



Item
Meeting 2016 Nov 07

COUNCIL REPORT

TO: CITY MANAGER **DATE:** 2016 November 01

FROM: DIRECTOR PLANNING AND BUILDING **FILE:** 76500 20
Ref: ESS

SUBJECT: FINAL ENVIRONMENTAL SUSTAINABILITY STRATEGY (ESS) AND FINAL COMMUNITY ENERGY AND EMISSIONS PLAN (CEEP)

PURPOSE: To advance the *Final Burnaby Environmental Sustainability Strategy (ESS)* and *Final Community Energy and Emissions Plan (CEEP)* for Council approval.

RECOMMENDATIONS:

1. **THAT** Council receive the results of *Phase 3 – Draft ESS* public consultation for information, as outlined in Section 3 of this report.
2. **THAT** Council approve the final *Burnaby Environmental Sustainability Strategy (ESS)* dated 2016 October 5¹ as outlined in Section 4 of this report.
3. **THAT** Council approve the final *Burnaby Community Energy and Emissions Plan (CEEP)* dated 2016 October 20² as outlined in Section 5 of this report.
4. **THAT** Council authorize staff to develop implementation plans to identify timelines, priorities, lead responsibility, recommended processes and/or approaches, and resources required for both the ESS and CEEP.
5. **THAT** Council authorize the Mayor to issue certificates of acknowledgement and hard copies of the ESS to all the citizen members of the ESS Steering Committee who contributed to the creation of the ESS.
6. **THAT** Council send a copy of this report to the Environment Committee, the Planning and Development Committee, the Social Planning Committee, the Transportation Committee, and the Parks, Recreation and Culture Commission for their information.

¹ Distributed to Council under separate cover and available for viewing at www.burnaby.ca/ess-final.

² Distributed to Council under separate cover and available for viewing at www.burnaby.ca/ceep-final.

REPORT

1.0 INTRODUCTION

The *Burnaby Environmental Sustainability Strategy* (ESS) is a plan for Burnaby’s “green” future. It completes the trilogy of sustainable city policies - environmental, social and economic³, and will help to define how the city can evolve and build on its strengths to become an even more vibrant, resilient and sustainable community, integrated with healthy ecosystems.

The ESS is a city-wide policy that sets a long term vision for the City to become a leader in protecting and regenerating healthy ecosystems, and supporting a healthy and prosperous community. The ESS is intended to set directions for environmental protection, stewardship, enhancement, and resilience in the city. As a city-wide strategy it will influence many other city-wide plans, community plans, development approvals, City programs, City bylaws, City regulations, and City operations.

The 20 person ESS Steering Committee was convened in January 2013, marking the beginning of the ESS process. The Steering Committee was chaired by Mayor Derek Corrigan, included several members of Burnaby City Council, and had wide representation from the community.

The development of the ESS was supported by a three-phase public consultation process. The process was extensive, inclusive and creative and set a solid foundation of community support that will help to ensure the future success of the ESS.

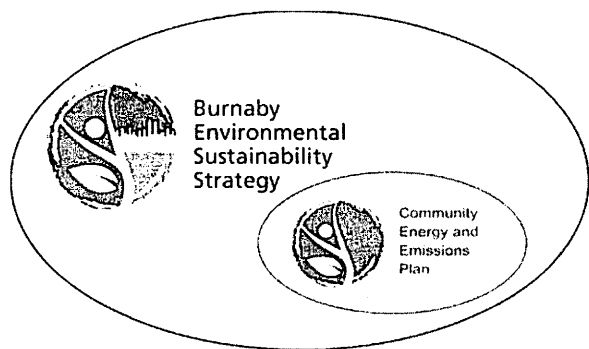


Figure 1. *The CEEP supports the ESS.*

The *Burnaby Community Energy and Emissions Plan* (CEEP) was developed as a complementary and supporting plan to the ESS, as shown in **Figure 1** (left). The ESS provides a broad context and framework for sustainability, while the CEEP is a more detailed plan focused on reducing community greenhouse gas (GHG) emissions and energy use, in order to address climate change, improve local air quality, save money, and improve livability and health.

³ The *Economic Development Strategy* was adopted by Council in 2007, and the *Social Sustainability Strategy* was adopted by Council in 2011.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01 Page 3

Together, the ESS and supporting CEEP are being advanced on the initiative of the Mayor and Council to ensure that Burnaby will continue to show leadership in the development of exemplary sustainability programs and initiatives, guided by its integrated social, environmental and economic strategies.

The purpose of this report is to summarize the processes used to create the *Final ESS* and the *Final CEEP*; summarize the key messages received from the public input collected from the Phase 3 public consultation; highlight the changes incorporated to the *Final ESS* and the *Final CEEP*; identify the next steps for the ESS and the CEEP; and advance the *Final ESS* and *Final CEEP* for Council's consideration and approval.

2.0 HOW THE FINAL ESS AND THE FINAL CEEP WERE CREATED

2.1 The ESS Process

The ESS process, previously approved by Council at its meeting of 2011 November 7, is now complete, as shown in **Attachment 1**.

The ESS process and the creation of the *Draft ESS* were guided by the 20 member ESS Steering Committee of recognized community leaders from diverse backgrounds and interests, chaired by Mayor Corrigan and served by Councillors Dan Johnston (vice chair), Sav Dhaliwal, Colleen Jordan, and Richard Chang.

On 2013 May 13, Council approved the three phase public consultation framework for the ESS. The ESS process engaged over 2,500 people and collected over 8,000 ideas, as shown in **Figure 2** (below). The response from the public and stakeholders has been overwhelmingly positive. This input has helped to shape the *Final ESS*, and *Final CEEP*.



Figure 2. ESS Public Consultation Results (Phases 1, 2 and 3)

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01 Page 4

Led by the Mayor's ESS Steering Committee, the ESS process was one of the largest and most creative public consultation programs the City has ever undertaken. The three phases of ESS public consultation are summarized below.

- Phase 1 – *Issues and Priorities (January to July 2013)*

Phase 1 included the first phase of engagement which ran four months (May to July 2013) and focused on raising awareness, identifying key issues and opportunities, developing the vision and building interest and support.

- Phase 2 – *Exploring Further (July 2013 to January 2015)*

Phase 2 included the second phase of engagement which ran for five months (March to July 2014) and emphasized deeper and more focused feedback to inform the draft theme-based goals, strategies and suggested actions.

- Phase 3 – *Draft ESS (January 2015 to November 2016)*

Phase 3 included the third and final phase of engagement, the subject of this report, which ran for four months (March to June 2016) and involved checking in with the community regarding the proposed ESS framework contained within the *Draft ESS* to see if the recommendations match the priorities and perspectives identified in earlier phases.

The ESS timeline and the key elements of each of the three phases of the ESS process can be found in **Attachment 2**. The results of Phase 1 and Phase 2 have been previously reported to Council⁴ and the results are available online at www.burnaby.ca/ess-input. Section 3 of this report summarizes the results of Phase 3.

2.2 The CEEP Process

The CEEP process, shown in **Attachment 3**, is also now complete. The CEEP was developed through a combination of technical work, stakeholder input and community engagement.

- Phase 1 - *Technical Work (January to July 2013)*

The first phase was to develop a rigorous science-based model, calibrated for Burnaby, that estimated today's emissions and the potential impact of different strategies to reduce emissions over time.

- Phase 2 – *Stakeholder Input (July 2013 to July 2015)*

⁴Results from Phases 1 and 2 public consultation can be found in the Council report #5 dated 2014 March 4 (Phase 1) and Council report #8 dated 2016 March 7 (Phase 2) and in the public summary reports available at www.burnaby.ca/ess-report-B (Phase 1) and www.burnaby.ca/ess-report-C (Phase 2).

The second phase included meetings with the CEEP Steering Committee (consisting of City staff and representatives from key partner agencies), and workshops with the ESS Steering Committee and community stakeholders. Public input on a number of CEEP related ESS goals, including *Breathe, Live, Build, Move, Conserve, and Manage*, was collected during ESS Phase 2.

- Phase 3 – *Community Engagement (July 2015 to June 2016)*

Phase 3 included sharing the draft strategies and targets with the public as part of the ESS Phase 3 public consultation, which ran for four months (March to June 2016).

This approach allowed participants to understand the impacts of various strategies, to provide input into choosing desirable and feasible strategies, and to have confidence that the target chosen will be achievable.

The CEEP was developed through a parallel process to the ESS, and its draft recommendations were integrated into the ESS to address climate change and to complement other goals for community health and livability.

3.0 PHASE 3 PUBLIC CONSULTATION

Phase 3 shared the *Draft ESS* and the supporting *Draft CEEP* with the broader community to check in to make sure we were ‘headed in the right direction’ before they were submitted to Council for approval. Phase 3 offered a great opportunity to share the *Draft CEEP* with the broader community in concert with the *Draft ESS* and helped the *Draft CEEP* reach a wider audience.

3.1 The Draft ESS

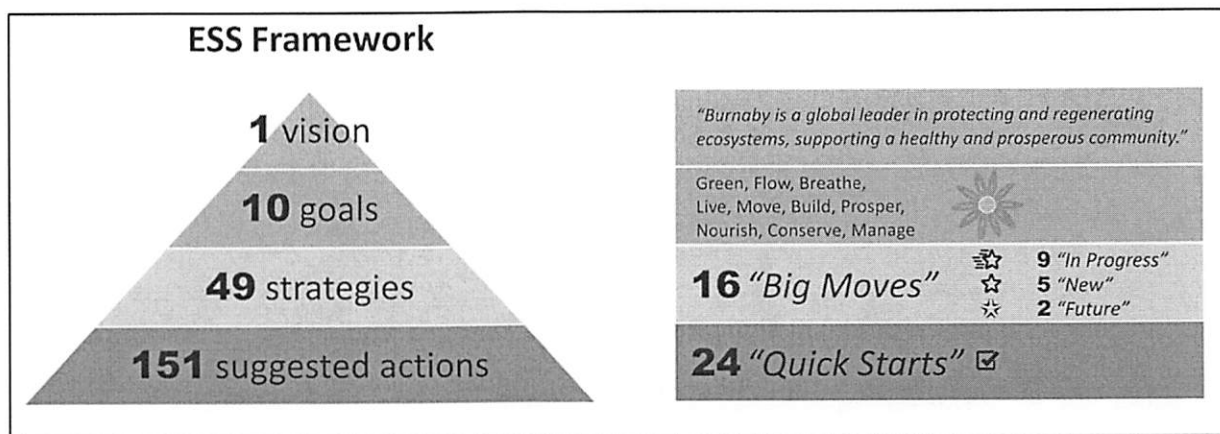


Figure 3. Draft ESS Framework

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01 Page 6

The framework contained within the *Draft ESS* had four layers, with each level being supported by more detail in the level below, as shown in **Figure 3** (previous page), Moving from the highest level to the most detailed level: there was one vision, 10 goals, 49 strategies and 151 suggested actions.

3.2 The Draft CEEP

Phase 3 also shared the *Draft CEEP*, a separate but supporting strategy for the ESS. The *Draft CEEP* consisted of GHG reduction targets and supporting strategies in four sectors, was shared with the public alongside the *Draft ESS*.

The *Draft ESS* and the *Draft CEEP*, as shared with the broader community during Phase 3, event details and the supporting public consultation material can all be viewed at www.burnaby.ca/ess-input.⁵

3.3 Phase 3 ESS Objectives

The objectives for the *Draft ESS* public consultation in Phase 3 were to:

- Celebrate the process to date (extensive consultation, collaborative effort, culmination of ‘good work’).
- Share the *Draft ESS* including a framework (vision, goals, strategies and suggested actions) and priorities (“*Big Moves*” and “*Quick Starts*”).
- Confirm that the *Draft ESS* is on the right track, or make corrections if needed.

3.4 Phase 3 CEEP Objectives

The objectives for the *Draft CEEP* consultation, undertaken in Phase 3, were to:

- Introduce the CEEP.
- Seek public feedback on the draft strategies in four sectors (buildings, district energy, transportation and solid waste).
- Confirm that the draft approach, targets, and strategies are on the right track, or make corrections if needed.

3.5 Phase 3 - Two Streams

To achieve these objectives, Phase 3 had two streams – *awareness* and *engagement*.

⁵ The Draft ESS Report will continue to be posted during the month of November so those who participated in Phase 3 can see the changes made to the Final ESS. Once Council approves this report staff will replace both the Draft ESS and the Final ESS with the Adopted ESS.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01 Page 7

Awareness focused on communicating about the *Draft ESS* and *Draft CEEP*, and promoting the opportunity to provide feedback, including face-to-face conversations at public events, presentations, website material, social media and peer-to-peer networking.

Engagement involved obtaining formal responses from the public and stakeholders, from activities and small group discussions at workshops and public events, and from online questionnaires and written comments.

The *Draft ESS* and *Draft CEEP* were shared with the community at 16 events including six public community events and 10 stakeholder events. A range of methods was used to engage a broad spectrum of the public, including interactive activities, display boards, handouts, and online questionnaires. The events took place at a variety of locations across the city, and were attended by people of a variety of ages, demographics and cultural backgrounds. Both the *Draft ESS* and *Draft CEEP* were profiled at 11 events and the remaining five events focused on one project or the other.

A full list of events and activities undertaken at each can be viewed in the Phase 3 summary report that has been distributed to Council under separate cover and is available for viewing at www.burnaby.ca/ess-report-D.

3.6 Phase 3 - Key Messages

The following were the key messages received from public feedback on the *Draft ESS* and *Draft CEEP*.

3.6.1 Overall – ESS and CEEP

- Overall, the engagement was positively received, with a high response rate and strong interest at the 16 events attended.
- Over 5,600 people were made aware of the *Draft ESS/Draft CEEP* and over 580 people provided feedback.
- Over 350 online questionnaires were completed.
- Over 1,200 ideas were collected from the public in total, with a high number of comments expressing general support and/or specific reasons for supporting the two plans.
- The input collected from Phase 3 was used to create the *Final ESS* and the *Final CEEP*.

3.6.2 Draft ESS

Results of the *Draft ESS* consultation showed:

- 17% of people engaged had previously been involved in the ESS process and 83% were new to the ESS process.
- All 10 draft ESS goals had a significant level of interest (number of responses) and there was relatively little spread between each of the goals, when ordered from highest “*Move*” to lowest “*Prosper*”.
- There was a high level of support (ranging from 87% to 99% support) for each of the 10 draft ESS goals and 49 draft ESS strategies.
- Specific priorities in the ESS comments included protection of greenspace, improving walkability and bike-ability, and recycling and waste reduction (with all three of these and many others having linkages to the CEEP as well as the ESS).
- The majority of the ESS comments showed a high level of comfort with the “goals” and “strategies” contained within the *Draft ESS*.
- Of those comments that suggested making changes to the *Draft ESS* most related to the “suggested actions” level of the framework.

As a result, the public input from Phase 3 confirmed the *Draft ESS* is heading in the right direction overall and only modest changes were needed, with the majority being made to “suggested actions” in the *Final ESS*. Other changes to the body of the report included small wording changes and new information about Phase 3 to reflect the advancement of the report to its current “Final” state. All changes to the *Final ESS* are shown in yellow highlight on 2016 October 5th edition of the *Final ESS* (circulated to Council under separate cover and available for viewing at www.burnaby.ca/ess-final). The changes are also summarized in **Attachment 4**.

3.6.3 Draft CEEP

Results of the *Draft CEEP* consultation showed:

- Engagement on the CEEP was more modest than for the ESS. This was anticipated, as the CEEP is more technical, narrower in scope and more focused on energy and emissions than the ESS.
- 94% of people responding said they were “very” or “somewhat” well informed about climate change.
- Even with this high level of awareness, 53% said they learned something new about Burnaby’s emission and 34% said they learned something new about the

challenges Burnaby is facing. This suggests that continuing to provide information about Burnaby's existing conditions and challenges should be an important component of the CEEP going forward.

- 80% of people responding said they would support the unique approach proposed of setting two targets – “City Only” and “City plus Others.”
- People responded positively to the level of the targets (64% support for the “City Only” and 82% for the “City plus Others”) even if they had concerns that it did not go far enough.
- Many wide ranging discussions were held about the different and conflicting considerations in setting targets. Some people acknowledged the need for strong action, while others recognized the challenges of getting all levels of government to take coordinated action and getting people to change their behaviour.
- Overall, there was a very high level of support for the draft CEEP strategies (ranging from 74% to 100% support).
- As a result of the input collected, some changes were made to the *Final CEEP* such as using the ESS themes of *Live, Move, Build, Conserve, and Manage* to better align with and support the ESS.

The detailed summary of the public feedback received during Phase 3 public consultation can be found at www.burnaby.ca/ess-report-D.

4.0 THE FINAL ESS

The *Final ESS* dated 2016 October 5 has been distributed to Council under separate cover and is available for viewing at www.burnaby.ca/ess-final.

4.1 Key Principles

The ESS is based on a number of key guiding principles and core concepts. Central to these is the acknowledgement that people and human society are not separate from “nature” and the environment; rather, we are part of and *depend on healthy ecosystems for all our core survival needs, health and economic prosperity*. Therefore, from a societal point of view, there is a strong case for including more nature within the urban fabric of cities, and moving beyond reducing negative impacts, toward development practices that restore healthy ecosystems.

Burnaby's strong record of environmental protection, for example preserving open streams and protecting over 25% of its land base as greenspace, make it an ideal place to showcase truly leading approaches that demonstrate these principles. By also incorporating the latest new

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01Page 10

technologies and approaches for the built environment, such as ultra-efficient building designs, a “regenerative” approach to planning and development is envisioned by the ESS.

Another of Burnaby’s strengths is *the dedication and creativity of its citizens*. Throughout the consultation process, the commitment and leadership of people and businesses in the community, and within the City and partner organizations, was revealed through comments to online questionnaires, in workshops, and in many individual conversations. Building on this strength and working collaboratively, including with organizations such as the business community, BCIT and SFU, and community organizations, will be essential to successfully putting the ESS into action. The opportunity to build on this strength is reflected in the prominent themes of collaboration, partnerships, communication and education included throughout the ESS.

4.2 Design and Layout

The *Final ESS* is presented to encourage people to be able to find as much information as they want quickly on areas that are of interest to them. The *Final ESS* is 40 pages designed to be engaging and easy to read. The report appendices contain another 26 pages of more detailed information and there are another six supporting reports available online that provide even more detailed information. This encourages readers to explore and discover material that is at the right level for their particular interest.

The heart of the ESS is “*The ESS framework*.” This section contains the vision, goals, strategies and suggested actions for the ESS, as described in Section 4.3 of this report. It also contains some priority strategies called “*Big Moves*” and priority suggested actions called “*Quick Starts*.”

4.3 The ESS Framework

The framework contained within the *Final ESS* represents the heart of the document. It was created based on the input of all three phases of the ESS process. The framework is intended to provide clear direction on the areas that are priorities for City action. The *Final ESS* framework has four layers, with each level being supported by more detail in the level below. Moving from the highest level to the most detailed level: there was one vision, 10 goals, 49 strategies and 155 suggested actions.

4.3.1 Vision

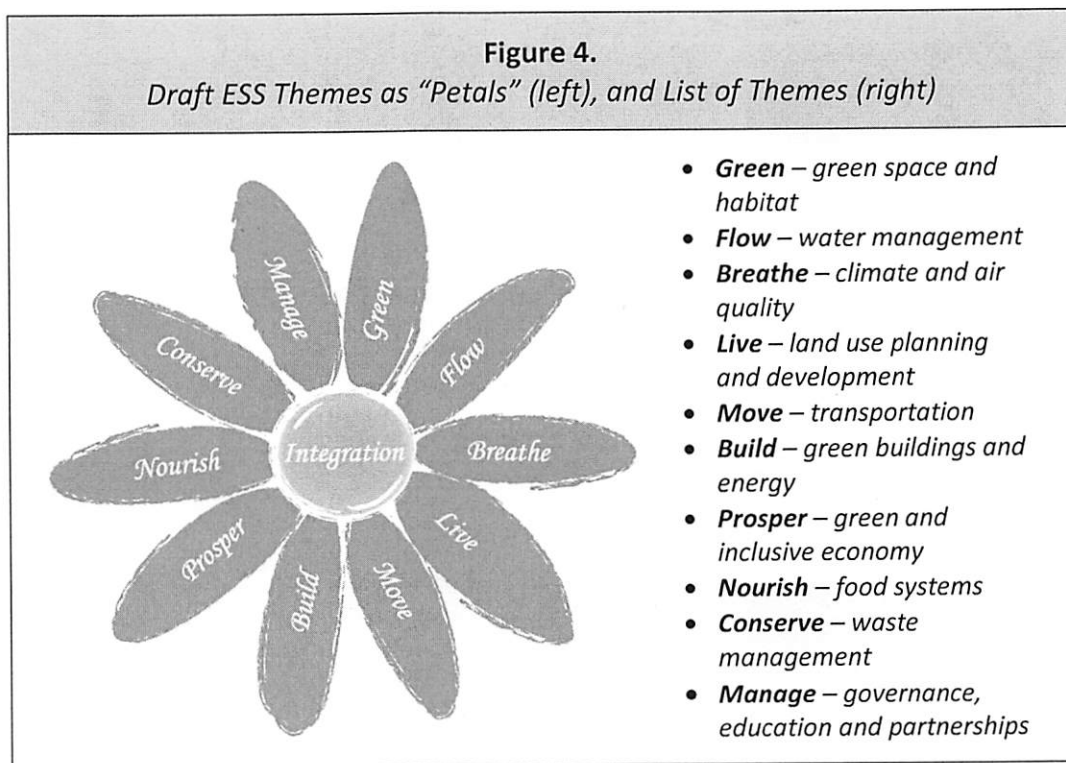
The purpose of the vision is to express a common direction for the City’s environmental future to help align decisions and actions so that the community can collectively move toward this shared vision. The draft vision for the ESS was developed with significant input from the public and the ESS Steering Committee.

A vision for Burnaby’s Future:
“Burnaby is a global leader in protecting and regenerating ecosystems, supporting a healthy and prosperous community.”

The *Final ESS* also contains a longer ‘narrative’ of the vision that is intended to evoke the imagination.

4.3.2 ESS Theme-Based Goals

Burnaby’s *Final ESS* is structured around 10 themes, represented as petals of a flower, as shown in **Figure 4** (below), to support the draft vision for the ESS. A goal statement accompanies each theme.



4.3.3 Strategies and “Big Moves”

Among the 49 ESS strategies, 16 have been identified as “*Big Moves*,” which represent significant opportunities and thus higher priority in the plan.

Three types of “*Big Moves*” are identified:

- **In Progress (9 strategies)** – “Big Moves” that acknowledge and build on what we are already doing; lend strength and focus to our existing efforts; link to work in progress; and help guide, shape and improve what we are doing now.
- **New (5 strategies)** – “Big Moves” that introduce new areas of work (policies, programs, other actions) and highlight these as priorities for Council's consideration.
- **Future (2 strategies)** – “Big Moves” that acknowledge anticipated future work (likely policy work); and lend strength and focus to future work.

It is proposed that Council’s approval of the ESS would be considered as “approval in principle” for staff to begin preliminary work in these areas. Specific recommendations for new or updated policy in these areas would be subject to further study and approval by Council.

4.3.4 Actions and “Quick Starts”

Each of the strategies is supported by a number of suggested actions, 155 in all. In addition to the 155 suggested actions, there are 25 “Quick Starts”. For every “Big Move” there is a supporting “Quick Start” to get things moving, as shown in **Figure 5** (right). “Quick Starts” are proposed City actions that take advantage of short term opportunities, build momentum and demonstrate commitment to the ESS.

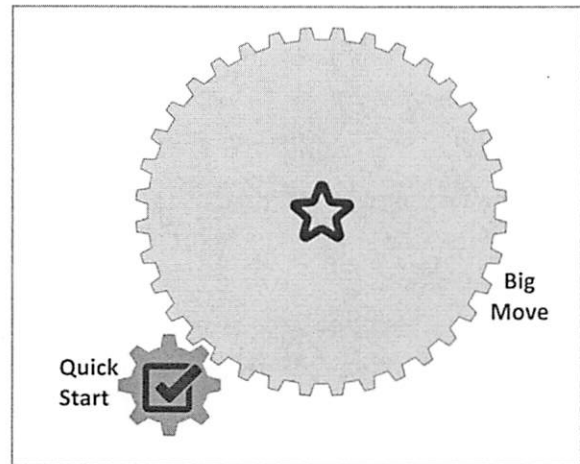


Figure 5. “Quick Starts” and “Big Moves”

With Council adoption of the *Final ESS* staff would begin to pursue these “Quick Starts” as a first wave of ESS activity, as resources permit.

5.0 THE FINAL CEEP

Under the leadership of Burnaby Council, the City took advantage of a unique opportunity to develop a CEEP in support of the ESS process. The CEEP process, previously approved by Council at its meeting of 2011 November 7, was designed to create a more detailed plan focused on reducing community greenhouse gas (GHG) emissions and energy use.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01Page 13

Burnaby's *Final CEEP* is a plan to reduce the community's overall energy use and greenhouse gas (GHG) emissions, in order to address climate change, improve local air quality, save money, and improve livability and health. The *Final CEEP* supports many of the goals of the ESS, as well as the *Economic* and *Social* sustainability strategies.

The *Final CEEP*:

- includes targets for GHG reduction along with goals, strategies and actions;
- is a key deliverable of the ESS goal *Breathe*; and
- shares and supports five other ESS goals: *Live, Move, Build, Conserve* and *Manage*.

The *Final CEEP* dated 2016 October 6 has been distributed to Council under separate cover and is available for viewing at www.burnaby.ca/ceep-final.

5.1 Design and Layout

The *Final CEEP* is a community facing document that is based on the set of CEEP strategies and actions as presented to the public during Phase 3. The material shared during public consultation and contained within the *Final CEEP* is based on the detailed analysis undertaken in Phase 1 and Phase 2 of the CEEP process (as described in Section 2.2 of this report). Some changes were made to the CEEP material that was presented to the public in the *Final CEEP*, like using the ESS themes of *Live, Move, Conserve* and *Manage*, to better align with and support the ESS.

Other changes to the *Final CEEP* reflect its evolution to a full framework which includes sharing a number of key elements with the ESS, and CEEP-specific content, derived from the technical work, public consultation and stakeholder input. The revised CEEP structure is further explained below.

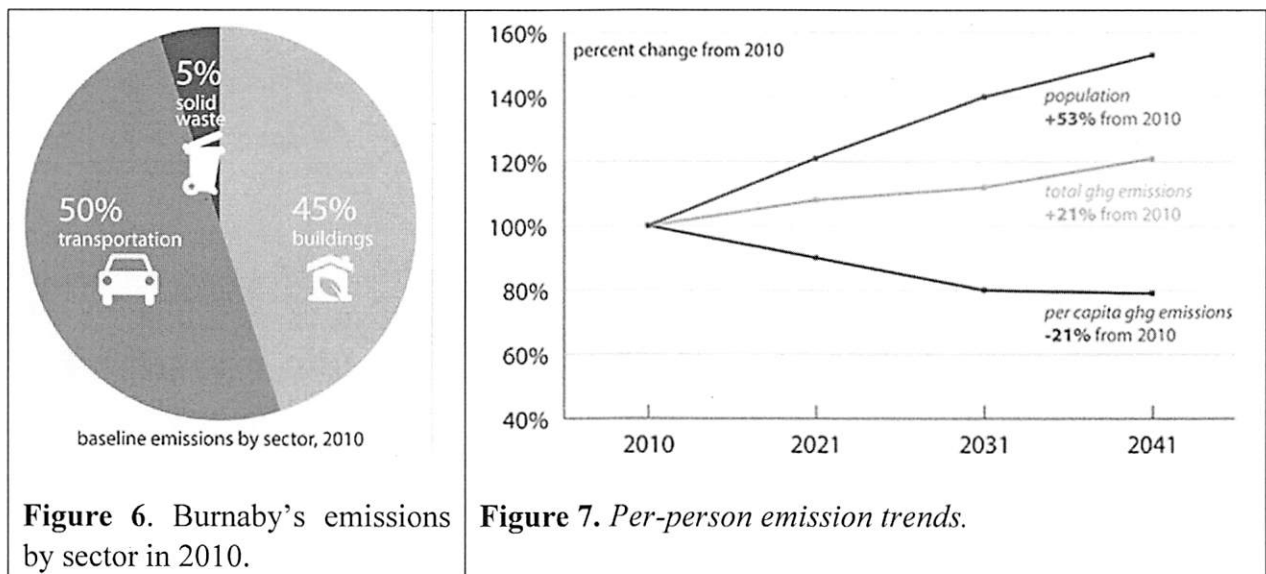
The design and layout of the *Final CEEP* followed a similar format to that of the *Final ESS* and is also designed to encourage people to be able to find as much information as they want quickly on areas that are of interest to them. The *Final CEEP* is 31 pages designed to be engaging and easy to read. The *Final CEEP* has three supporting reports available online that provide even more detailed information (one of which is the ESS).

The heart of the *Final CEEP* is the "*CEEP Strategies and Actions*". This section contains goals, strategies and suggested actions for the five areas of action within the CEEP – *Live, Move, Build, Conserve* and *Manage*. Similar to the ESS, it also contains some priority strategies called "*Big Moves*" and priority suggested actions called "*Quick Starts*".

5.2 Burnaby Today and the Challenge Ahead

Burnaby has already made great progress in wise energy use and emissions management, like using compact land uses around SkyTrain stations. Burnaby currently has one of the lowest emission rates per person in the province (4.3 tonnes per person), well below the BC average (5.0 tonnes per person).

Today, Burnaby’s emissions are generated from transportation, buildings, and solid waste, as shown in **Figure 6** (below). If no action is taken, today’s emissions are projected to rise by 21% by 2041, as population grows, as shown in **Figure 7** (below).



Burnaby's challenge is to reduce community emissions, even as our population grows (over 50% by 2041 as shown by the top line in **Figure 7**, above). Even with each person forecast to produce fewer emissions in the future (a reduction of more than 20% by 2041 as shown by the bottom line), the City's total emissions are estimated to increase by over 20% by 2041 (as shown by the middle line).

Burnaby faces several challenges in reducing total community emissions over time, which require careful consideration:

- Significant population growth (120,000 more people by 2041) as shown by the top line in **Figure 7** (previous page).
- Limited control of several key ways to reduce energy and emissions, such as improving transit service and vehicle efficiency standards.
- Limited local government resources, both human and financial.

5.3 The CEEP Framework

As shown in **Figure 8** (below), in order to more efficiently and clearly link the *Final CEEP* with the *Final ESS*, the original CEEP framework (consisting of two city-wide ‘themes’ and four ‘sectors’), was adjusted to align with the ESS goals of *Live, Move, Build, Conserve* and *Manage*. Although not included within the CEEP, the ESS goal of *Breathe* provides context and references development of the CEEP itself.

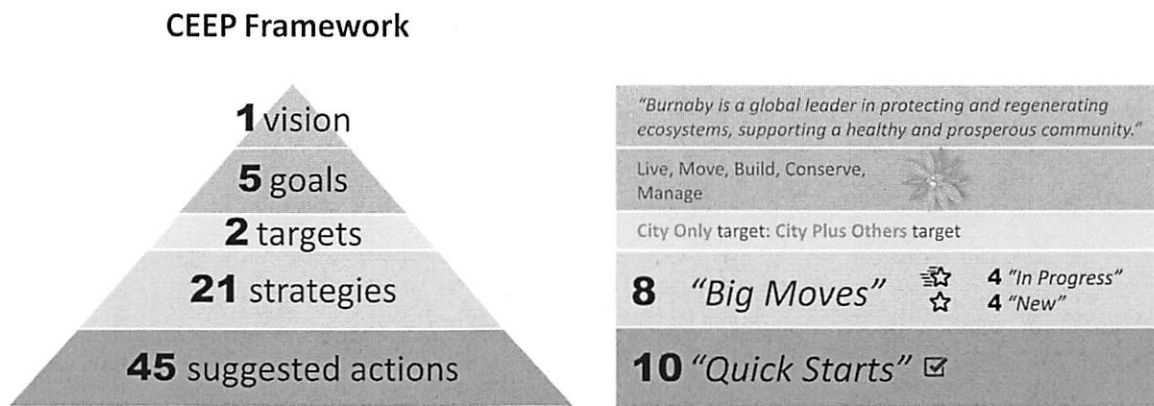


Figure 8. CEEP Framework

In order to ensure the CEEP is closely aligned with the ESS, it shares the vision, five goals, 8 “Big Moves” and 10 “Quick Starts” with the ESS. The two targets (“City Only” and “City Plus Others”), 13 CEEP Strategies and 45 Suggested Actions are all unique to the CEEP.

5.4 The Unique Approach to the CEEP Targets

Reducing energy use and emissions is a shared responsibility and requires effort from the federal and provincial governments, regional organizations like TransLink, the business community, the City of Burnaby and citizens. The CEEP is a plan for the community (City, residents, businesses, and other agencies) to all take action.

Burnaby’s approach of setting two targets is unique. A “City Only” target and a further “City Plus Others” target makes it clear how both the City and others can take action.

The “City Only” target was determined by assessing jurisdiction: who can do what. The City also considered Burnaby’s ability to implement and deliver, resulting in an achievable target with feasible objectives and actions.

The primary “City Only” target, in areas the City has control over, is a 5% reduction in 2010 baseline emissions by 2041. This may sound like a ‘small’ target but it means that, by 2041, projected emissions will be reduced by over 20% or 249,000 tonnes when compared to the future

trend if no action was taken at all. This is a big reduction and is shown on the right side of the top band of the ‘wedge’ in **Figure 9** (below) and **Table 1** (below).

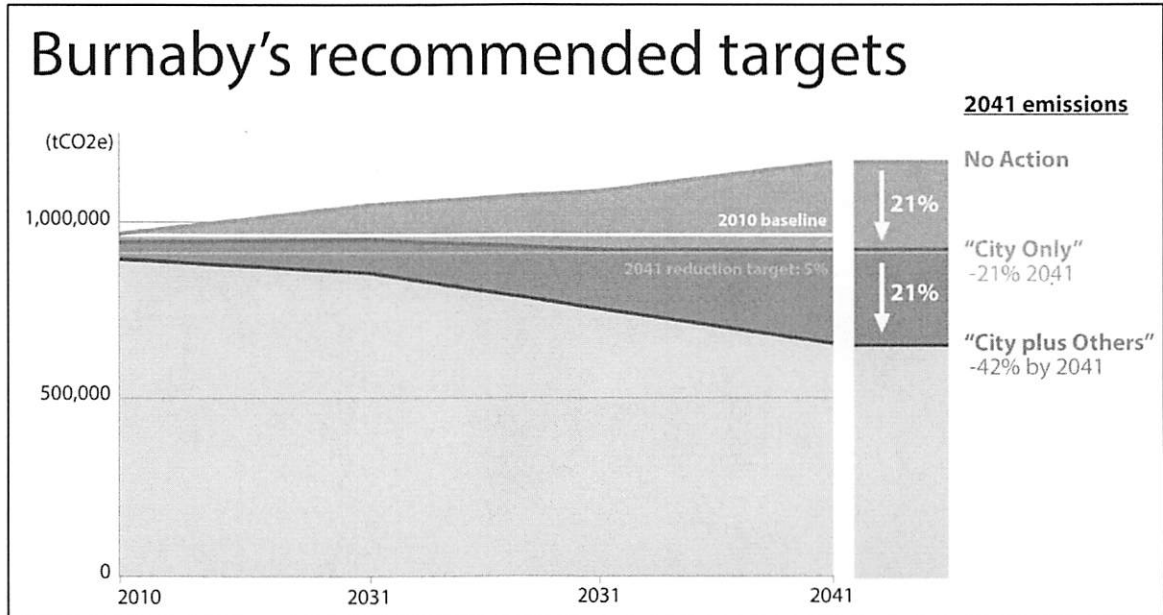


Figure 9. Burnaby's recommended targets

Table 1. 2041 Emission Reduction Targets

	Below 2010	Total Reduction 2041	Total Tonnes Reduced
City Only	-5%	-21%	249,000
City Plus Others	-29%	-42%	485,000

A second target, “City Plus Others,” shows how much emissions could be reduced if other agencies also took action alongside the City. The “City Plus Others” target shows that with this cooperation we could reduce community emissions by over 40% in total or 485,000 tonnes by 2041 compared to if no action were taken. This second part of the reduction is shown on the right side of the second band of the ‘wedge’ in **Figure 9** (above) and **Table 1** (above).

Each of these targets would contribute about equally to a projected GHG reduction by the year 2041.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01Page 17

The CEEP also includes per-person targets, as shown in **Figure 10** (right). Burnaby's 2010 per-person emissions of 4.3 tonnes (t) per year are expected to decrease slightly under "Business as Usual" (if no other action was taken), to 3.4t by 2041. The "City Only" per-person target is 2.6t per person by 2041 and the "City Plus Others" per-person target is 2.0t by 2041.

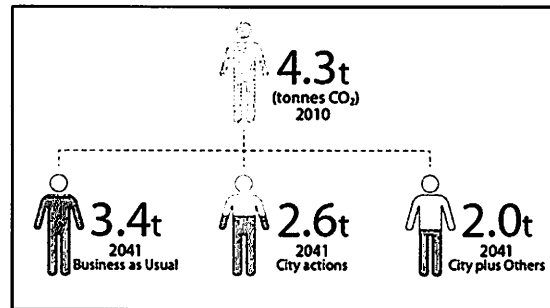


Figure 10. Burnaby's per-person targets

5.5 A Strategic Approach – Five Areas for Action

The "City Only" target focuses on five areas for action, each including an ESS goal, supporting CEEP strategies and CEEP suggested actions. These five areas of action are:

- *Live* – Land use planning and development
- *Move* – Transportation
- *Build* – Buildings and energy
- *Conserve* – Waste management
- *Manage* – Governance, education and partnerships

Live (listed first) and *Manage* (listed last) provide the framework or structure that lets us achieve results in the other three areas of action - *Move*, *Build* and *Conserve*.

Move, *Build* and *Conserve* provide most of the detailed strategies and suggested actions as well as provide most of the estimated emission reductions, as shown in **Figure 11** (next page).

- Improving how we *Build* is Burnaby's biggest opportunity for reducing greenhouse gas emissions and is 51% of the "City Only" target. Using District Energy to heat buildings in a few key locations could result in an additional 3% of the "City Only" target.
- Changing how we *Move* could result in over a third of our proposed emission reductions or 33% of the "City Only" target.
- Increasing how much we *Conserve* is something we need to tackle together as a region, but there are also steps Burnaby can take to reduce our emissions. Reducing our emissions from solid waste helps us to achieve 13% of the "City Only" target.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01Page 18

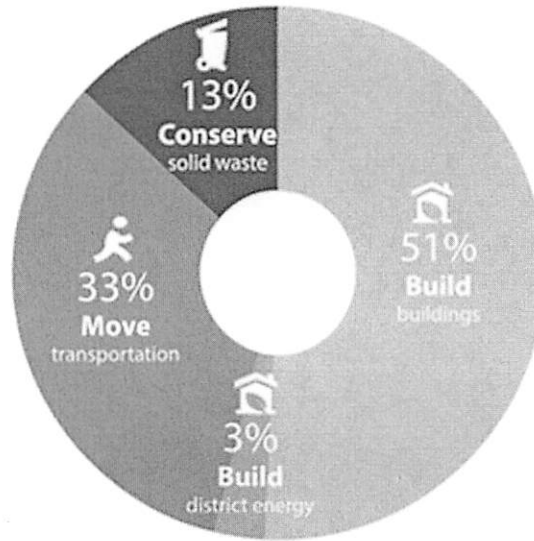


Figure 11. Percentage of the “City Only” target by goal
Note: Live and Manage were not modeled directly.

It is estimated that the total net cost to the community (all of us in total - residents, businesses, the City and others) of the proposed “City Only” target would be a savings of \$1 for every tonne of GHGs we reduce. Cost savings in some areas like more energy efficient buildings and reduced travel would offset costs in other areas like district energy, vehicle electrification, and waste.

6.0 NEXT STEPS

The ESS is intended to provide a clear but flexible framework, to guide staff across the organization in the development of new policies, programs and regulations, or as a basis for advocacy and partnership with external organizations. It will also inform the development of other City strategic plans and policies, such as updates to the *Official Community Plan* and *Transportation Plan*.

The *Final CEEP* sets direction and outlines targets and priorities for the City to reduce GHG emissions and energy use across the community, complementing many other sustainability goals and supporting the overall ESS vision.

The ESS and the CEEP will both be put into action through an iterative approach of charting the course, taking action, tracking and reporting, evaluating and updating, as shown for the ESS in **Figure 12**, next page.

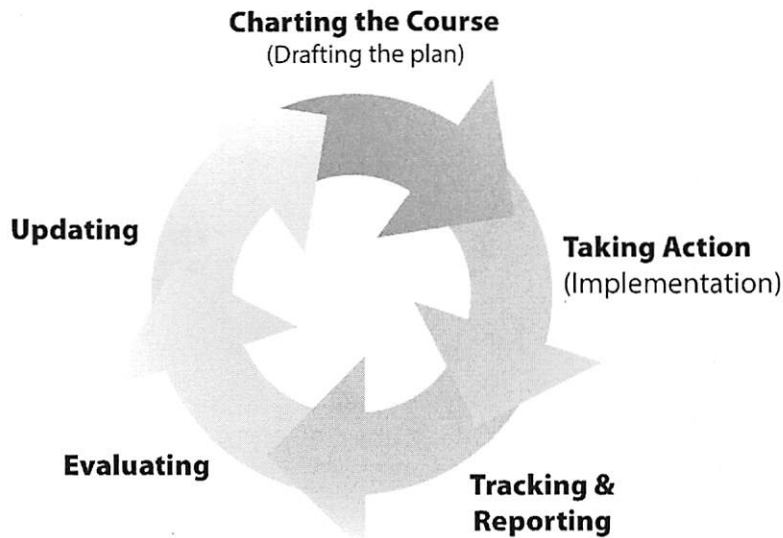


Figure 12. *The iterative approach*

This report recommends that Council authorize staff to develop an ESS implementation plan that would follow Council approval of the *Final ESS*. The ESS implementation plan would include the ESS’s “*Quick Starts*” and “*Big Moves*”, would prioritize them, identify further steps that need to be taken to implement them, and identify resources.

Following Council’s adoption of the ESS, staff would develop a public launch program that will encourage both residents and businesses to take action to support the 10 ESS goals.

This report also recommends that Council authorize staff to develop a CEEP implementation plan. As with the ESS implementation plan, the CEEP implementation plan would include the CEEP’s “*Quick Starts*” and “*Big Moves*”, would prioritize them, identify further steps that need to be taken to implement them, and identify resources.

Following Council adoption of the CEEP, staff will advance an Official Community Plan (OCP) amendment for Council’s consideration. This OCP amendment will propose replacing the existing ‘interim’ community greenhouse gas reduction (GHG) target of 5% below 2007 levels⁶ with a new primary “*City Only*” target of 5% reduction in 2010 baseline emissions by 2041, as described in Section 5.3 of this report. The CEEP also identifies a significant increase as the secondary “*City Plus Others*” target has the potential to go well beyond the interim target to achieve 29% reduction in 2010 baseline emissions by 2041.

⁶ On 2010 May 3, Council adopted an ‘interim’ community greenhouse gas reduction (GHG) target of five percent (5%) below 2007 levels in order to meet the requirements of provincial *Local Government (Green Communities) Statutes Amendment Act, 2008 (Bill 27)*, with the provision that more detailed and likely farther reaching targets would be developed through a GHG reduction strategy. The completion of the CEEP now fulfills that previous commitment.

To: City Manager
From: Director Planning and Building
Re: Final Environmental Sustainability Strategy (ESS) and
Final Community Energy and Emissions Plan (CEEP)
2016 Nov 01Page 20

7.0 CONCLUSION

This report marks the completion of one of the City's most extensive, inclusive and creative public consultation efforts to date, which has engaged thousands of individual citizens and many businesses and stakeholder groups over a multi-year process. The response from the public has been overwhelmingly positive and constructive, and input received through this process has informed development of the *Final ESS* and *Final CEEP*.

On this basis, it is recommended that Council:

- receive the results of *Phase 3 – Draft ESS* public consultation for information, as outlined in Section 3 of this report; approve the final *Burnaby Environmental Sustainability Strategy* (ESS) dated 2016 October 5 as outlined in Section 4 of this report;
- approve the final Burnaby Community Energy and Emissions Plan (CEEP) dated 2016 October 20 as outlined in Section 5 of this report;
- authorize staff to develop implementation plans to identify timelines, priorities, lead responsibility, recommended processes and/or approaches, and resources required for both the ESS and CEEP;
- authorize the Mayor to issue certificates of acknowledgement and hard copies of the ESS to all the citizen members of the ESS Steering Committee who contributed to the creation of the ESS; and,
- send a copy of this report to the Environment Committee, the Planning and Development Committee, the Social Planning Committee, the Transportation Committee, and the Parks, Recreation and Culture Commission for their information.


Lou Pelletier, Director
PLANNING AND BUILDING

DAC/LT:sla
Attachments

cc: Deputy City Manager
Director Finance
Director Engineering
Director Parks Recreation and Cultural Services
City Solicitor
City Clerk

Attachment 1: Steps of the ESS Process

Timeline	Inputs	Step	Outputs	Council Reports
	<ul style="list-style-type: none"> 'Community Dialogue' approach Council input 	1 Set Approach	<ul style="list-style-type: none"> funding approved 'Community Dialogue' approach approved 	← Council Report 1
	<ul style="list-style-type: none"> work plan details resources required Steering Committee terms of reference (TOR) 	2 Confirm Process	<ul style="list-style-type: none"> project team assembled process updated Steering Committee TOR approved 	← Council Report 2
	<ul style="list-style-type: none"> consultant terms of reference consultant proposals 	3 Hire Consultant	<ul style="list-style-type: none"> consultant retained work plan confirmed 	
	<ul style="list-style-type: none"> potential Steering Committee members invitations from Mayor 	4 Assemble Steering Committee	<ul style="list-style-type: none"> <u>Draft Environmental Context Report (what we are doing)</u> Steering Committee assembled and approved 	← Council Report 3
	<ul style="list-style-type: none"> <u>Discussion Paper No. 1a: Burnaby's Environmental Achievements</u> <u>Discussion Paper No. 1b: What is Sustainability</u> <ul style="list-style-type: none"> Burnaby's environmental policies best practices by others key challenges / opportunities 	5 Take Stock	<ul style="list-style-type: none"> opportunities and challenges Steering Committee meeting No. 1 (orientation) 	
	<ul style="list-style-type: none"> <u>Draft Environmental Context Report (what we are doing)</u> <u>Cases Studies (what others are doing)</u> <u>Discussion Paper No. 2: Guiding Principles</u> 	6 Set Guiding Principles & Draft Subject Areas	<ul style="list-style-type: none"> Steering Committee meeting No. 2 <u>draft guiding principles</u> <u>draft subject areas</u> public consultation strategies suggestions for sub-committee members 	
	<ul style="list-style-type: none"> <u>research tools and logistics</u> draft consultation plan (phase 1) 	7 Draft Community Consultation Plan	<ul style="list-style-type: none"> approved consultation plan (phase 1) 	
	<ul style="list-style-type: none"> public process kick-off event info on existing policies, programs and initiatives draft guiding principles draft subject areas 	8 Outreach Phase 1	<ul style="list-style-type: none"> <u>Summary Report</u> <ul style="list-style-type: none"> successes acknowledged comments on guiding principles areas for more work emerging issues draft subject areas 	
	<ul style="list-style-type: none"> public input (Phase 1) <u>Discussion Paper No. 3: Vision</u> Keynote speaker at ESS SC Mtg No. 3 <u>Discussion Paper No. 4: Phase 1 Public Consultation</u> 	9 Confirm the Subject Areas	<ul style="list-style-type: none"> Steering Committee meeting No. 3 (draft vision) draft vision statement Steering Committee meeting No. 4 (CEEP) confirmed subject areas integration with CEEP comments on draft vision statement 	
	<ul style="list-style-type: none"> <u>Sub-committee terms of reference</u> subject area workshops engage experts ongoing public engagement & awareness ESS draft consultation plan (phase 2) CEEP vision/goals/principles workshop 	10 Sub-Committee Workshops	<ul style="list-style-type: none"> Steering Committee Meeting No. 5 (key directions) workshop feedback (interim update) CEEP update draft Strategic Directions 	← Council Report 4
	<ul style="list-style-type: none"> Comments from sub-committees and Interagency round-table draft ESS matrix <u>draft Strategic Directions</u> 	11 Draft Community Consultation Plan (Phase 2)	<ul style="list-style-type: none"> Steering Committee Meeting No. 6 (display panels) sub-committee summaries draft consultation plan (Phase 2) draft vision statement for public outreach 	← Council Report 5
	<ul style="list-style-type: none"> <u>Public Outreach (questionnaire)</u> <ul style="list-style-type: none"> Vision Theme-based comments (directions, issues, opportunities) promotion at events Staff consultation (workshops) 	12 Outreach Phase 2	<ul style="list-style-type: none"> public feedback staff feedback 	
	<ul style="list-style-type: none"> public input staff input sub-committee input 	13 Develop Framework	<ul style="list-style-type: none"> <u>Public Consultation Summary Report</u> <u>ESS report outline</u> gap analysis 	← Council Report 6 (workshop)
	<ul style="list-style-type: none"> <u>Case studies</u> <u>Gap analysis</u> <u>Consultation Summary</u> 	14 Draft the Environmental Sustainability Strategy (ESS)	<ul style="list-style-type: none"> Steering Committee meeting No. 7 (framework) <u>approved consultation plan (phase 3)</u> <u>Draft ESS Report</u> 	← Council Report 7 (memo) ← Council Report 8
	<ul style="list-style-type: none"> <u>Public Outreach (questionnaire)</u> <ul style="list-style-type: none"> promotion at events Staff consultation (workshops) 	15 Outreach Phase 3	<ul style="list-style-type: none"> <u>Summary Report</u> <ul style="list-style-type: none"> public response to ESS additional recommendations and suggestions 	← Council Report 9
	<ul style="list-style-type: none"> public input (Phase 3) <u>final ESS</u> 	16 Finalize Environmental Sustainability Strategy	<ul style="list-style-type: none"> Council approval of <u>final ESS</u> 	
Fall 2016	<ul style="list-style-type: none"> report publication and distribution 	17 Project Completion	<ul style="list-style-type: none"> public announcement(s) Implementation Plan 	
2016 onward	<ul style="list-style-type: none"> take action (implementation) 	18 Implement and Monitor	<ul style="list-style-type: none"> monitor outcomes 	

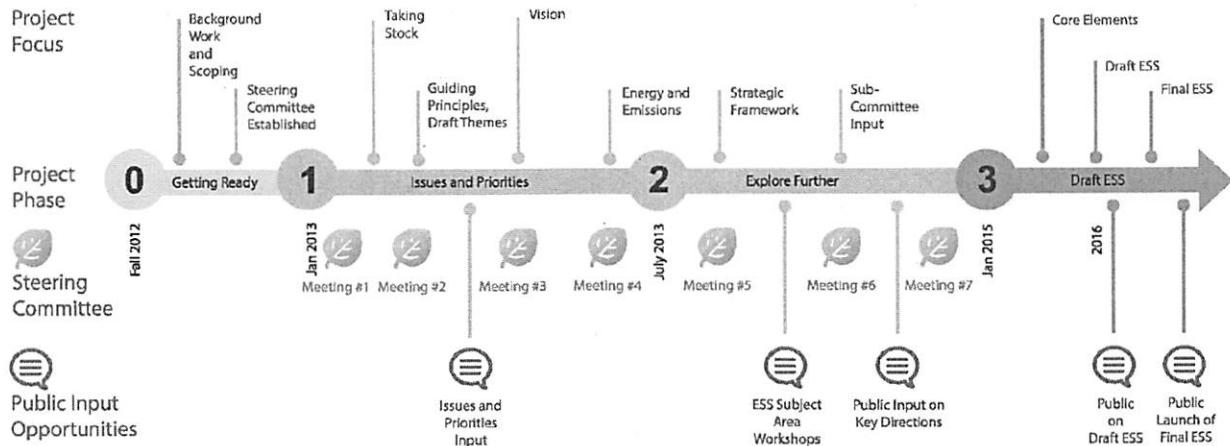
Version: 2016, October 19

Legend: boxes note steps led by City staff, boxes note steps led by the consultant; and underlined items are key project deliverables.

Attachment 2: ESS Process



Burnaby Environmental Sustainability Strategy (ESS) Timeline



Phase 1 – Issues and Priorities

Jan. to July 2013

Broad, high-level

Issues, opportunities, vision

- Steering Committee convened: focus on guiding principles, draft theme areas.
- Phase 1 Public Consultation: online questionnaire (~400 responses), display boards, attendance at seven public events, Environmental Superheroes, Vision Tree, and Community Green Map.

Outcomes:

- Draft vision statement; confirmed scope (theme areas) and draft goals.

Phase 2 – Exploring Further

July 2013 to Jan. 2015

Deeper, more focused

Goals, strategies, actions

- Sub-Committees (4) convened: focus on draft goals, strategies. 10 meetings held with over 100 people in total; networking by Sub-Committee members engaged another 550 people.
- Inter-Agency Roundtable, with representatives from neighbouring municipalities and other levels of government and other organizations.
- Phase 2 Public Consultation: online questionnaire (~800 responses), display boards, attendance at 15 public events, three invited presentations, public workshop, Community Green Map, youth video contest, and 150 others engaged via workshops and invited presentations using "Sustain-A-Bucks".

Outcomes:

- Feedback on draft vision, goals, strategies; suggestions for actions - by the City and by individuals; analysis of responses.

Phase 3 – Draft ESS

Jan. 2015 to Jun. 2016

Broad, high-level

Framework, priorities

- Draft ESS report containing a framework (vision, goals, strategies, suggested actions) released to the community to check and see if it was "headed in the right direction".
- Phase 3 Public Awareness: over 4,600 people were made aware of the release of the Draft ESS by conversations, presentations, email updates, project website, and social media.
- Phase 3 Phase 3 Public Consultation: engaged over 450 people using online questionnaire (~300 responses), activities, webinar, Plinko ESS trivia, flash-survey, display boards, attendance at 13 public events including an ESS community stakeholder workshop, and an ESS public drop-in open house.

Anticipated outcomes:

- Confirmation of level of support for Draft ESS; input on how to improve the Final ESS.

Attachment 3: CEEP Process

Phase 1 – <i>Setting the Scene</i> January to July 2013	Phase 2 – <i>Exploring Alternatives</i> July 2013 to July 2015	Phase 3 – <i>Draft CEEP</i> July 2015 to June 2016
Technical Work	Stakeholder Input	Community Engagement
Burnaby Today – Current Emissions	Scenario and Policy Development	Community Engagement, Final Plan
<ul style="list-style-type: none"> • CEEP Steering Committee convened • CAN Tool model calibration • Baseline emissions modeling 	<ul style="list-style-type: none"> • Renewable/district energy workshop • Community stakeholder workshop • Input from CEEP Steering Committee • ESS Steering Committee workshop 	<ul style="list-style-type: none"> • Input from CEEP Steering Committee • Public consultation on Draft CEEP including targets and strategies • Incorporation of feedback into final CEEP, including goals, strategies and suggested actions
<p><i>Outcomes:</i></p> <ul style="list-style-type: none"> • Calibrated emissions model for Burnaby's context • Projected emissions • Strengths and challenges identified 	<p><i>Outcomes:</i></p> <ul style="list-style-type: none"> • Draft CEEP targets and strategies • CEEP Technical Report 	<p><i>Outcomes:</i></p> <ul style="list-style-type: none"> • Confirmation of level of support for Draft CEEP • Suggestions on how to improve the Draft CEEP report • Final CEEP report

Attachment 4:

Summary of Changes to the Final ESS Framework

<i>Final ESS</i>	
Framework Components	Changes
1 Vision	None
10 Goals	None
49 Strategies	<p>Total number remained the same - 49 strategies</p> <ul style="list-style-type: none"> • 47 saw no change • 2 minor wording changes (Strategies 1.4, 9.3)
16 Big Moves	<p>Total number remained the same – 16 “Big Moves”</p> <ul style="list-style-type: none"> • 15 saw no change • 1 minor wording change (9.3) <p>For more detail, please see Table 1 on page 35 of the Final ESS.</p>
155 Suggested Actions	<p>Total number of “Suggested Actions” increased from 151 to 155</p> <ul style="list-style-type: none"> • 142 saw no change • 8 minor wording changes (1.4b, 1.7a, 4.1e, 5.4b, 5.6a, 6.2c, 6.6b, 9.2b) • 5 new (1.2f, 2.4e, 5.6b, 7.1g, 8.3c)
25 Quick Starts	<p>Total number of “Quick Starts” increased from 24 to 25</p> <ul style="list-style-type: none"> • 19 saw no change • 2 minor wording changes (11, 24) • 3 new (2, 13, 15) • 1 moved to a new Goal (23) • 2 replaced <p>For more detail, please see Table 2 on page 36 of the Final ESS.</p>