

THE EUROPEAN UNION EMISSIONS TRADING SCHEME: CRITERIA EVALUATIONS & LESSONS LEARNED

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Introduction

In its September 2013 report, the United Nation's Intergovernmental Panel on Climate Change (IPCC) concluded that because the concentration of greenhouse gases (GHGs) has been rising rapidly, climate change has become a global commons problem.¹ The IPCC strongly encouraged nations to pursue innovative approaches to reduce GHGs so that the world can avoid the deleterious effects of climate change on human lives, property and ecosystems.²

Because it will be very costly to reduce GHGs on a global scale, it is imperative for nations to use policy instruments for addressing climate change that are both cost-efficient and environmentally effective.³ One key policy instrument is emissions trading, also known as cap-and-trade, which has become a robust market-based approach for addressing serious environmental problems.⁴

Many governments favour emissions trading because it is the market, not the government, which sets a carbon price for emissions.⁵ This creates an incentive for companies to change their behaviour and reduce their carbon pollution activities.⁶ Indeed, emissions trading has enabled firms to achieve significant cost-savings while ensuring environmental protection.⁷

According to the World Bank, about sixty governments are establishing their own emissions trading schemes (ETS) as part of their domestic climate change policies.⁸ In the European Union, its Emissions Trading Scheme (EU ETS) is the first and largest international carbon market with total trading from thirty-one countries valued at one hundred

seventy-one billion U.S. dollars in 2011.⁹ In Canada, Alberta and Quebec have their own ETSs as part of their domestic climate policies. In 2013, Quebec linked its ETS with California through the Western Climate Initiative.¹⁰ At present, Ontario, British Columbia, Manitoba, Quebec and California are collaborating through the WCI to develop their ETS policies for eventual linking at a regional level.¹¹

This paper evaluates whether the EU ETS has effectively reduced GHGs from 2005 to 2012. It evaluates this using the criteria of environmental integrity, cost-effectiveness and political feasibility. Thereafter, it presents several lessons emanating from this European experience that may guide other jurisdictions that are developing their own ETSs.

Emissions Trading in Action: The EU ETS

In 2005, the European Commission launched the EU ETS as the cornerstone of its regional climate change policy to reduce GHG emissions. The EU is an Annex 1 party of the Kyoto Protocol to the United Nations Framework Convention on Climate Change (UNFCCC).¹² The goal of the EU ETS is "to promote reductions of greenhouse gas emissions in a cost-effective and economically efficient manner."¹³ Phase 1 of the EU ETS covered the period from 2005 to 2007. Phase 2 covered the period from 2008 to 2012 to coincide with the Kyoto Protocol (Protocol)'s first commitment period. Phase 3 covers the period from 2013 to 2020.





The European Commission approved the implementation of the EU ETS in 2003 at a time when the Protocol's viability was in peril because the United States refused to sign it in 2002. The EU wanted to be the world's frontrunner in climate policy by creating the EU ETS.¹⁴ The legal basis for establishing the EU ETS is the International Emissions Trading mechanism outlined in Article 17 of the Protocol. It allows Annex 1 parties to trade their AAUs with one another.¹⁵ Carbon credits that are traded within the EU ETS are called European Union Allowances or EUAs.¹⁶

At present, the EU ETS is recognized as the first, largest and most ambitious ETS in the world that has legally binding obligations to tackle global climate change.¹⁷ It covers more than eleven thousand companies in twenty-eight EU member states including Iceland, Liechtenstein and Norway.¹⁸ This represents about 45 percent of total EU emissions.¹⁹ Indeed, the European Commission can be lauded for having successfully established a Europe-wide market for the trading of allowances.²⁰

Criteria for Evaluation of the EU ETS

This paper uses three criteria to evaluate whether the EU ETS has been an effective market-based policy mechanism for reducing GHGs. My evaluation reveals that while the EU ETS fared well in terms of political feasibility, it did not fare well in terms of environmental integrity and cost-effectiveness.

Environmental Integrity

The first evaluation criterion is environmental integrity.²¹ It involves a determination of whether the EU ETS was able to preserve the environmental quality of its GHG reduction targets.²²

During Phase 1, the use of questionable offsets by regulated companies undermined their compliance efforts for genuine GHG reductions and destroyed the credibility of the EU ETS.²³ Pursuant to the 2004 Linking Directive, companies obtained Certified Emission Reductions (CERs), which are carbon credits generated by projects under the Protocol's Clean Development Mechanism (CDM). Their environmental integrity was questioned because there was no clear assurance that they genuinely resulted from "additionality", an integral requirement of a CDM project. It could not be proven whether CERs were actually generated because of the Protocol's CDM, instead of being created under business-as-usual conditions.²⁴

During Phase 2, several fraud events seriously threatened the security and integrity of the EU ETS.²⁵ For example, value-added tax fraud was committed on the sale of allowances, amounting to \$7.1 billion U.S. dollars in uncollected tax revenues.²⁶ This loss was attributed to "a lack of harmonized EU tax structure."²⁷ A lack of security measures to authenticate valid transfers of EUAs also led to their rampant theft from the carbon registries of some member states, amounting to sixty-seven million U.S. dollars worth of losses.²⁸

The challenges that the EU ETS faced reveal that it was not well designed to anticipate the massive complexities of emissions trading. Consequently, it failed as a matter of the environmental integrity to achieve its GHG reduction targets.²⁹ Market confidence in its ability to achieve genuine GHG reductions was weakened because such reductions did not result convincingly in credible environmental outcomes.³⁰

Cost-Effectiveness

The second evaluation criterion is cost-effectiveness.³¹ It involves a determination of whether the EU ETS reduced industry's compliance costs while ensuring that its GHG reduction goals were achieved.³² Compliance costs include an emitter's transaction costs relating to research, negotiation of trades and brokerage fees in executing carbon trades.³³

During Phase 1, the EU ETS experienced significant volatility in the price of EUAs. In 2006, the price of EUAs dropped by 50 percent in less than a week before dropping to zero in 2007.³⁴ This resulted from the EU Commission's policy of prohibiting banking of excess EUAs in Phase 1 so they could not be used in Phase 2.³⁵ The policy's rationale was to synchronize Phase 2 with the EU's obligations under the Protocol's first commitment period. Since the Protocol would not recognize GHG reductions made before 2008, the EU disallowed banking of EUAs from Phase 1 so that they were unusable in Phase 2.³⁶ Also, many countries experienced lower GHG emissions than their projected EUA allocations in Phase 1 as a result of global recession.³⁷ This resulted in an excess supply of EUAs, which lowered their demand and depressed their prices.³⁸

However, some commentators rationalize the EUA's price volatility as being "part of the normal functioning of a complex market ... For example, the price of an ETS allowance has displayed less volatility than coffee, cocoa, oranges, rice, and many other commodities."³⁹ Nevertheless, the price volatility of EUAs greatly discouraged firms from investing in abatement



technologies to reduce their pollution activities. Because of the EUA's price uncertainty, the rate of return on investing in such technologies became unclear, thereby increasing firms' financial risk including the cost of capital. Unfortunately, increase in a firm's cost of capital significantly reduces its appetite to invest in innovative technologies for carbon abatement.⁴⁰

The challenges that the EU ETS faced reveal that it failed to achieve cost-effectiveness as a market-based climate policy tool. This is because the price volatility of EUAs greatly increased the compliance costs of both industry and consumers.

Political Feasibility

The third evaluation criterion is political feasibility.⁴¹ It involves a determination of whether various stakeholders have considered its goals, processes and possible impacts to be legitimate.⁴²

As earlier discussed, the EU ETS is the first and largest emissions trading market in the world. Thus, the complexity of regulating thirty-one countries and over eleven thousand firms cannot be underestimated.⁴³ It is an innovative trading system that has been difficult to both implement and enforce because it concerns "an intangible market with artificial scarcity."⁴⁴ With its modest GHG reduction ambitions, the EU Commission had to ensure the political feasibility of implementing the EU ETS. It had to be robust enough to achieve its GHG reduction targets but not so robust as to fall under its own weight.⁴⁵

Despite the fact that the EU Commission had no experience in emissions trading prior to 2005, it had successfully marshaled the support of thirty-one jurisdictions, disparate industry sectors and divergent environmental non-governmental organization. Venmans attributes two reasons for its success in this regard.

First, approval of the EU ETS in 2003 took place at a time when the United States refused to sign the Protocol, thus threatening its viability as a global climate policy tool to combat climate change. The EU wanted to show the rest of the world that it was taking its climate responsibility very seriously by taking the lead as the world's frontrunner in international emissions trading.⁴⁶

Second, various stakeholders supported the EU ETS because it catered to their specific interests. While climate change was viewed as a threat to their businesses, industrial emitters also saw it as an emerging arena of business opportunities.⁴⁷ They viewed it as a cost-effective tool that could provide a plethora of

additional revenue streams.⁴⁸ The free allowances they received from the government produced profits, thus fortifying their support to ensure the viable success of the EU ETS.⁴⁹ Free allowances reduced their compliance costs and thus removed any political opposition they might have raised against the implementation of the EU ETS.⁵⁰

The fact that the EU dexterously and quickly implemented the EU ETS in 2005, which was three years before the Protocol's first commitment period, reveals that it successfully achieved political feasibility in garnering the overwhelming support of various stakeholders. Clearly, the EU ETS strategically adapted itself to the dynamic political realities that became manifest during its eight years of operation.

In summary, these evaluations illustrate that while the EU ETS fared well in terms of political feasibility, it did not fare well in terms of environmental integrity and cost-effectiveness. It should be noted, however, that each criterion possesses "conflicting values and tensions that are intrinsic" against the others, which inevitably requires strategic trade-offs among them.⁵¹ The performance of the EU ETS against a particular criterion may have been directly influenced by the EU Commission's strategic climate policy objectives. Because the EU ETS was going to be the first carbon trading scheme in the world, it appears that the EU Commission was keen to prioritize political feasibility. To achieve political acceptance of the EU ETS as a climate policy tool, the EU Commission provided private industry with free allowances instead of auctioning them off with unintended trade-offs affecting environmental integrity. This appears to have happened during Phase 1 and Phase 2 of the EU ETS. In Phase 3, the EU Commission has undertaken major reforms for the EU ETS by prioritizing environmental integrity and cost-effectiveness, since it has already fared well in the political arena.⁵²

Lessons Learned

This section sets out five invaluable lessons from the EU ETS experience, which other jurisdictions may learn from in setting up their own emission trading schemes. As noted by EU Commissioner for Climate Action Connie Hedegaard, "all the experience Europe has gained for good and for worse, what to do, but also what not to do ... can be used so that others can move to the right solutions."⁵³

Lesson #1: The recognition of Kyoto offsets or CERs should be limited to those generated by projects that are genuinely additional in order to improve their environmental integrity.⁵⁴ In addressing the questionable





Kyoto offsets that were used for compliance purposes, the EU ETS has restricted the scope of CERs that will be considered as eligible in Phase 3 of its operation. Starting in 2013, the EU ETS has only accepted CERs from new CDM projects located in jurisdictions that fall under the definition of “least-developed countries.”⁵⁵ This major reform will encourage more emission reduction initiatives to be undertaken within EU borders.⁵⁶

Lesson #2: Effective governance structures and high security standards for carbon registries should be established to improve the security and integrity of the billion dollars worth of carbon trades and to prevent fraud and other market security threats.⁵⁷ In addressing its previous experiences with fraud and EUA thefts, the EU Commission realized that having thirty-one different national carbon registries recording volumes of daily trading transactions made it extremely vulnerable from a security standpoint.⁵⁸ Thus, starting in 2013, these registries have been consolidated into one centralized European registry.⁵⁹ Moreover, the EU Commission implemented a single EU-wide cap on emissions to replace the national caps of its member states and outlined ambitious yearly tightening of EU-wide emission caps till 2020.⁶⁰

Lesson #3: A government’s allowance allocation to emitters should be based on their historical emissions, using accurate monitoring, reporting and verification (MRV) systems to prevent over-allocation.⁶¹ Government should allocate allowances based on an emitter’s actual historical GHG emissions, instead of mere approximations of them.⁶² Historical GHG emissions can be obtained by undertaking early MRV of GHG emissions long in advance of the launch of a cap-and-trade scheme. Moreover, accurate and credible MRV procedures should continue during and after every year of the scheme’s operation in order to encourage deeper emission cuts and to more precisely evaluate the scheme’s success.⁶³ In 2013, the EU enhanced its existing MRV guidelines to encourage administrative efficiency and cost-effectiveness in regulatory compliance.⁶⁴

Lesson #4: A government should establish clear, transparent and long-term climate policies that provide a stable price signal on carbon to encourage low-carbon infrastructure investment.⁶⁵ It is imperative that regulatory certainty be in place for private industry to perceive low regulatory risks for investing in innovative carbon abatement technologies. Without long-term policy certainty, the risk premium for investments in such new technologies will be high, thus increasing industry’s cost of capital and transaction costs in emissions trading.⁶⁶

To this end, the EU Commission recently implemented its “Roadmap 2050” project that embodies its long-term climate policy plan for deeper and more cost-effective emission cuts for the decades until 2050.⁶⁷

Lesson #5: A government should provide free allowance allocations at the start of its cap-and-trade scheme to encourage private industry’s political acceptance and reduce its costs for compliance.⁶⁸ Studies have noted that free allowance allocations can be very crucial to the successful implementation of a policy mechanism although admittedly “an auctioning of permits is favored in textbook economics because of its higher economic effectiveness.”⁶⁹ When an emitter purchases EUAs at an auction, its revenues do not grow when it incorporates the prices of such EUAs into the overall price it charges customers for its products and services.⁷⁰ However, it may not be politically feasible to introduce allowance auctioning at the start of a cap-and-trade scheme for the reasons discussed above.⁷¹

Indeed, a strategic balance must be struck between granting free allowances to industrial emitters that have lobbied for them and ensuring that such political compromises do not undermine the environmental, social and economic policies of the ETS.⁷² Government must be mindful that because of the charged political context in which carbon markets operate, such markets have become “particularly vulnerable to inappropriate lobbying and regulatory capture.”⁷³ Beginning in 2013, the EU ETS progressively introduced auctioning as a way of distributing allowances.⁷⁴

Conclusion

The EU ETS is the first, largest and most ambitious international carbon market in the world. Its bold ambition to establish the first multinational ETS is truly laudable, even if it did not have any experience in doing so; even if some powerful developed countries had not committed to any GHG reductions whatsoever, and despite the Kyoto Protocol not having been operational at that time. Unlike other jurisdictions, it did not take a “wait-and-see” approach. In evaluating the overall performance of the EU ETS, Hansjurg remarked:

“As such a scheme will not be introduced into a perfect world, however, it is important not to measure it against the theoretical ideal and the economic textbook template. It rather needs to be seen and judged against the motivation to set the ground and make a first step to a global greenhouse gas emissions trading scheme.”⁷⁵





As can be expected of the first international ETS in the world, the EU ETS was subject to the vagaries of being a neophyte. In taking a “learning-by-doing” approach instead, the EU ETS has successfully established a complex, innovative carbon trading scheme that nevertheless included design flaws and operational vulnerabilities. Such vulnerabilities became evident only during its actual operation as is typical in a “learning-by-doing” experience.

Based on my evaluation, I conclude that while the EU ETS fared well in terms of political feasibility, it did not fare well on terms of environmental integrity and cost-effectiveness. Nevertheless, each criterion possesses conflicting tensions against the others that inevitably require some compromises to be made among them.⁷⁶ The performance of the EU ETS is directly influenced by the EU Commission’s climate policy objectives during those particular phases. Thus, it would be simplistic to criticize the EU ETS as an epic failure because it did not fare well on all the criteria. Criticisms of this nature fail to appreciate the complexity of emissions trading schemes and the massive scale on which the EU ETS has been established.

Indeed, with eight years of practical experience, the EU ETS should be considered “a proto-type of the multinational GHG emissions trading system that is advanced as a possible architecture for an eventual global climate regime.”⁷⁷ Thus, it is hardly surprising that the WCI, which is a collaboration of different North American jurisdictions, has expressly acknowledged taking away lessons from the EU ETS for carbon market design recommendations.⁷⁸ Likewise, China has recognized lessons it could use from the EU ETS as it launches its emissions trading platform in the next few years.⁷⁹ Overall, the success of the EU ETS may be in its confirmation that international emissions trading can actually work and flourish.

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Notes

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BOOK REVIEW — LEASING OIL AND GAS INTERESTS: A PLAIN LANGUAGE ACCOUNT

Fenner L. Stewart ♦♦

***Mineral Land Rights: What You Need To Know* by Levonne Louie was published in 2014 by Citrine Press. It is available in paperback (ISBN-10: 0993803709 – CAN \$19.95)**

Mineral Land Rights: What You Need To Know is a 127-page book broken into 10 short chapters; it can be read, with ease, in a couple of hours. The genius of this work is that anyone who has even basic reading skills can understand the content of her text ... with the exception of possibly Chapter 3, entitled Mineral Land Ownership. It would be a stretch to compare Ms. Louie's prose to that of Alistair MacLeod's, but both share the capacity to decode complex ideas into simple, direct

language.¹ In fact, the book reads as though she was explaining the nuances of the oil and gas industry to you over a cup of coffee at the local Tim Hortons.

After the reader becomes acclimatized to Ms. Louie's writing style, the merit of the book becomes more than apparent. In Chapter 1, Ms. Louie succinctly provides an overview of oil and gas geology and of the basic mechanics of the oil business. Chapters 2 and 3 provide an excellent basic understanding of mineral rights and ownership in Alberta. In Chapter 3, the reader may have to pay more careful attention to fully grasp the implications of inter-generational land transfers and their application to leasing; Ms. Louie surely can be forgiven for this because accurately simplifying the nature of such ownership can be a Herculean task.





Ms. Louie primarily wrote this book to inform landowners of the issues that can arise from leasing oil and gas interests.² Chapters 4 through 8 squarely satisfy this ambition. In Chapter 4, she briefly introduces surface land ownership, but only briefly, noting that much information is already available on this topic.³

Chapter 5 builds a scenario for the reader: assume you are an owner of mineral rights, what can you do?⁴ Ms. Louie suggests 4 options: (1) sell, (2) develop the resource yourself, (3) lease, or (4) do nothing.⁵ It appears that she frames it this way to contextualize leasing with the other options. First, the owner can sell;⁶ but even when the reservoir's future production is accurately calculated, the buyer will demand a discount for accepting the risk of future royalties.⁷ That said, this is a good option for those who want or need to cash out immediately. Second, the owner can develop the reservoir him or herself, and this certainly will lead to the greatest profit—assuming that operations run smoothly. If this significant assumption is not immediately obvious to the reader, Ms. Louie lays out the notable challenges and associated risks facing the amateur wildcatter setting out to produce oil and gas.⁸ Third, the owner can do nothing.⁹ If one owns the surface and mineral rights to the property, the value of the quiet enjoyment of one's property may outweigh the profit from allowing oil and gas development. This particular framing of the choices will likely lead to the conclusion that if the goal is to maximize profit and minimize risk, the best option is to lease the land to a professional.

The remainder of the chapter offers insights into the challenges of finding and keeping the best oil and gas company/lessee. She notes that many companies use lease brokers who do not disclose who they are representing.¹⁰ Furthermore, even if a particular company becomes the lessee, this does not necessarily mean that it will not assign the lease to another operator. That being the case, Ms. Louie prudently recommends that the best way to protect one's interest is to ensure that one thoroughly understands all of the rights and obligations of the lease prior to signing it.¹¹ Thus, Chapter 5 does an excellent job of setting up Chapter 6, which addresses the key clauses of the lease. This is the longest, most important, and best written chapter of the book.

On first blush, Chapter 7 might seem oddly misplaced: what would a private mineral owner care about the process that an oil and gas company is required to follow in order to obtain the right to produce oil and gas from Crown land? Upon consideration, the answer ought to present itself to the reader; the Crown is the private lessor's biggest competition. In Alberta, Crown

land sales are offered every 2 weeks; thus, the market is constantly offering new leasing opportunities. It is a lessee's market. Knowing the costs of Crown land sales helps the private lessor, more generally, to set reasonable expectations and, more specifically, to determine the value of their property.

Chapter 8 is the last substantive chapter; it offers the mineral owner's perspective on the lessor-lessee relationship. Ms. Louie explains termination under the habendum clause, the potential of assignment, the joint operating agreement, the pooling agreement, and the farm-out agreement. Chapter 9 is basically a page and can be boiled down to this: if the landowner is a lessor and he or she wishes to transfer the land to another, then he or she ought to use a lawyer. Finally, Chapter 10 is a 3-page conclusion providing 10 bullet point takeaways; Ms. Louie prioritizes these as the most important information for the reader to retain from her book.

In conclusion, students cannot adequately understand the law without also understanding what that law is regulating. A pertinent example of this is that a student cannot fully master the oil and gas lease without knowing the nature of the industry, as well as the interests of the mineral rights owners in question. The best students are mindful of this broad view of their legal education, developing a command not only of law, but also the regulatory field. These students tend to become the top legal professionals in their area; this is a good sign that the legal market is functioning properly. If law disconnects from the needs of those subjected to it, governance mechanisms will breakdown¹² and higher social costs are assured.¹³ Thus, the success of law demands that legal professionals, and in particular law professors, can bridge such gaps in knowledge.¹⁴ Accordingly, accurate, informative, plain-language explanations of any regulatory field ought to be welcome contributions to any legal literature. Levenne Louie's new book certainly fits this bill. Welcome Ms. Louie!

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Notes

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14. Legal Realism has taught us this lesson. For a better understanding of the best efforts of U.S. Legal Realists to understand regulated spaces, see Karl Llewellyn, "A Realistic Jurisprudence: The Next Step" (1930) 30 Colum L Rev 431; Karl Llewellyn, "Some Realism about Realism" (1931) 44 Harv Law Rev 1222 (1931); and Karl N Llewellyn & E Adamson Hoebel, *The Cheyenne Way: Conflicts and Case Law in Primitive Jurisprudence* (Getzville, NY: William S Hein & Co, 2002) [1941].

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