



DECEMBER 2021

SUMMARY REPORT

CANADA - EU WEBINAR SERIES ON ENERGY EFFICIENCY IN BUILDINGS



 Natural Resources Canada Ressources naturelles Canada

Canada



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CONTENTS

INTRODUCTION 01

WEBINAR 1 Investing in a climate-neutral recovery (March 9, 2021) 03

Natural Resources Canada
& European Commission

WEBINAR 3 Supporting local action on energy efficiency (May 18, 2021) 12

Federation of Canadian Municipalities,
European Investment Bank,
Representatives of the cities of Toronto,
Edmonton, Vancouver, Lille, Utrecht,
Ottawa, Valencia and Dublin

WEBINAR 5 Data that informs energy efficiency policy (July 6, 2021) 19

Statistics Canada, The Atmospheric Fund,
Dunsky Energy + Climate Advisors, European Commission,
International Energy Agency

02 OVERVIEW OF THE SERIES

08 WEBINAR 2 Pathways to 2050: Deep dive into strategies to boost building renovation (April 20, 2021)

Efficiency Canada,
British Columbia Ministry of Energy,
Mines and Low Carbon Innovation,
European Commission, Flemish Energy and Climate Agency,
Spanish Ministry of Transport,
Mobility and Urban Agenda

16 WEBINAR 4 Financing and business models that deliver (June 16, 2021)

Canadian Green Building Council,
Energy Services Association Canada,
Arbitrage Real Estate,
EnerSaveCapital

22 ACKNOWLEDGMENTS



INTRODUCTION

Canada and the European-Union (EU) are like-minded partners with a shared ambition to achieving net-zero emissions by 2050. In particular, Canada and the European Commission have a long history of cooperation in the energy sector, principally through the Canada-EU High Level Energy Dialogue (HLED). Since 2007, HLED has enabled collaboration on a range of important energy sector issues, including energy efficiency.

In June 2017, Canada and the EU committed to share policy experiences and best practices on the topic of energy efficiency in buildings through a workshop on mandatory energy disclosure and labelling. In March 2020, Canada and the EU built upon that relationship by jointly hosting a workshop on energy efficient solutions in buildings at all levels of governance to address the climate challenge. It was organized by the European Commission and [Natural Resources Canada \(NRCAN\)](#), within the framework of the Specific Partnerships for the Implementation of the Paris Agreement (SPIPA).

Despite the limitations of the pandemic, the Canada-EU partnership to advance energy efficiency in buildings has continued. This is especially relevant, since both Canada and the EU have put in place ambitious actions to accelerate building retrofits and create jobs. Hosted by [BPIE, the Buildings Performance Institute Europe](#), the Canada-EU Exchange held a series of five webinars in 2021, which ran monthly from March until July. This report will provide readers with a summary and insights from those webinars.





OVERVIEW OF THE SERIES

Each webinar brought together about 300 experts and participants from across Canada and the European Union and Member States - ranging from all levels of governments to academia, to industry associations and the private sector - all working to advance energy efficiency in the building sector. The webinars covered selected building policies and programmes, their implementation, best practices, and innovative policies across Canada and EU Member States.

- Webinar 1: Investing in a climate-neutral recovery (March 9, 2021)
- Webinar 2: Pathways to 2050: Deep dive into strategies to boost building renovation (April 20, 2021)
- Webinar 3: Supporting local action on energy efficiency (May 18, 2021)
- Webinar 4: Financing and business models that deliver (June 15, 2021)
- Webinar 5: Data that informs energy efficiency policy (July 6, 2021)



WEBINAR 1 INVESTING IN A CLIMATE-NEUTRAL RECOVERY

The first webinar, hosted on March 9th, 2021, focused on the Recovery Plan for Europe (Next Generation EU) and financing mechanisms supporting building renovation in the EU multi-annual financial framework 2021- 2027. It also dived into Canada's overarching plans and investment strategies to boost energy efficient renovations in buildings.



NATURAL RESOURCES CANADA



Energy efficiency for Canada is a jobs power house. In 2018, more than 436,000 Canadians worked in the sector, and the energy efficiency sector was projected to grow at 8%.

Joyce Henry, Director General, Office of Energy Efficiency at Natural Resources Canada



BUILDINGS IN CANADA

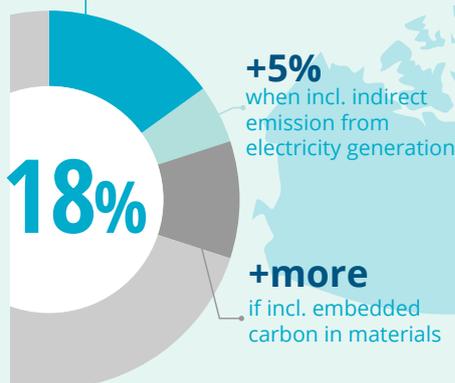
Largely untapped opportunity



(By floor space, commercial & institutional buildings, SCIEU2014)

Significant emissions

13%
of total emissions
(92.5 mt, 2018)



In **2018**
the IEA identified
buildings sector
as offering

28% of all
potential
energy savings
in Canada

+5%
when incl. indirect
emission from
electricity generation

+more
if incl. embedded
carbon in materials

Since 2016, the Government of Canada has worked with all levels of government to develop plans and make commitments to address the climate crisis, such as the [Pan-Canadian Framework on Clean Growth and Climate Change](#), [Build Smart: Canada's Building Strategy](#); the [2020 Strengthened Climate Plan: A Healthy Environment and a Healthy Economy](#); and the [Net-Zero Emissions by 2050 Accountability Act](#).

Canada's plan to fight climate change includes several measures aimed at improving energy efficiency, across all sectors, with concentrated efforts in industry, transport, and buildings.

Many recent federal investments target energy efficient retrofits, including:

- \$2.6B for the [Canada Greener Homes Grant initiative](#), aimed at helping improve home energy efficiency by providing 700,000 grants of up to \$5000.
- \$1.5B for green and inclusive community buildings, with 10% allocated towards Indigenous projects.
- \$2B from the [Canada Infrastructure Bank Growth Plan](#) will be used to invest in large-scale building retrofits to increase energy efficiency and help make communities more sustainable.

Energy efficiency is a national priority embedded across federal programming, but a lot more work needs to be done as Canada remains an energy intensive country and energy consumption continues to increase. Canada is working to address these challenges through strong energy efficiency policies and regulations. Emerging areas of focus include upskilling and expanding the efficiency workforce; targeting embodied carbon in building materials; incenting a green supply chain; supporting technical progress and digitalization, and exploring new legislative and regulatory mechanisms.



EUROPEAN COMMISSION

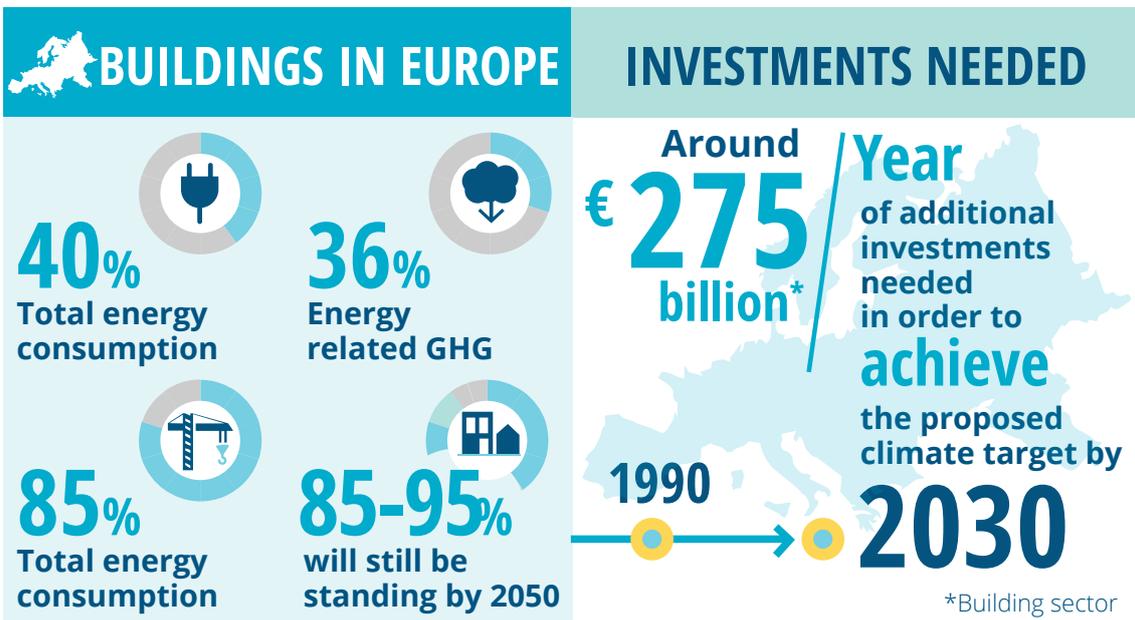


Improving efficiency is key to achieving climate neutrality.



Carlos Sanchez-Rivero, Team Leader, Financing for Energy Efficiency, DG ENERGY, European Commission

The EU has recently established several dedicated resources and initiatives to economic recovery, which highlight the importance of funding building renovation to create jobs as well as meet climate targets. At the EU level, two initiatives of focus for such efforts are [Next Generation EU](#) and the [Multiannual Financial Framework](#). These two programmes fund several key building renovation initiatives, such as [InvestEU](#) and [Horizon Europe](#), which ultimately support the Renovation Wave and the European Green Deal.



The [European Green Deal](#), introduced in 2019 by the European Commission, is a roadmap to drive the European Union to a sustainable, climate-neutral economy by 2050. As the next step of the Energy Union, the EU Green Deal aims to reduce emissions across all sectors by 55% by 2030.

Introduced as part of the Green Deal, the [Renovation Wave](#), is a strategic communication of the European Commission highlighting the key areas of intervention to boost the renovation of buildings in 2021-2024.

Of specific importance, the Renovation Wave calls for an increased annual renovation rate of 2% by 2030, up from the current rate of 1%. Additionally, the Renovation Wave suggests more effective use of energy performance certificates via the development of a digital building logbook and smart readiness indicator, as well as the introduction of Minimum Energy Performance Standards. The Renovation Wave also highlights the importance of reducing total carbon impact in the buildings sector, calling to develop a 2050 roadmap for reducing whole lifecycle carbon in buildings.

EU Funding driving investment for renovation

- Recovery and resilience facility: [The Recovery and Resilience Facility](#) (RFF) is the centerpiece of NextGenerationEU, with €672.5 billion in loans and grants available to support reforms and investments undertaken by EU countries. This facility can support climate targets while promoting economic recovery. The aim is to mitigate the economic and social impact of the coronavirus pandemic and make European economies and societies more sustainable, resilient, and better prepared for the challenges and opportunities of the green and digital transitions.
- Cohesion policy funds: Proposed budget of €330 billion for better targeting better delivery on high energy performance, in line with National Energy and Climate Plans and Long Term Renovation Strategies.
- InvestEU: The InvestEU programme is funded by both the MFF and Next Generation EU. It is the primary European investment programme to bolster the European economy given the current crisis. The current budget of InvestEU (as of February 2021) is €33 billion. InvestEU's main objectives (in line with EU priorities) is to fund sustainable infrastructure projects, innovation, and digitization research, increase access to finance for SMEs, and increase availability of microfinance.



Session recording and slides available [here](#)



WEBINAR 2

PATHWAYS TO 2050: DEEP DIVE INTO STRATEGIES TO BOOST BUILDING RENOVATION

The second webinar, hosted on April 20th, 2021, focused on strategies in EU Member States and Canadian provinces to boost renovations and decarbonize the building stock by 2050.

EFFICIENCY CANADA

The [Provincial Energy Efficiency Scorecard](#) published by Efficiency Canada provides an overview of Canada's provincial policies and performance on energy efficiency by tracking annual progress and benchmarking best practices while promoting friendly competition between provinces.

James Gaede, Senior Research Associate of Efficiency Canada and Lead Author of the Provincial Energy Efficiency Scorecard noted that there has not been a significant change between Scorecard 2019 and 2020. British Columbia (BC) and Quebec (QC) have remained in the top tier in terms of overall performance. BC's clean electrical grids and innovative step codes for buildings places them in the lead position to decarbonize their building stock.

The Scorecard's range of metrics is expanding to include 5 key areas in the building sector that are integral to achieving progress in energy efficiency – building codes, code compliance, workforce development, professionalization, and performance standards. Using this new framework, upcoming scorecards will provide an overview of progress made by provinces as they develop and implement new energy efficiency measures and update codes, regulations and standards for buildings. The [2021 Scorecard](#) was released in November and can now be accessed online.



SPOTLIGHT: GOVERNMENT OF BRITISH COLUMBIA

Katherine Muncaster, the Director of the Energy Efficiency Branch in the BC Ministry of Energy, Mines, and Low Carbon Innovation provided an overview of BC's provincial efforts. The Market Transformation Curve is the foundation of the Provincial clean building strategy. It is based on several enabling mechanisms including RD&D, energy information/labelling, financial incentives, industry training, and codes and standards. The Province's innovative Step Code system allows for the voluntary adoption and progression of building codes by municipalities in order to achieve Net-Zero Energy-Ready (80% reduction) by 2032.

BC has several commitments to accelerate efforts in building codes and energy efficiency standards for appliances as the Province believes that limited progress can be made towards achieving climate objectives in a cost-effective manner without codes and standards that lock in key measures in buildings. Modeling has found that fuel switching, specifically the electrification of space and water heating is key to meeting 2030 and 2050 GHG targets. The main mechanism for achieving 2030 targets is to have comprehensive incentives, such as the [Better Homes](#) and [Better Buildings](#) Programs that are aimed at providing top-up funding, prescriptive incentives and coaching services. Skills training is also a notable challenge that BC shares with other Canadian provinces and EU counterparts in this area.

EUROPEAN COMMISSION

Regarding building policy on the national level, the [Energy Performance of Buildings Directive](#) ((EU) 2018/844) requires Member States (MS) to set up long-term renovation strategies outlining how MSs plan to transform their national building stock. [Long-term renovation strategies](#) (LTRS) can fulfil an essential role for local authorities aiming to decarbonise the building stock, get access to funding and benefit from opportunities presented by the Renovation Wave. The LTRS are meant to act as roadmaps to a highly energy-efficient and healthy building stock, providing guidance for municipalities on specific policies to stimulate deep renovation, target energy poor communities, and prioritise public buildings as role models. High-quality LTRS are an essential instrument to guide recovery investments under the frame of the EU Recovery and Resilience Facility towards building renovation. MS should develop ambitious renovation schemes and reforms in their Recovery and Resilience Plans, building on robust and comprehensive LTRS to allocate the budget effectively.

The webinar included insights from Spain and Flanders' LTRS processes to discuss how municipal authorities' needs are reflected in national plans, as well as the formation of the plans from the national level.



SPOTLIGHT: FLANDERS

Roel Vermeiren, from Vlaams Energie, Belgium (Flanders) opened with a summary of the Flemish building stock including key statistics (there are 3 million dwellings in 2.3 million buildings throughout Flanders, accounting for 13.7% of total energy use). The presentation then included regional goals for 2050 including moving the building stock to EPC A rated homes, 100 kWh/m² annually (from the 2019 average of D rating, 390 kWh/m²). Mr. Vermeiren outlined the key points and planned actions for the building sector in Flanders.

The Flemish presentation also covered potential trigger points to implement energy efficiency measures in a building's lifetime, as well as an estimate for total investment needed and jobs created (€200 billion, creating 10 jobs per million euro invested). The presentation included a detailed look at two new incentives: zero interest loans for new buyers, and an EPC label grant for all owners.



SPOTLIGHT: SPAIN

Javier Martin Ramiro, from the Spanish Ministry of Transport, Mobility, and Urban Agenda, presented on the Spanish Long-term Renovation Strategy (LTRS). As explained in Mr. Martin's presentation, the Spanish LTRS is considered one of the most ambitious national renovation strategies (also discussed in [BPIE's recent analysis](#)) due to its ambitious goal setting.

Mr. Martin then introduced Spain's target to renovate 300,000 homes a year by 2030 (up from the current level of 25,000 annually), outlined in Spain's National Integrated Energy and Climate Plan (PNIEC).

The Spanish presentation included an overview of the Spanish building stock, highlighting main areas for improvement (primarily an aging building stock, and diverse climate zones across the country, meaning a tailored approach is necessary). The presentation concluded with detailed insights into Spain's recovery, transformation and resilience plan. Specifically, Mr. Martin explained the urban renewal and building renovation plan within the recovery context, which includes 6 reform components and 6 investment initiatives.



Session recording and slides available [here](#)



WEBINAR 3

SUPPORTING LOCAL ACTION ON ENERGY EFFICIENCY

The third webinar, hosted on May 18th, 2021, focused on best practices and tools to support local action in cities and municipalities. This webinar included a series of small group discussions with experts from leading cities. They discussed key priorities, available tools, and what is needed to reach their climate goals.

The first session was dedicated to an overview of some available tools supporting local action in Europe and Canada. Speakers from the [European Investment Bank](#) (EIB) and the [Federation of Canadian Municipalities](#) (FCM) dived into initiatives such as the [European Local Energy Assistance](#) (ELENA) programme, the [Green Municipal Fund](#) and [Low Carbon Cities Canada](#) (LC3). Eero Eilio, Adviser on Energy Transition and Local Governance, DG Energy, set the scene with an introduction on how cities deliver the European Green Deal, in particular through the [Covenant of Mayors](#) initiative, which brings together more than 10,000 local governments voluntarily committed to implementing EU climate and energy objectives.

The leading cities taking part in the discussion included: Edmonton, Ottawa, Vancouver, Toronto, Lille (FR), Utrecht (NL), Valencia (ES), and Dublin (IE).

FEDERATION OF CANADIAN MUNICIPALITIES

The Federation of Canadian Municipalities (FCM) represents the “national voice of Canada’s local order of government”, representing more than 90% of Canadians. Yi Liu, Senior Manager, Sector Development with FCM’s Green Municipal Fund (GMF) presented information about GMF, a \$1 billion program delivered by the FCM and funded through an endowment from the Government of Canada. The GMF provides a unique mix of funding and training that leverages federal, provincial and private investments to give municipalities the tools they need to accelerate transition to a low-carbon future— from the idea phase to capital project completion. The GMF focuses on five priority sectors: energy, waste, transportation, land use and water. Over the past two decades, The GMF has approved over 1,720 projects with over \$1.1B in funding and helped offset 2.75 million tonnes of greenhouse gases.

In 2019, the federal government provided an additional \$950M (CAN) in funding to the Green Municipal Fund (GMF) to expand its mandate and support 4 new initiatives on energy efficiency in communities across Canada: Community Efficiency Financing (CEF), Sustainable Affordable Housing (SAH), Community Buildings Retrofit (CBR), and the Low Carbon Cities Canada. CEF helps municipalities deliver energy financing programs for low-rise residential properties. SAH offers support to local affordable housing providers – including municipal, not-for-profit organizations and housing co-ops – to retrofit existing affordable housing units, or construct energy efficient new builds that emit lower GHG emissions. CBR supports local governments and not-for-profit organizations in retrofitting public buildings to improve energy performance, lower operating and maintenance costs, and transition to cleaner energy solutions over time.

The [Low Carbon Cities Canada \(LC3\)](#) initiative is a partnership among seven LC3 Centres in Canada’s largest urban areas, working in collaboration with the FCM.

It serves as a catalyst for the identification, incubation and widespread adoption of low carbon solutions to help cities accelerate an equitable transition to net-zero and beyond. Oscar Espinosa, Senior Advisor for LC3 explained that LC3 is Inspired by [The Atmospheric Fund](#) (TAF) model and successes, which has been demonstrating and scaling-up low carbon solutions in the City of Toronto since 1991.

The LC3 Centres act as de-centralized and locally-focused hubs to respond to local innovations and needs while engaging community and other stakeholders to collectively work towards emissions reductions at scale. The individual LC3 Centres will use and further their respective endowments and seek match funding to develop new programs and direct investment opportunities, and use the returns to fund grants, research, advocacy and other opportunities to accelerate the reduction of GHG emissions in their respective communities.

The vision and goal of the LC3s are based on their role as enablers and accelerators of the systems and structural changes that are needed to achieve or go beyond Canada's net-zero targets while advancing other community benefits.

EUROPEAN INVESTMENT BANK

Louise White, Senior Engineer at the European Investment Bank, gave an overview of the European Local Energy Assistance (ELENA) which was established in 2009. It is a grant that supports both private and public bodies (e.g local, regional, and national authorities) in the preparation of their energy saving investment programmes. Over €208m has been awarded to projects since 2009, supporting approx. €7.2bn investments. ELENA aims to go beyond the “business as usual” model and does not fund bodies that are solely profit oriented. In fact, a key leverage factor is that the ELENA grant should lead to an investment.

Providing both financial and technical support, ELENA funds up to 90% of the investment preparation costs (with 10% provided by the applicant). The budget is allocated on a “first come, first served” basis, but it is worth noting that the ELENA request should demonstrate a high probability that the project will be implemented.

Interactive discussions with leading cities

The second half of the webinar included a 30-minute session of 8 breakout groups for participants to interact and discuss priorities and tools in more detail. The groups were hosted by “leading cities” from Edmonton, Ottawa, Vancouver, Toronto, Lille (FR), Utrecht (NL), Valencia (ES), and Dublin (IE). Each group was guided by two main questions:

- What are the current goals in your city to decarbonize the building sector and boost energy efficient renovations?
- In light of the tools we have seen today that support local actions, what do you think works best? What would we need going forward?

With the Climate Change Master Plan, Ottawa set a 100% GHG reduction target by 2050, which aim to be met through loan programmes like the [Better Homes Ottawa](#). The city of Edmonton has recently committed to becoming climate-neutral by 2050. The City of Edmonton has recently committed to becoming climate neutral by 2050, and is set to launch a Property Assessed Clean Energy (PACE) program for their residential sector. Buildings also play a key role in Toronto's 'TransformTO' climate action strategy, which discusses several financing initiatives for building like the Home Energy Loan Program (HELP) or the Green Will initiative for building portfolio owners. Vancouver's Opt-In approach for municipalities is unique in allowing a higher level of impact and autonomy to adopt building codes for new construction ahead of the 2025 deadline. Already, 70% of municipalities have signed on.

Across the Atlantic, Lille Metropole is aiming to double the retrofit rate through programmes, such as [Amelio Habitat Durable](#) – a one-stop shop programme for centralized information, advice and solutions for sustainable and energy efficient home renovations. The programme aims to reduce the complexity of the renovation system for individuals and stakeholders and has been successful in terms of programme uptake and energy savings. In Valencia, Spain, the one-stop shop [Save The Homes](#) provides citizens with free support to better understand why and how they should renovate their houses. Going forward, the Utrecht representative mentions the creation of publicly-funded entities that operate outside of the political arena, enabling stability in planning and pursuing long-term efficiency goals. The City of Dublin suggests the use of energy performance contracting for the retrofit of large public buildings, providing the right incentives as well as ways to finance upfront costs of energy efficiency investments.



Session recording and slides available [here](#)



WEBINAR 4 FINANCING AND BUSINESS MODELS THAT DELIVER

The fourth webinar, hosted on June 15, 2021, focused on business and financing models that enable smart use of public and private funds and deliver energy efficiency renovations for both public and commercially owned buildings.

CANADIAN GREEN BUILDING COUNCIL

Akua Shatz, Vice-President for Market Engagement and Advocacy at the [Canadian Green Building Council](#) (CaGBC) explained that building sector renovations do not only present an opportunity for emissions reductions, but also bring economic benefits in the form of GDP growth, energy cost savings, tax revenue and employment. CaGBC is working towards addressing barriers to retrofits including lagging regulations, private capital risk aversion, project confidence and expectations, and pricing signals.

The [Investor Confidence Project](#) (ICP) is one such initiative introduced to facilitate project development and implementation using existing standards through the Investor Ready Energy Efficiency (IREE) certification, which works to increase the reliability of savings and reduce transaction costs and investor risk. The Canada Infrastructure Bank \$2B Commercial Building Retrofit Initiative demonstrates that funding towards GHG emissions reductions can also be used to mature the market by crowding in private capital and establishing retrofit investments as a distinct asset class, as well as supporting job creation and sustainable asset renewal. Initiatives like these work towards stimulating greater levels of aggregation and potential of funding in this sector. These are able to more effectively bundle funding into larger pools allowing for greater scale and size of investments, thereby becoming more attractive for lenders overall.

ENERGY SERVICES ASSOCIATION CANADA

[Energy Services Association Canada](#) represents about 90% of ESCOs in Canada. The Association's focus on retrofits has moved away from traditional renovation contracts to deeper full-building retrofits and whole-building life-cycle contracts, with net-zero targets incorporated into the plans.

Provinces are starting to take emissions targets and energy efficiency more seriously, Stuart Galloway, CEO at ESAC remarked, as they are becoming more important to the electorate, businesses, and private sector. A difficulty lies in enforcing and measuring the accountability of investments in this sector. Innovation is growing in the private, industrial, commercial, and retail sectors, as well as Multi-Unit Residential Buildings (MURBs), in response to the rising awareness by private sector owners.

The [Canada Infrastructure Bank](#) has changed their mandate to focus on both EnPCs in public and private buildings, albeit still complex. Other models, like the SuperEsco model, counterbalance this complexity by targeting commercial, industrial and multi-unit residential buildings, led by [SOFIAC](#) in the Province of Quebec. Increasing cooperation between governments, ESCOs, and other private actors will ensure that financing is made easily available for deeper and long-term retrofit goals.

ARBITRAGE REAL ESTATE & ENERSAVE CAPITAL

Ioannis Orfanos, Partner at Arbitrage Real Estate, focused on strategies and considerations in non-domestic real estate. The conversation started with the main drivers for change (technology, transition and integration), then provided an overview on understanding the key barriers and unique complexities to energy efficiency finance. The session then covered investment strategies and the commercial aspects for underwriting, and finally included a discussion on the health and wellbeing value-add of energy efficiency.

Regarding investment strategies and commercial aspects, three main strategies were discussed (1) capital expenditure, (2) 3rd party finance, and (3) buy-fix-sell.

Strategies	Main financiers	Type of Assets/Projects	Additional sources of finance
Capital Expenditure (Own finance)	<ul style="list-style-type: none"> Public sector Property investors Landlords / REICs Corporate owner occupiers 	<ul style="list-style-type: none"> Government estates Public infrastructure Core commercial real estate (e.g. office, hotel, retail etc) Asset with long residual commercial life 	<ul style="list-style-type: none"> Equipment vendor leases Grants, subsidies, tax incentives Development banks (risk sharing facilities) Commercial banks (dedicated credit lines) Green bonds
3rd party finance (ESA or EPC)	<ul style="list-style-type: none"> ESCO financing Public funds (e.g. UK Salix) Energy efficiency funds Utilities (on-bill financing) 	<ul style="list-style-type: none"> Government estates Public infrastructure M.U.S.H.² Corporate owned real estate 	<ul style="list-style-type: none"> Equipment vendor leases Grants, subsidies, tax incentives Development banks (risk sharing facilities) Commercial banks (dedicated credit lines) Public Private Partnerships Green bonds
Buy-Fix-Sell	<ul style="list-style-type: none"> Added-value funds Opportunistic funds Distress funds 	<ul style="list-style-type: none"> Commercial real estate with owners in distress Semi-completed developments Aged commercial real estate 	<ul style="list-style-type: none"> Discounted acquisition price (indirect) Commercial banks (incl. acquisition credit) Green bonds Specialized mezzanine funds

Csaba de Csiky, Chairman & Managing Partner, EnerSaveCapital, focused on scaling business models from an investors perspective. The presentation included key factors for scaling energy efficiency finance including; the need to be implemented and financed by a 3rd party, needs to be off-balance sheet, needs to pay for itself, and needs to be financeable.



Session recording and slides available [here](#)



WEBINAR 5

DATA THAT INFORMS ENERGY EFFICIENCY POLICY

The fifth webinar, held on July 6th, focused on data tools and collection to inform policy making and benchmarking, and on the importance of data for professionals executing energy efficiency projects.

STATISTICS CANADA

Philippe Gagné, Assistant Director at the Data Integration Infrastructure Division, at [Statistics Canada](#) provided an overview of the [Statistical Building Register \(SBgR\)](#), a key element of the national strategy to modernize data management while protecting privacy of information and ensuring data can be efficiently cross-linked to fulfill needs for cross-cutting analyses. The SBgR is a complete inventory of residential and non-residential buildings in Canada that ensure consistent geographic coding across the various statistical programs. It positions buildings within a basic block, which allow for the compilation of statistics at granular and/or high-level, as required by policymakers. Unlike some countries, Canada does not systematically assign unique and universal administrative identifiers to buildings, which creates complexity for SBgR's development. However, the evergreen process of data collection from multiple sources allows for the right level of data coverage.

The SBgR is dynamically interrelated to social and household surveys and used for a wide variety of initiatives and programs, including the population census, emergency and disaster response, and several economic and health surveys. Examples of energy related usage include the Survey of Commercial and Institutional Energy Use (SCIEU), Canadian Centre on Energy Information (CCIE).

National Building Layer

The goal of the National Building Layer (NBL) is the creation of a geospatial reference layer that contains building characteristic attributes for all buildings in Canada. Robert Dunphy, Manager within Statistical Geomatics Centre at Statistics Canada, explains that the NBL will serve as an authoritative reference and reduce duplication of effort for all users of building data. The principal profile will contain attributes that are relevant to the broadest user community and will be made available to the public. Specialized profiles, including an energy profile and a disaster risk reduction profile, which will become open data and publicly available in the near future.

The NBL aims to serve as an input to pursue answers to a multitude of diverse questions including energy policy related to sustainable growth, solar potential, evolution of energy efficiency measures and programs, and GHG emissions estimation.

The project is currently under development. Moving forward, Statistics Canada will continue to improve the NBL through ongoing collaboration with authoritative data providers and expanded data governance.

EUROPEAN COMMISSION

The EU Building stock Observatory

In the EU, the creation of the Building Stock Observatory (BSO) in 2016 stems from a lack of quality, reliable and consistent data on the actual effect of energy efficiency policies on the building stock across EU Member States. More transparent information on building stocks will better inform policy makers, supporting the decisions of market players, in particular financial institutions.

The BSO aims to provide a snapshot of the energy performance of the EU building stock with high-quality data from all Member States in a consistent and comparable manner. It sets a framework and methodology for the continuous monitoring of the building stock. Covering various topics from technical building systems to certification and financing, the BSO collects data on both national (official statistics, national registry (e.g. EPC), Long Term Renovation Strategies (LTRS) as well as on a horizontal level (Eurostat; JRC -IDEES, EC service contracts, CA EPBD as well as EU projects). However the BSO is faced with several challenges, such as the lack of data and of standardised and high quality data, as well as the need to have a constantly updated database that respects privacy.



Session recording and slides available [here](#)



More transparent information on building stocks will better inform policy makers, supporting the decisions of market players, in particular financial institutions.



ACKNOWLEDGMENTS

We would like to thank the following organisations for their participation in this Canada-EU exchange:

Arbitrage Real Estate

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Canada Green Building Council (CaGBC)

The Delegation of the European Union to Canada

Dunsky Energy + Climate Advisors

Efficiency Canada

Energy Services Association of Canada (ESAC)

EnerSaveCapital

European Commission

European Investment Bank (EIB)

Federation of Canadian Municipalities (FCM)

Flemish Energy and Climate Agency (VEKA, Belgium)

International Energy Agency (IEA)

Natural Resources Canada (NRCan)

Spanish Ministry of Transport, Mobility and Urban Agenda

Statistics Canada

The Atmospheric Fund (TAF)



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