UNDP's 2011 Human Development Index (HDI), close to Peru (80), Brazil (84) and Colombia (87). At barely US$4,000, Gross National Income (GNI) per capita is among the lowest in South America. Economic growth closely follows oil prices and oil production. According to the IMF, economic growth averaged 3.5% for 1997-2006, and during the past few years plummeted from 7.2% in 2008 (a boom year) to 0.4% in 2009 (a counter-shock) and then surged again to 8,7% in 2011.[1] The Fund has warned repeatedly in its latest Outlooks about the downward risk in the region's current commodity boom. However, maintaining high rates of growth will remain a priority for Ecuador's government.

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[1] Data from IMF and Economist Intelligence Unit.

Reducing inequality is the Ecuadorean government's main economic challenge: the country's Gini Index of income inequality is high even by Latin American standards, although it has been reduced significantly, at least in urban areas, during the last decade. In urban areas, where data are available, poverty has also been reduced, but the country still has the highest poverty rate for indigenous population in Latin America.

Inequality and poverty reduction is pursued through redistributive and pro-growth economic policies. In the short term, both depend to a significant extent on the performance of the oil sector, which accounts for over 50% of Ecuador's export earnings, over 15% of its GDP, about half of its total fiscal revenues and lately the only access to foreign (Chinese) financing. Inequality was reduced during the 2000s, in a trend prior Rafael Correa's government but which was reinforced by the latter's social transfers. However, structural reduction in inequalities calls for structural changes in the economy, including diversification away from and within the energy sector.

Since the first oil discoveries in the country, it has been praised as the engine of Ecuador's economic growth during price booms and blamed as a hindrance during busts. Oil rents have nurtured horizontal redistributive policies together with regressive consumption subsidies, as well as much-needed public investment. As for most hydrocarbon producers, there is a vast literature on the various resource-curse and Dutch-disease symptoms oil has given rise to and which have supposedly prevented Ecuador from achieving a more sustained development path. While the management of oil revenues has certainly been difficult and explains a significant part of the country's long history of macro-economic dislocations, the curse seems to be at least partially self-inflicted.

Oil-price booms saw the build-up of external debt, while price busts translated into debt crises. In 2008 the government partially defaulted on its external debt again, closing its access to the international markets and forcing it to engage in complex manoeuvres to finance public debt. The mistakes in the monetary management of oil revenues notwithstanding, it was the collapse of the banking system, not Dutch disease that led to dollarisation. Since then, inflationary pressures have eased off and the dilemmas of exchange rate policy simply disappeared with them. As for stabilisation or saving instruments, Ecuador eliminated oil funds and oil-revenue earmarks in April 2008, with the only exception of the Amazon Development Fund.

With all its associated problems, the oil sector today remains the clearest driver for Ecuador's economic growth and its leading source of financing. Two main shortcomings afflict the sector: (1) a costly and socially regressive fuel subsidy system that Correa wanted to rationalise before popular protests against similar measures in Bolivia made him desist; and (2) the lack of refining capacity, which forces the country to import refined products, reducing net export income (ongoing works at the Esmeraldas refinery risks reducing economic growth over the next few months). But no other sector appears as an alternative: agriculture accounts for 30% of exports but has a minor weight in tax collection; industry barely represents 10% of GDP, with tensions with the US restricting further expansion of exports; and services mainly comprise traditional, low valued-added activities that are incapable of pushing growth. The only comparable source of income is remittances, but in general little has been done to diversify away from oil production, with the only exception of mining and hydropower.

Increasing oil production and exports has consequently been the focus of Ecuador's governments, which have followed diverging policies over time. Ecuador has transited from an open-market approach in the 1980s and 1990s to a nationalist state-led strategy under the Correa presidency. In the 1980s, coinciding with low oil prices, Ecuador tried to attract Foreign Direct Investment (FDI) by liberalising the oil sector, reducing taxes and easing capital mobility. In 1992 it left the OPEC to avoid production constraints. In 1993 FDI was allowed in exploration and production and several measures followed, such as the implementation of joint-ventures and operational-alliance contracts, as well as the construction of the *Oleoducto de Crudos Pesados* (OCP –heavy crude-oil pipeline–) by a private consortium.[2]

From 1999, when Hugo Chavez was elected President of Venezuela, a wave of resource-nationalism and statist energy policies started to spread over the Andean region.[3] In 2006, in the midst of increasing oil prices, the government reformed the hydrocarbon law, requiring multinational companies to revert 50% of their extraordinary incomes to the State. After his election in late 2006, Correa increased the share to 99%. The government reduced it to 70% for companies signing temporary contracts while re-negotiating migration from participation to services contracts. In 2006 President Evo Morales nationalised the gas industry in Bolivia, the Ecuadorean government took over the operations of the US-based Occidental Petroleum. By that year, Venezuela had already toughened its stance towards the oil sector, replacing existing operational agreements with multinational companies by mixed enterprises and in 2007 it cancelled all existing contracts and empowered the national oil company, Petróleos de Venezuela (PdVSA).

Adopting a similar approach, the Ecuadorean government reinforced the position of its two national companies, Petroecuador and Petroamazonas, and pressed for negotiations with the international companies to change their existing contracts. By November 2010 negotiations came to an end and most firms had agreed to change their production-sharing agreements (PSAs) and to accept the country's new flat-fee service contracts. Some firms decided to exit Ecuador, like the Brazilian state-owned Petrobras, the US Noble and South Korean Canada Grande, the state-controlled China National Petroleum Corporation (CNPC) and Amazon, accounting for around 15% of the country's oil production. Those operations were taken up by Petroamazonas. But most of the country's biggest producers decided to stay, including Repsol YPF (currently the country's largest foreign producer and a significant OCP partner), Eni, the Chilean state-owned Enap and the Chinese companies Andes Petroleum and PetrOriental. The government also expressed its intention of renegotiating the OCP contract, under accusations of tax evasion, denied by the consortium.

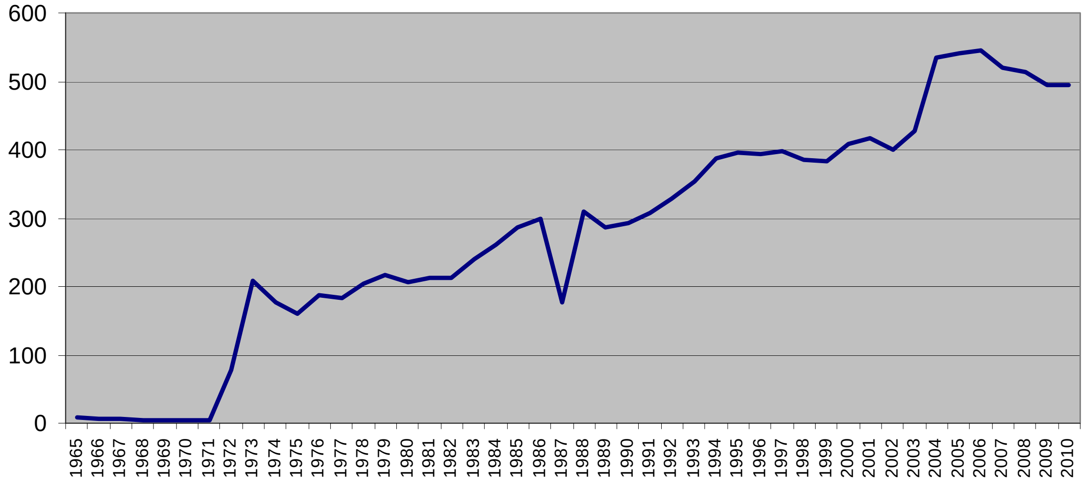
The impact on production of these measures has been disappointing. Production rose after the investments of the late 1990s, peaking at around 550,000 barrels/day, and then declined slightly to 500,000 barrels (see Graph 1). However, they have not been too

[2] This was a fundamental step to ensure transport from the Amazonian Oriente to the Pacific coast, where the export infrastructures and refineries are located. OCP is used and operated by foreign companies, while the alternative Oleoducto Transecuatoriano is mainly used by Petroecuador. The latter was damaged during the March 1987 earthquake, repairs took over five months and oil production fell significantly due to the lack of transport and storage capacity.

[3] There is a vast literature on this issue. See, for instance, G. Fontaine (2011), 'The Effects of Governance Modes on the Energy Matrix of Andean Countries', *Energy Policy*, vol. 39, nr 5, p. 2888-2898; G. Fontaine (2009), 'Las políticas energéticas de cara al desarrollo sostenible en Perú y Ecuador', *América Latina Hoy*, nr 53, p. 103-126; and P. Isbell (2008), "Energy and Geopolitics in Latin America', Working Paper nr 12/2008, Real Instituto Elcano, March.

damaging either, and production seems to be slightly on the rise for 2011, despite fears of underinvestment in PetroEcuador and downgraded operating terms for international majors. Ecuador rejoined OPEC in 2007, with an assigned quota of 520,000 barrels/day which was cut to 430,000 barrels in 2009. Being the smallest OPEC producer, and given the lack of discipline of the latter's main members, this does not seem to be a significant constraint for further production increases. The weight of Ecuador in the world oil market is of secondary importance at best. It holds 0.4% of the world's oil reserves, accounting for 0.6% of production and 0.8% of exports.[4] Over two-thirds of Ecuador's net oil exports go to the US and account for around 2% of the latter's oil imports. The remaining oil exports go to Chile, Peru and, increasingly, China.

Graph 1. Ecuador: oil production ('000 barrels/day), 1965-2010



Source: BP Statistical Review of World Energy, 2011.

Oil income is the main source of financing for Correa's redistributive policies and his government needs to deliver in the economic and social domain. In this regard, the government is expected to continue to maximise oil production and exports. It is also expected to tighten its control over the sector through PetroEcuador and PetroAmazonas and to try to capture increasing shares of the extraordinary rents generated by high oil prices. However, this classical developmental component of resource nationalism conflicts with conservation, which is portrayed both nationally and abroad as the government's ultimate goal.

Conservation as the Ultimate Resource Nationalism

Conservation refers here to the broad policy area related to the environment, natural resources management (including renewable energies), biodiversity and indigenous communities' rights. Correa has tried to internationally project conservation as the trademark of his policies and to some extent he has been successful in doing so. He has developed separate discourses on each of these issues, but barely any operational design of the interaction between development and conservation has been proposed beyond some vague and unarticulated references to sustainable development. Perhaps the only consistent policy measure is the development of hydropower in the Amazon basin, but it faces serious opposition and will remain suboptimal without deeper sub-regional integration (mainly Brazilian participation). Deploying renewables is also consistent with the conservation narrative, but the potential for wind and solar power,

[4] BP Statistical Review and US' Energy Information Administration data.

while interesting to look into, appears limited, while geo-thermal potential seems substantial, but is limited by technical constraints.

Part of the conservation argument relies on the protection of the environment, which is closely related to the oil sector's negative record in the country. The best known episode is the *Lago Agrio* trial: oil spills by Texaco in the Amazon led to years of litigation between the local population and Chevron, which took over Texaco's assets. The process exceeds the purpose of this analysis, but it involves claims of over US$18 billion to the company, which has manoeuvred in every possible way to evade its responsibilities, including forcing an arbitration procedure. Chevron's attitude contrasts openly with BP's in the Gulf spill, with the immediate creation of a fund of close to US$20 billion. The internal contradiction in the official conservation discourse is that there is evidence that the operations of PetroEcuador, PdVSA and Chinese companies do not seem to comply with the highest environmental standards.

Beyond that, one of the usual conditions in oil contracts includes road construction in the Amazon, which according to experts is a significant item among the conservation problems facing the Amazon region. Oil development has certainly led to widespread oil spills and surface dumping of formation water, but the opening up of roads has been followed by settlers, deforestation, expansion of the agricultural frontier, acculturation of indigenous groups and timber harvesting, resulting in the near complete destruction of some Amazonian areas. Other environmental problems relate to gas flaring and abandoned installations. This has led some authoritative scholars to advocate a more rational system of exploiting oil resources in the Amazon, with high environmental standards, independent supervision and isolation from the environment (Swing, 2011).

Conflicts over resources have extended to open mining by Chinese companies, aggravating the conservation-development tensions between the Correa government and its original indigenous support base. Tensions with the *Confederación de Nacionalidades Indígenas del Ecuador* (CONAIE), a politically influential Ecuadorean indigenist organisation, increased in 2012. The CONAIE organised a 'plurinational march of indigenous peoples', which reached Quito on 22 March, demanding respect for the social-economic, collective and natural rights enshrined in the Constitution. Their demands included halting new mining and oil extraction operations, in addition to stopping large-scale hydroelectricity projects.

The 2008 Constitution enacted new rights closely related with the environment and natural resources: nature rights, undifferentiated ownership, pluri-nationality and preliminary environmental assessments. It also prevents oil sector workers from benefiting from more usual rights such as striking, given the industry's strategic importance to the country. While the former rights are difficult to embody in precise, operational policy designs, the latter reinforce the state's control over the energy sector in a more pragmatic way. The Constitution also included references to indigenous concepts, such as *sumak kawsay*, *buen vivir* or 'good living', which goes beyond social rights like access to water, health, food and information, to include a harmonious and respectful relationship with nature and an austere way of life. This has been loosely linked to post-developmental approaches.

Aware of the environmental sensitivities surrounding oil extraction, President Correa supported the ITT Yasuni project, although observers claim he did so reluctantly and emphasise his developmentalist instincts. Ecuador has agreed not to exploit these oil fields in the *Oriente* as long as foreign governments and donors agree to contribute to a fund to compensate the country for not developing the Ishpingo, Tambococha and Tiputini (ITT) oil fields. Estimates point to some 850 million barrels of oil, around 20% of Ecuador's reserves. The ITT area is the most bio-diverse region in the Western Hemisphere and it is thought to host several indigenous communities whose way of life is protected under the new Ecuadorean constitution: the population of un-contacted and contacted Waorani communities are estimated at around some hundreds and almost 3,000, respectively.[5]

The Yasuní initiative has been praised on the grounds that it is a new approach to the provision of global public goods and *The Economist* (2009) considers it an interesting opportunity to explore. The Yasuni-ITT Trust Fund, administered by the UNDP's Multi-Partner Trust Fund Office, was established in August 2010 to manage international contributions. Ecuador wants the world community to contribute half the income it is forgoing, around US$3.6 billion over 13 years. The funds will go to renewable energies, ideally to shift the Ecuadorean energy matrix away from oil and towards sustainable development.

President Correa's attitude concerning the ITT has been mixed: while supporting the initiative, he has repeatedly warned the international community that in the event of no significant contributions being made, the ITT would be exploited. To some observers, President Correa has placed himself in a position to blame the international community if the ITT initiative fails and to reap the political dividends if it succeeds. In 2011 fundraising reached US$117 million and President Correa resolved to extend the initiative by setting a new fundraising challenge of US$291 million in contributions annually in 2012-13. The main contributors to the ITT are European countries and the EU itself. Spain has always supported the project and the UK is another generous donor. Germany has also contributed, but there were some concerns about fund management and lack of supervision. Whatever the differences, the Yasuní Initiative is worth being explored and sustained.

The contradictions between conservation and the developmental imperative to achieve growth and redistribution have so far tended to be resolved in favour of the latter. In fact, the discussion only affects a small fraction of the Yasuní park, part of which is already producing oil. The contradictions were made more explicit since the new Constitution included a vast array of related rights that are not always easy to reconcile. Some even see in Correa's strategy towards the oil sector a 'strange mixture of all three dominant approaches to politics and development in Latin America – the neoliberal model, the Chavista left-populist approach, as well as elements of "post-development"'.[6] This ideological confusion afflicts most new populist Latin American governments and goes well beyond energy policy, like the combination of a relatively macro-prudential approach with illiberal, dependency theory-like micro-economic policies.[7] Such confusion generates costly economic (and energy) policy inconsistencies.

Conservation clearly conflicts with what the government expects from the oil sector: more production with few costs from improved environmental standards. It is a curious notion of

[5] On this issue, see I. Narváez (2009), *Petróleo y poder: el colapso de un lugar singular Yasuní*, FLACSO, Quito.
[6] J. Rochlin (2011), 'Development, the Environment and Ecuador's Oil Patch: The Context and Nuances of the Case against Texaco', *Journal of Third World Studies*, vol. 28, nr 2, p. 11-39.
[7] C. Malamud (2010), *Populismos latinoamericanos. Los tópicos de hoy, de ayer y de siempre*, Ed. Nobel, Oviedo.

nationalism which considers the lack of respect for the environment to be the preserve of national oil companies, such as PdVSA, and Chinese firms.

Financing Nationalism with Chinese Loans

The previous sections have tried to show the lack of consistency of Ecuador's energy policy while recognising the difficulties in efficiently solving the trade-offs between conflicting objectives. In the complex equation that includes development imperatives, conservation demands and resource nationalism, Ecuador has found a solution that seems to overcome the contradictions by signalling to a clear commitment to developmentalism: Chinese loans-for-oil to finance its energy investments, including large hydropower, gas and downstream projects, as well as other infrastructures and mining.

Chinese loans-for-oil have been negotiated in Latin America by Venezuela, Brazil and Ecuador. Loans-for-oil agreements combine a loan and an oil sale involving two countries' oil companies and banks. When the China Development Bank (CDB) grants a billion-dollar loan to Ecuador, Petroecuador pledges oil shipments to China to cancel the loan. Chinese oil companies then buy the oil at market prices and deposit their payments in Petroecuador's CDB account. CDB withdraws money directly from it to repay itself for the loan. In Ecuador, PetroChina deposits 79% of the oil revenue in Petroecuador's CDB account and diverts the remaining 21% to pay back the loan. Ecuador signed a US$1 billion loan-for-oil in 2009, another in 2010 and a third –worth US$2 billion– in 2011. This gave the country access to much-needed credit after defaulting, but this also has a multiplying effect in securing increased oil deliveries to China.

Additionally, the terms and conditions of the loans are not particularly different from the standards for Western banks. CDB set the interest rate at 7.25% for the first loan, 6% for the second and 6.9% for the third, lower than charged by sovereign debt lenders (around an 8.45% spread). Repayments follow market prices and any minor discount offered seems to be offset by securing demand and exporting far more than initially agreed. Compared with multilateral financing, Chinese banks impose no policy conditionality but may impose commercial or investment conditions, as occurs with some of the loans to Ecuador. Finally, Chinese finance operates under environmental guidelines that are not yet aligned with those of Western lenders. In addition to CDB loans-for-oil, the China Ex-Im Bank lent Ecuador US$1.6 billion for the construction of the Coca-Codo Sinclair Hydroelectric dam. The bank charged 6.9% interest, about 2% higher than US Ex-Im rates, adjusting for Ecuador's risk premium.[8]

The oil sector itself needs investments urgently. Petroecuador, which was originally conceived as a mere fiscal agent, has taken over the management and operation of much of the oil sector but lacks both know-how and the capital to invest. The company suffers from poor corporate governance and there has been open distrust between its management and the Presidency, deepening the company's instability (since 1998 it has had 18 CEOs). International companies now subjected to service contracts no longer invest, so oil output has declined since 2005 and has so far failed to return to its peak. In fact, new commitments to China may have led Petroecuador close to its maximum production levels. Under the country's difficult financial conditions, the government considers that new investments in the oil sector and hydropower should be mainly financed by Chinese loans.

[8] K.P. Gallagher, A. Irwin & K. Koleski (2012), 'The New Banks in Town: Chinese Finance in Latin America', Inter American Dialogue Report, February.

Rather than improving the terms for international companies, President Correa seems to be seeking investment from countries like Russia, Iran, Venezuela and, above all, China. The Chinese presence in the country's oil sector is significant, but far from decisive. According to Petroecuador's statistical yearbook, Andes Petroleum, a joint venture between Sinopec and CNCP produced some 38,000 barrels/day in 2010, 7% of Ecuador's oil production but less than the 40,000 barrels/day produced by Repsol, the leading foreign producer –that accounts for 10% of total production–. Both companies are among the few that increased their investments over the past few years and are the main partners at the OCP. The Ecuadorean national oil companies jointly produced 50% of the country's oil and the preferred strategy seems to be channelling Chinese investments through them.

This strategy also applies to mining. In March 2012 the government signed a US$1.4 billion contract with the state-run Chinese firm Ecuacorriente for the Mirador copper and gold-mining project, and is now negotiating a second deal with the firm. The company will have to create a fund to mitigate environmental damage and build roads and an electricity generation plant. The project faced opposition from ecologist and indigenous groups, and even within the National Assembly, due to the absence of clear environmental rules regarding soil and water pollution and the lack of respect for the territory of indigenous communities. When the contract was signed there were demonstrations at the Chinese embassy in Quito, showing that Chinese loans can also entail political costs.

In addition to political constraints and a worsening perception of Chinese natural resource-related investments, there are also operational constraints, mainly on account of the inability of PetroEcuador and some non-Western oil companies to operate mature fields and implement enhanced recovery technologies. This could lead to a change in the country's tough stance on foreign investments in the oil sector. In fact, Western companies seem to be starting to return to Ecuador, with two private consortiums including Western companies recently signing services contracts involving the investment of US$1.7 billion over five years to exploit some mature oil fields, where state companies have been unable to extract the remaining reserves due to their lack of technology and limited investment capacity.

Conclusion: The risks inherent to commodity booms are well known in Latin America. The IMF has warned oil exporters against overheating and to avoid boom-and-bust cycles. At the same time, the World Bank has acknowledged the benefits that Latin American commodity exporters can obtain from Chinese demand if adequately managed. The tensions between pro-growth measures and conservation will continue, and the outcome is uncertain. The government faces several issues, such as the *Lago Agrio* trial, the Yasuní initiative, fuel subsidies reform, attracting investments in the energy sector, increasing refining capacity, the transition to a more sustainable energy mix and respect for indigenous communities' rights. Addressing all these issues with a consistent energy policy calls for a better appraisal of the trade-offs between conflicting objectives and the optimal policy measures to attain a suitable combination.

However, the confusion emanating from the country's mixture of energy policies seems open to pragmatism, to the extent that it accommodates the government's agenda. Despite the conservation and sustainable development rhetoric, the goal of developing oil production and other energy sources like gas or hydropower is vital to advancing President Correa's internal policies. The need for foreign investments and technology also erodes resource nationalism. If something seems clear and consistent in the Ecuadorean energy strategy, it is the attraction of Chinese loans. They can be instrumental in accomplishing the ambitious role the government expects the oil sector to play in fostering Ecuador's economic growth and in providing the funding for redistributive and poverty strategies. But in the long term and on their own they cannot be the substitute for a more consistent energy policy which can tackle the country's highly diverse energy challenges. And Chinese oil (and mining) investments pose as many (or even more) sustainability problems than Western companies.

The Ecuadorean case also has policy-consistency implications for the international community. Tensions between distinct goals in different policy areas arise in a similar way. The combination of development and conservation imperatives, for instance, is politically difficult to optimise. Sustainable development strategies require additional support in places where natural resources coexist with indigenous communities (contacted or not) and bio-diversity. The Yasuní initiative is the clearest example and deserves an opportunity, even at times of economic distress. Sustainability in oil (and hydropower) producing countries also requires high environmental standards and supervision, equal to all the best practices not only regarding production, but also in associated impacts such as road construction. The government's efforts to modernise its energy mix, profiting from renewable energies and hydropower, should also be supported with cooperation in the deployment of renewables (including hydro) and in enhancing energy efficiency.

The future of international oil companies in the country is perhaps the most controversial issue. Cycles of state intervention in Ecuador's oil industry have followed oil prices: booms favour state control and busts require private investments to increase production and income. The international companies that remain in the country under service contracts, including the Chinese, have had to accept tougher renegotiated terms. Chinese oil-for-loans have committed a significant part of oil production, but China's presence in the Ecuadorean oil sector is still limited. International companies typically operate mature fields and their technology would be needed to fulfil Ecuador's production ambitions. After years of absence, some Western companies have recently shown renewed interest in the country, perceiving a shift towards pragmatism in the government's attitudes. If confirmed, this is good news that could eventually back the strategic decision to stay in the country taken by some foreign companies. But while oil prices remain at current levels, the government will not reduce its control over the sector.

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