The Regional Municipality of York
Regional Clerk's Office

Deputation / Request for Information Form

(Please complete all applicable sections in full.)

Committee: Committee of the Whole **Date:** November 9, 2017

Agenda Item No.: _____ **Title:** iMatter Youth Report Card and Resolution

1. Individual Making The Deputation

Name: Helen Chen
Address:

City/Town: Richmond Hill **Postal Code:**

Home Phone No.: **Business Phone No.**

Email Address:

2. Name of Group or Person(s) Being Represented (if applicable):

iMatter Youth Movement

3. Purpose of Deputation / Brief Statement of Issue:

Although there is a lot to be proud of in terms of York Region's sustainability plans and actions, there is still room for improvement. We, youth members, are here to present a report card and resolution to improve and build on the current plans and become involved to help solve climate change with the region. We hope there will be more transparency in government, so citizens could become informed on what's going on in the environment sector, the establishment of a Youth Advisory Committee so youth voices get heard and included in the government, and a goal to net zero by 2040, and 2045 by the latest. Solving climate change is a collective effort, and we'd love to work with you to make that happen. Thank you so much for your support and consideration.

☐ I do not wish to make a deputation, however, I would like to be informed of Council's decision and receive any further information.

Personal Information on this form is collected under the legal authority of the Municipal Act, as amended and the Planning Act, as amended. The deputant's information is collected and maintained for the purpose of creating a record that is available to the general public, pursuant to Section 27 of the Municipal Freedom of Information and Protection of Privacy Act. As such, information collected here may form part of the public record. Questions about this collection should be directed to the Regional Clerk's Office, York Region, 17250 Yonge Street, Newmarket, Ontario, L3Y 6Z1, phone # 1-877-464-9675 ext. 71320.

#446129

iMATTER

Questionnaire on City Climate Change Impacts

Thank you for your assistance in collecting and sharing the information needed to complete this questionnaire. The data is being gathered and evaluated as part of a campaign by a national youth organization called iMatter.

With this information, we are creating a report and report card for the city. We'll share the results with you in the hope that they can be a tool to work together in engaging youth and addressing our city's approach to climate change.

Name of City Official

John (First Name) Sherin (Last Name)

Title

Manager, Climate Change

City

Regional Municipality of York

State

Ontario, Canada

1. Climate Action Plan

This is the most heavily weighted part of the report card because rapidly reducing emissions is probably the most important thing we can do to address the climate crisis.

Has a greenhouse gas inventory been done for the city, or is there an active one in progress? (in progress means people are working on it now and it will be done within the next 6 months)

- [x] Yes
- [ ] No
- [ ] Don't know

Please include a website link to the greenhouse gas inventory (if available)

http://www.york.ca/wps/portal/yorkhome/yorkregion/yr/plansreportsandstrategies/energyreporting/regionalenergyreporting

Is there a Climate Action Plan in place for the city?

- [x] Yes
- [ ] No
- [ ] Don't know

Please include a website link to the Climate Action Plan (if available)

http://www.york.ca/wps/wcm/connect/yorkpublic/0983fe24-54cc-4931-b0fe-c6706f3db3e4/ECDM_-Plan_Update_2016.pd

Does the climate action plan get to net zero emissions?

- ○ Yes
- ◉ No

By what year does it get to net zero emissions? (select the earliest year net zero is reached - round to the nearest answer, so for 2032 you would select 2030, also for any year before 2025 - select 2025)

- ○ 2025
- ○ 2030
- ○ 2035
- ○ 2040
- ○ 2045
- ○ 2050
- ◉ 2055 (select this for 2053-2057)
- ○ After 2057

If it doesn't get to zero emissions, does it at least get to an 80% reduction in emissions? (ONLY answer this question if the Climate Action Plan doesn't get to Net Zero)

- ◉ Yes
- ○ No

By what year does it get to an 80% reduction? (select the earliest year an 80% reduction is reached, round to the nearest answer, so for 2032 you would select 2030)

- ○ 2025
- ○ 2030
- ○ 2035
- ○ 2040
- ○ 2045
- ○ 2050
- ○ 2055 (select this for 2053-2057)
- ◉ After 2057

Does the Climate Action Plan try to address greenhouse gases created by goods the city and its residents' use that are produced outside the city?'

- ☐ Yes
- ☑ No
- ☐ Don't know

Is an Annual Report on progress against the Climate Action Plan published (only select Yes if it has been published sometime in the past 2 years)

- ☑ Yes
- ☐ No
- ☐ Don't know

Please paste a website link to the Annual Report (if available)

http://www.york.ca/wps/wcm/connect/yorkpublic/0983fe24-54cc-4931-b0fe-c6706f3db3e4/ECDM_-Plan_Update_2016.pd

Has the Climate Action Plan been turned into a law (a Climate Recovery Ordinance)?

- ○ Yes
- ◉ No
- ○ Don't know

2. Renewable Energy

While typically included within a city's Greenhouse Gas Inventory, electricity generation caused 32% of US greenhouse gas emissions in 2012 (source: EPA), the largest of any area. We therefore ask about it separately.

For the report card, we use the US Energy Information Administration's (US EIA) classification system for determining what is renewable energy. They include the following in their renewable energy figures:

- Hydroelectric Power
- Geothermal
- Solar
- Wind
- Biomass (includes biofuels, wood, waste)

Here is what to ask a city government official:

Of the electricity used in our city, what percent comes from renewable resources? ***This is for the entire city, including all the residents, businesses, and organizations in the city*** *(and not just for city government operations). If you don't know that information, do you have an idea of how it could be found? Should we talk to a utility representative - and if so, who? Can you make an introduction?*

City's Renewable Energy % - most recent year available

24% Hydro Electric, 6% Wind, <1% Biofuel, <1% Solar

What year did you use for your answer to the question just before this one? Must be 2011-2014.

- ☑ 2014
- ☐ 2013
- ☐ 2012
- ☐ 2011
- ☐ No data available

City Renewable Energy % - one year before most recent year

24% Hydro Electric, 4% Wind, <1% Biofuel, <1% Solar

Where did you get your information? If a website, please copy in the web address or a link to a file. If you spoke to someone in city government or at a utility, please include their name, title, and phone number (if you have it).

Independent Electricity Systems Operator (IESO) - Provincial electricity supplier.
(http://www.ieso.ca/Pages/Power-Data/supply.aspx)

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3. Waste

Reducing the amount of waste we generate reduces the amount of greenhouse gases from landfills, but also is an indirect indicator that we're reducing the amount of completely new stuff we're buying. And doing a better job at reusing and recyling reduces the amount of greenhouse gases created in the production of new stuff.

Recycling Program: Is there a curbside recycling program?

- [x] Yes
- [ ] No

Organics Program: Is there a curbside organics recycling program (often called composting)?

- [x] Yes
- [ ] No

Next, you'll be gathering data on the amount of waste created, composted, and recycled. You also need to get information on city population (but that is easier to gather on your own).

Make sure Total Waste Created is the total amount of waste generated by a community, not the total waste that is disposed of at a specific landfill or group of landfills.

Unfortunately there is not one standard way of measuring waste. For our purposes, it is not really important exactly how waste is defined in a city, only that it is measured, and how it is measured is the same from year to year.

Note: In some places, garbage is burned to create energy (there are pros and cons to this). Burning garbage for energy should, if at all possible, should NOT be included in the recycling rate.

For the two most recent years where there is data, gather the following info:

What is the most recent year - we'll refer to it as This year" in the following questions?

2015

"This year" Waste: Total Waste Created (in tons) for the most recent full year where you can find data	400413	**"Last year" Waste: Total Waste Created (in tons) for the year before most recent full year where you can find data**	403747
Total Recycling (tons) - This year	103769	**Total Recycling (tons) - Last year**	104836
Total Composting (tons) - This year	155385	**Total Composting (tons) - Last year**	162213
"This year" Population	1166000	**"Last year" Population**	1145000

Where did you get waste data from? Please include a link to the information.'

http://www.york.ca/wps/wcm/connect/yorkpublic/26b55afe-fad3-4b48-8377-745f122aad8f/2015_Diversion_Report_Acc_WEB_FINAL.pdf?MOD=AJPERES

4. Carbon removed from atmosphere

Removing greenhouse gases from the atmosphere will reduce the impacts of climate change. Carbon dioxide, the most prevalent greenhouse gas, can be removed from the atmosphere and stored in trees, forests, plants, and soil, mostly through the photosynthesis process.

Carbon dioxide is made up of carbon and oxygen. At a high level, with photosynthesis, the carbon is stored while the oxygen is released to the air (and we then breathe it!).

Most programs that would qualify as removing carbon from the atmosphere probably aren't labeled as carbon removal programs. Look for programs that do one or more of the following:

- Encourage tree planting
- Manage forests or the number of trees in a city
- Increase the amount of green space in a city (green spaces are areas of grass, trees, or other vegetation set apart for recreational or aesthetic purposes in an urban environment.)
- Protect or restore wetlands
- Protect or restore grasslands or prairies
- While you're less likely to find this, in a community with farmland, there are ways of encouraging carbon storage in the soil with certain farming and livestock management practices.

Is there a program that results in the removal of carbon from the atmosphere?

- [ ] Yes
- [x] No

Provide a link to information about the program online:

http://www.york.ca/wps/portal/yorkhome/yorkregion/yr/plansreportsandstrategies/greeningstrategy/greeningstrategy/!ut/p/

Does the program have metrics to measure success?

- [x] Yes
- [ ] No

Do the metrics aim to increase the amount of carbon storage capacity, keep the amount the same, wind up in a reduction of carbon storage capacity, or are they not related to carbon storage capacity?

- [x] Increase carbon storage capacity
- [ ] Keep carbon storage capacity the same
- [ ] Less carbon storage capacity
- [ ] Not related to carbon storage capacity

Note - for the preceding question - more trees or more wetlands would be a metric associated with increased carbon storage capacity, even if the actual carbon storage capacity is not calculated. So it is possible to answer the previous question as "Increase..." and the following question as "No."

Do the metrics include measurements of actual carbon or carbon dioxide storage capacity?

- [ ] Yes
- [x] No

Were the program metrics (whatever they are) met in the most recent year?

- [x] Yes
- [ ] No

5. Youth involvement

Is there a Youth Council or some other youth body, formally set up by the city, that is involved in developing climate related actions and policies? Or are there at least two youth representatives on such a group? To answer the question yes, it must not be a temporary body, and must include some youth under the age of 18.

- ☐ Yes
- ☑ No

Please provide the name of the group and a link (if applicable)

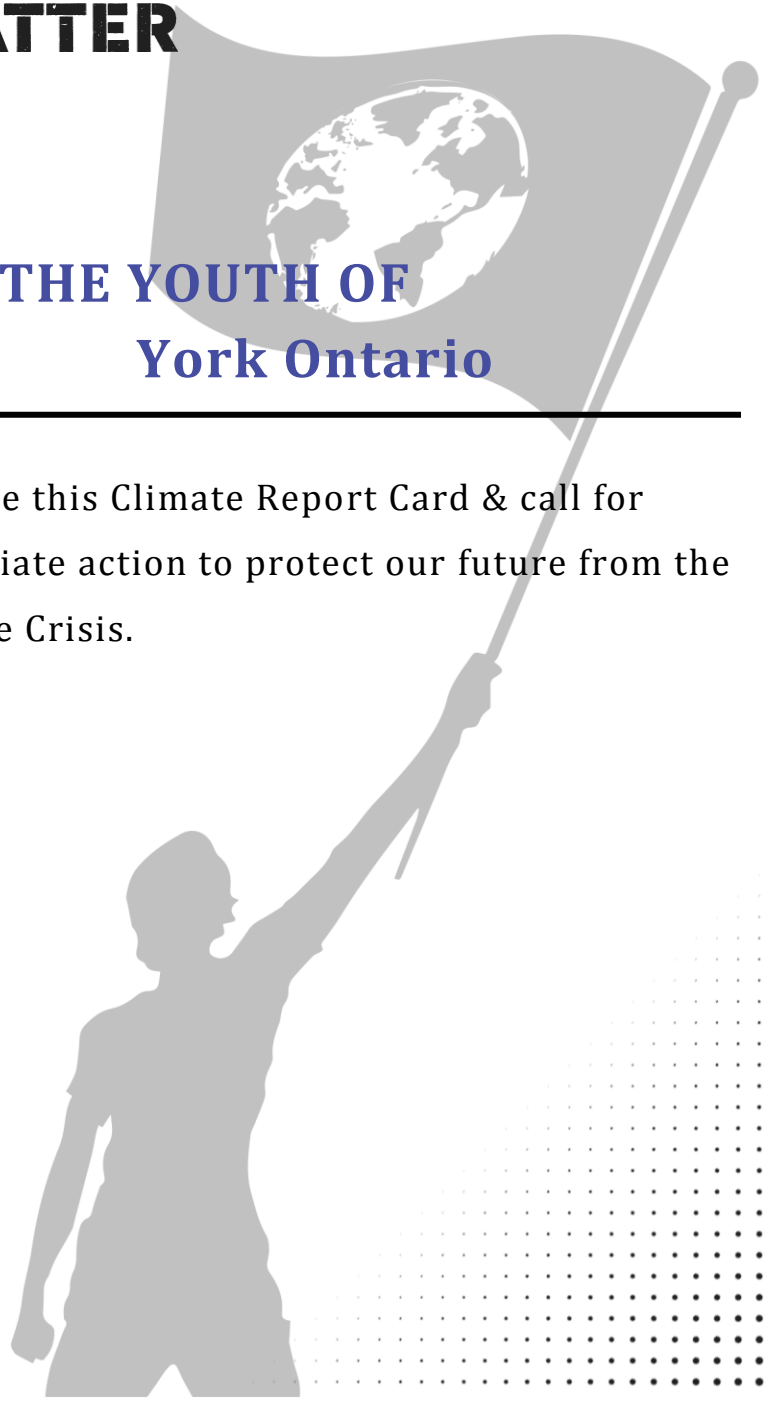
LOCAL ENDORSEMENTS

The Climate Reality Project Canada, www.climatereality.ca, Audrey Depault

Toronto Coalition of Ecoschools, Maheep Dhillon

Sierra Club Ontario, http://www.sierraclub.ca/en/ontario, Yvonne Ho

iMATTER



WE, THE YOUTH OF
York Ontario

endorse this Climate Report Card & call for immediate action to protect our future from the Climate Crisis.

SCHOOL OR GROUP NAME:

York

CLIMATE REPORT CARD

ZERO EMISSIONS PLAN — C-

Rapidly reducing greenhouse gas emissions is the most important thing we can do to address the climate crisis.

RENEWABLE ENERGY — D-

Electricity generation caused 32% of US greenhouse gas emissions in 2012 (source: EPA), the largest of any source.

WASTE — A-

Reducing the amount of waste we generate and recycling more of it reduces the amount of greenhouse gases from landfills. Waste reduction is also an indirect indicator that we're reducing the amount of completely new stuff we're buying. Production of new stuff can generate a lot of greenhouse gases.

CARBON REMOVAL — A

Removing greenhouse gases from the atmosphere will reduce the impacts of climate change.

YOUTH INVOLVEMEMT — None

The youngest generation will be most impacted by the climate crisis and should be involved when policies are being put in place. A city gets a half grade increase if they have youth involved in advising on or developing climate related policies

OVERALL GRADE — C

RATIONALE FOR GRADES

(see the Detailed Report for specifics)

ZERO EMISSIONS PLAN — 50% Weighting

York has done a Climate Action plan and is aiming for an 80% reduction in emissions by After 2057.

RENEWABLE ENERGY — 20% Weighting

York knows the percent of its electricity that comes from renewable sources, which is great as many cities do not. York received 32% of its energy from renewable sources in 2014. This is below the Canadian average. York's renewable energy percentage changed by 2 percentage point(s) from 2013 to 2014.This increased the grade 1/3 level.

WASTE — 20% Weighting

Waste created per person in York is decreasing which results in a better grade. The portion of York's waste that is being recycled or composted is decreasing which results in a worse grade.

CARBON REMOVAL — 10% Weighting

York has a program that will contribute to removing carbon from the atmosphere. Therefore the grade starts at a C.

YOUTH INVOLVEMEMT — Possible +1/2 grade

York does not have youth formally involved in the process of creating and executing climate related policies and actions.

iMATTER

York Ontario Detail Report

1 Report Card Background

Working from the largest contributors to greenhouse gas emissions in the United States, iMatter developed a Report Card based on the areas a city can impact, and data that is generally publicly available. An A-F grading system evaluates a city's action (or inaction) to reduce greenhouse gas emissions to levels needed to end the climate crisis.

Actions taken to improve Report Card grades should focus a city on the right things and at the right levels to make meaningful progress on the climate crisis.

And because youth will have to deal with the effects of the climate crisis more than older generations, **youth opinion matters.** Youth should be involved when policies are being put in place, both so they have a voice, and so they can participate in local solutions. Youth can be partners with local government in creating the will for community change.

1.1 Basis for Report Card

Report Card grades are based on real data, the presence of programs with appropriate goals, and concrete actions. To determine appropriate goals, the science from pre-eminent climate scientist, Dr. Jim Hansen, was used.

Dr. Hansen, formerly of NASA, led a team that wrote a paper at the end of 2013, which gives a prescription for avoiding the worst consequences of climate change. His team makes the point that we need to keep temperatures roughly within the range of temperatures that led to the rise of human civilization. To do this required a reduction in global emissions of 6% per year starting immediately (meaning 2014/2015) and that we simultaneously take carbon out of the atmosphere with things like reforestation and better soil management. This recipe guides the Report Card grading system.

You can find Dr. Hansen's paper here, and a non-technical summary of it here.

1.2 Advisors

In addition to using the leading climate science, some of the most knowledgeable people and organizations on community climate change initiatives have been consulted to develop the Report Card. The following is our list of Advisors.

- David Allaway, Policy and Program Analyst, Oregon Department of Environmental Quality
- Brian Holland, Director of Climate Programs, ICLEI – Local Governments for Sustainability USA

- Paul Kroening, Supervising Environmentalist, Waste Reduction and Recycling Unit, Hennepin County, MN
- Hunter Lovins, President, Natural Capitalism Solutions
- Matt McRae, Climate and Energy Analyst, City of Eugene, Oregon
- Eli Yewdall, Senior Program Officer, ICLEI-Local Governments for Sustainability USA
- Martha Campbell, Sr. Associate - Communities, Rocky Mountain Institute
- Kaitlyn Bunker, Ph.D., Associate, Rocky Mountain Institute
- Ryan Griffin, Managing Consultant, See the Forest, LLC

The Report Card has also already been endorsed by the following organizations to encourage its use by U.S. communities.

- Project Drawdown
- Natural Capitalism Solutions
- Moms Clean Air Force
- Green Schools

2 Overall Grade for York = C

There are five sections of the report card that are combined into an overall grade. The Report Card itself describes why each of these sections is important. At a high level, for each section, here is what is rewarded:

- Zero Emissions Climate Action Plan: When the city's Climate Action Plan gets to net zero human emissions (by 2040 is an A, 2050 a C).
- Renewable Energy: When the percent of renewables used to generate a city's electricity is more than the national average, and the percentage is rising.
- Waste: When the amount of waste per person is decreasing and the percent of that waste that is recycled or composted is increasing.
- Carbon Removal: When there is some kind of a program that will result in more carbon being removed from the atmosphere.
- Youth Involvement: A bonus area that rewards a city 1/2 grade for having youth involved in advising on or setting climate change related policies and plans.

The sections are combined into an overall grade. Weightings are based on the U.S. averages for the impact of each area on a typical community's greenhouse gas footprint.

Grade weightings

	Weighting
Zero Emissions Climate Action Plan	50%
Renewable Energy %	20%
Waste (Generated/Recycled/Composted)	20%
Carbon Removal	10%
Youth Involvement	Possible plus ½ grade

York Detail Report

Note: The "Carbon Removal" grade is slightly underweighted because much of the impact will likely come from areas that may be outside typical city boundaries (e.g., national forests, croplands, etc.)

Detail on grade calculations is shown in each grade description section. You can also find a generic description here.

3 Zero Emissions Plan: C-

3.1 Base Grade Rationale for York

To determine the Zero Emissions Plan grade, a base grade is determined. Then modifiers are applied. This section gives the rationale for York's base grade for the Zero Emissions Plan.

Rapidly reducing emissions is the most important thing we can do to address the climate crisis, so a Climate Action Plan that gets to net zero emissions is the most heavily weighted grade in the Report Card.

Zero emissions, or at least **net zero emissions** is the goal. This means completely cutting a city's carbon pollution and greenhouse gas emissions. Studies have shown (here's one) that it is doable. By saying "net zero," it leaves a bit of practical wiggle room for some continued but drastically reduced emissions, as long as they're balanced out by natural factors that remove carbon pollution from the atmosphere (the Carbon Removal part of the Report Card), or possibly by purchasing a small amount of carbon offsets.

A Climate Action Plan typically starts with understanding how much greenhouse gas emissions are created by a community. Figuring out how much greenhouse gases are created is called a **Greenhouse Gas Inventory** (you may also see it referred to as a greenhouse gas baseline). As it's the first step in creating a Climate Action Plan, the Report Card gives some credit for cities that have done a greenhouse gas inventory, even if they have not done a Climate Action Plan.

York has done a Climate Action plan and is aiming for an 80% reduction in emissions by After 2057.

It's good that York has an 80% emissions reduction goal. But with this timeframe the base grade is a D, because the per year emissions reduction is less than 6%. The grade could be raised if York is more aggressive about when it aims to reach an 80% reduction or if the goal is changed to Net Zero emissions.

Climate Action Plan information entered:

Link to Greenhouse Gas Inventory:
http://www.york.ca/wps/portal/yorkhome/yorkregion/yr/plansreportsandstrategies/energyreporting/regionalenergyreporting/!ut/p/a1/rVTLboJAFP2WLliSubzH

5YhVwIhNbVNgY0YYgSgDgamJ_fqO2pUJEhtmd19nzrk3OShBEUo4PZU5FWXN6fESJ_bWJwvf85YQrE3sAoE1CXQHA146siGWDdDzCFzndd20Pc2FALw1Bn_uvFkz7Gmw1NEXSlCSctGIAsXndpvWXDAuFDjX7UEGnSjF9zVR1BW7pVuWS3YKNEfKu5Y1dSs6yrNOtFTIEusUYJy1-flWK3muwG2GHu8Kl9-btMxQjDPbmliYqZZj71Vzx0yVmhNQ7cyWQliaOo7xp_aBnIFtXdUO7OvhxlxroEFyiCVJp5fFRkObJ1UPADojA-r62IDW2IBjS_b_e5TAB1cjEnBhvBpAdN_FUyPAYQhjMzRGBiRjX5mMLZk8f-Vg0ACmKJkBKQi5eInertyV9KCGikIt-b5GUa-noejeuqI-T2uqzwobZ_XwjsGwmtPPx76qtmGo0t1dIpnn5OXlF088Z-M!/dl5/d5/L2dBISEvZ0FBIS9nQSEh/#.WHOkZ9LR-Uk
Link to Climate Action Plan:
http://www.york.ca/wps/wcm/connect/yorkpublic/0983fe24-54cc-4931-b0fe-c6706f3db3e4/ECDM_-Plan_Update_2016.pdf?MOD=AJPERES

3.2 Base Grade Algorithm

This section describes the underlying algorithm for how the base grade is calculated for a city.

1. F, Emissions are unknown, no inventory has been conducted
2. D-, Emissions are known (or there is a Greenhouse Gas Inventory in process), no Climate Action Plan to reduce emissions exists
3. D-, Emissions are unknown and no inventory has been conducted, but there is a Climate Action Plan in place
4. D, Emissions are known and an Action Plan to reduce emissions exists
5. Grades above D are based on when the plan has the community getting to either net zero greenhouse gas emissions or an 80% reduction in greenhouse gas emissions:
    - Net Zero emissions grading scale
        - 2025: A+ (before 2028)
        - 2030: A+, (after 2027 and before 2033)
        - 2035: A+, (after 2032 and before 2038)
        - 2040: A, (after 2037 and before 2043)
        - 2045: B, (after 2042 and before 2048)
        - 2050: C (after 2047 and before 2053)
        - 2055: C- (after 2052 and before 2058)
    - 80% reduction grading scale
        - 2025: A+ (before 2028)
        - 2030: A, (after 2027 and before 2033)
        - 2035: B, (after 2032 and before 2038)
        - 2040: C, (after 2037 and before 2043)
        - 2045: D+, (after 2042 and before 2048)
        - 2050: D (after 2047 and before 2053)
        - 2055: D (after 2052 and before 2058)
6. Relation to Dr. Hansen's paper (see above)
    - As 6% is the average of what is needed, it is viewed as an average grade and set as a C.
    - Net Zero
        - Getting to net zero by 2050 is about a 6% per year reduction and is a C grade.

        - Net zero by 2045 is close to 8% per year and is a B.
        - Net zero by 2040 is about 9% per year and is an A. Sooner than 2040 is an A+.
        - The concept of Net Zero allows for some small level of greenhouse gas emissions that are offset by other activities that remove carbon from the atmosphere. Therefore, for grade calculation purposes, Net Zero is assumed to be a 90% reduction in greenhouse gas emissions, with the remaining 10% offset by some kind carbon removal program.
    - 80% Reduction
        - By 2045 is about a 5 1/2% per year reduction and is a D+.
        - By 2040 is about a 6% per year reduction and is a C grade.
        - By 2035 is about 8% per year and is a B.
        - By 2030 is about 10-11% per year and is an A. Sooner than 2030 is an A+.
        - It is slightly harder to get a higher grade with an 80% reduction than with a goal of Net Zero.
    - Given that the U.S. is the largest cumulative emitter of greenhouse gases (about 25% of the total), and as the US is the largest economy in the world, the grading system encourages city-level emissions reduction leadership, to get higher grades.

3.3 Grade modifiers

The following are all items that can modify the base grade.

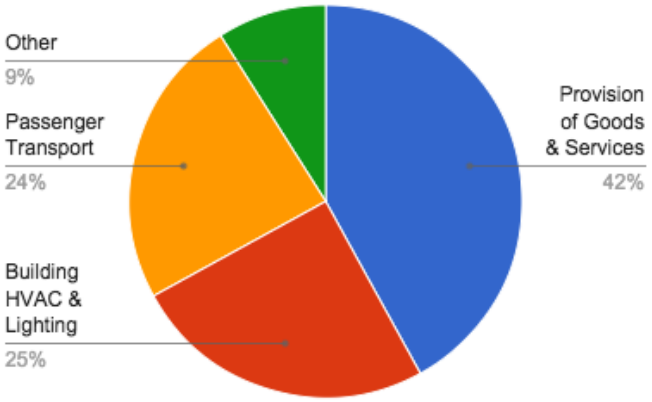
3.3.1 Goods produced outside York

York's grade could be increased by 1/3 level if the Climate Action Plan would try to take into account goods produced outside of York. Most inventories of greenhouse gas emissions count only emissions generated from sources inside a community. But by purchasing goods and services, a community's citizens contribute to emissions around the world, in the places where those goods or services are produced.

Calculating emissions from goods and services produced outside the community is difficult and the approaches for doing so are newer and require more estimation. But it is good for a community and its citizens to be thinking about these emissions as well. Therefore a city's grade is raised by 1/3 level if this is included in their Climate Action Plan.

This is important, because in 2006 the U.S. Environmental Protection Agency calculated that 42% of the greenhouse gas emissions in the United States come from the provision of food or goods (see chart below). And in most cities, a large portion of the food and goods come from outside the city.

York Detail Report



Also, 90% or more of the greenhouse gas impact of food and products happens before they are purchased. Recycling and waste management alone will not solve this problem. We must think creatively about what we buy and eat and how we can positively influence others.

The good news is that technological and cultural innovations are already positioning us for reduced consumption in a still thriving economy. "The Sharing Economy", as has been coined, could greatly reduce unnecessary personal ownership. Technology has enabled peer-to-peer connections in everything from sharing a car or a bike to seldom used tools. The National League of Cities recently published a report on how city government can embrace and foster the sharing economy.

3.3.2 Annual Report on Climate Action Plan

York has published an Annual Progress Report on its Climate Action Plan in the past 2 years, so the grade is increased by 1/3 level.While creating an annual report is no small task, the benefits can be monumental, so a city's grade is increased 1/3 level if it does one. The first of these benefits is that the annual report is a clear and consistent internal accountability mechanism. It is not about only highlighting accomplishments, but also illustrating where things didn't go as planned or opportunities still exist to improve. This level of transparency may not come easy, but many cities have been successful at creating annual reports and using them as a vehicle to engage their populations environmentally.

For example, the Annual Report on the San Ramon, CA, Climate Action Plan, covered everything from overall emissions reductions to new development plans, to land use and transportation strategies.

Link to York's Annual Report:
http://www.york.ca/wps/wcm/connect/yorkpublic/0983fe24-54cc-4931-b0fe-c6706f3db3e4/ECDM_-Plan_Update_2016.pdf?MOD=AJPERES

3.3.3 Climate Recovery Bylaws

York's grade could be increased by 1/3 level if the Climate Action Plan is turned into city bylaws.

Turning a climate action plan into city bylaws shows a city's commitment to protecting the future of its youth, so its grade is increased by 1/3 level when such bylaws are passed. Eugene, Oregon is a U.S. example of a place where something like this has happened (in the U.S. city bylaws are referred to as ordinances).

Here is the press release from iMatter partner Our Children's Trust on the Eugene ordinance.

Here is Eugene's ordinance.

3.4 Sample Climate Action Plans

There's plenty of help available for a city that wants to do an inventory. ICLEI is a global network of local governments dedicated to sustainability, resilience and climate action, with more than 1000 cities, towns, and counties around the globe. It has ClearPath, a web-based software solution available to communities of all sizes for the purpose of performing greenhouse gas inventories, forecasts and creating climate action plans. It is being used by hundreds of cities in the US today and is **free** to local governments.

Many cities around the U.S. have Climate Action Plans. Here are some examples:

- Eugene, OR - note that Appendix 7 of the plan is a Greenhouse Gas Inventory.
- Minneapolis, MN - Greenhouse gas inventory
- Minneapolis, MN - Climate Action Plan
- Burlington, VT – Climate Action Plan
- The EPA website has links to many greenhouse gas inventories and climate action plans.
- In the Carbonn database, affiliated with ICLEI, many cities report the targets for their Climate Action Plans, and sometimes their progress.
- The New York State Department of Environmental Conservation has an excellent set of tools and case studies on developing a climate action plan.

16 communities were recently recognized by the US White House as Climate Action Champions for leadership on climate change. One of the 16, Montpelier, VT, has launched Net Zero Montpelier in an effort to become the first carbon neutral capital city in the US by 2030.

Measuring-Up-2015, a report by ICLEI and the World Wildlife Federation, explores Climate Action plans in 4 of the 34 US cities who have recently pledged to reduce emissions by 80% by 2050. Here you can find case studies for Atlanta, Cincinnati, Minneapolis and Portland.

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4 Renewable Energy: D-

While typically included within a city's Climate Action Plan, electricity generation causes a large portion of Canada's greenhouse gas footprint and is included as a separate grading item. Also, it is likely that a successful transition to zero emissions will require electricity becoming renewable reasonably rapidly, with things like heating and transportation converting to emissions-free electricity over time.

4.1 Renewable Base Grade

A city's percentage of electricity that comes from renewable sources is compared to the national average to get a base grade.

York received 32% of its energy from renewable sources in 2014 and 30% in 2013. In 2014 this differs from the national average by -30.8 percentage point(s). The grade is as follows:

- D-, 5% or more below the national average (includes 5% below)
- D, 5%-2% below the national average (includes 2% below)
- C, 2% below to 3% over the national average (includes 3% above)
- B, 3% to 7% above the national average
- A, 7% or more above the national average (includes 7% above)

4.2 Renewable Grade Modifier

York's renewable energy percentage changed by 2 percentage point(s) from 2013 to 2014.This increased the grade 1/3 level.

This is the algorithm used to calculate the modifier:

> If a city's percentage increases by at least 0.5% year over year, the grade is increased 1/3 level, if it decreases by 0.5% or more year over year, the grade is decreased 1/3 level. If a city's percentage increases more than 2% year over year, it moves up a whole grade, unless it is already at A, in which case it moves up to A+.

4.3 Renewable Energy Definition

Renewable energy is generally defined as energy that comes from resources that are naturally replenished on a human timescale* such as sunlight, wind, rain, tides, waves and geothermal heat. Another way of thinking about it is that renewable resources are not depleted though their use. For the Report Card, we use the US Energy Information Administration's (US EIA) classification system for defining what is renewable energy. They include the following in their renewable energy figures:

- Hydroelectric Power
- Geothermal
- Solar

- Wind
- Biomass (includes biofuels, wood, waste)

The source of national renewable data for Canada comes from the International Energy Agency. Note that 2015 data is an extrapolation from prior years.

* - Note that on very long timescales (millions and millions of years, fossil fuels are technically replenishable. But not in any way that is useful to humanity.

4.4 Renewable Energy Data

Renewable energy data for York came from: Independent Electricity Systems Operator (IESO) - Provincial electricity supplier. (http://www.ieso.ca/Pages/Power-Data/supply.aspx)

National renewable percentages for reference:

2015: 63.8 *2014: 62.8*
2013: 63 *2012: 62.7*
2011: 62.3

4.5 More Renewable Energy Information

Greensburg, KS has recently achieved 100% renewable energy as part of their comprehensive sustainability plan and after rebuilding from an EF-5 Tornado which leveled 90% of the city in May 2007. The success in Greensburg, a small farming town in a conservative state demonstrates that renewable generation can come to any community who has the will or the need to make a change.

5 Waste: A-

Reducing the amount of waste we generate and recycling more of it reduces the amount of greenhouse gases emitted from landfills.

Waste reduction is also an indirect indicator that we're reducing the amount of completely new stuff we're buying. Buying lots of new stuff can significantly increase the greenhouse gases generated in the production of that stuff. This is often referred to as "Materials" or "Materials and Waste."

Reduction of waste has three main impacts on greenhouse gases.

1. Reduced amounts of waste in a landfill, especially food waste, reduce the amount of greenhouse gases (methane) given off by the landfill (according to the EPA, waste in landfills generates 2% of our greenhouse gas emissions in the U.S.).
2. The production and transport of the food and products (materials) we buy is estimated to cause 42% of U.S. greenhouse gas emissions (see "Background note on greenhouse gas emissions" below). Less overall waste created likely would mean we are buying less stuff that causes greenhouse gases when it is produced and delivered to the market.

York Detail Report

3. More recycling typically reduces greenhouse gases, because it generally requires a lot less greenhouse gases to recycle materials than to create new materials. The EPA has estimated that moving to 100% recycling would result in a decrease in our national greenhouse gas emissions of 6%.

There are two main factors to the Waste grade:

1. Waste Created per person. Waste created or generated equals the waste disposed (in a landfill or burned) plus the waste recovered (recycled or composted). Higher grades are received the more this is reduced.
2. Recovery rate: This is the percent of the total waste created that is either recycled or composted. It is calculated by dividing the total weight of materials recycled and composted by the total amount of waste generated in a year. Higher grades are received the more this is increased.

Here is the data calculated for York:

- Waste Created per person (tons) in 2015: 0.34341
- Waste Created per person (tons) in 2014: 0.35262
- Change in Waste Created per person from 2014 to 2015: -2.61188%
- Recovery rate in 2015: 64.7217%
- Recovery rate in 2014: 66.1427%
- Recovery rate change from 2014 to 2015: -1.421 percentage points

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Waste grades are calculated using the following table:

	Recovery Rate = Total Recycling & Composting / Total Waste Generated Grading is based on the percent increase or decrease in the rate (e.g. going from 10% recovery rate to 12% is a 2% increase.) But when 50% overall recovery rate has been reached, then the lowest set of grades a community can receive is column 4 (and 70% is column 5.)				
Waste Created per person Grading is based on the annual percent increase or decrease in the weight of waste per person	1% or more decrease	0-1% decrease	0-1% increase	1-3% increase or Greater than 50% RR	More than 3% increase or Greater than 70% RR
2% or more increase	F	D-	D	C-	C
0-2% increase (includes 0)	D-	D	C-	C	B-
0-2.5% decrease	D	C-	C	B-	B
2.5-5% decrease	C-	C	B-	B	A-
5% or more decrease	C	B-	B	A-	A
When a city reaches 70% recovery rate, if they increase their recovery rate by more than 1.5% in a year, then their score is increased 1/3 level (i.e. A- to A, A to A+)					

York has a curbside recycling program, which is good. If it did not, then grades would be reduced by at least 1/3 level. York has a curbside organics (composting) program so the grade from the table is increased by 1/3 level.

Waste related data entered in the Report Card tool used to calculate grades:

Total waste (tons) in 2015: 400413
Total waste (tons) in 2014: 403747
Population in 2015: 1166000
Population in 2014: 1145000
Recycling tons in 2015: 103769
Recycling tons in 2014: 104836
Composting tons in 2015: 155385
Composting tons in 2014: 162213
Waste data came from:
http://www.york.ca/wps/wcm/connect/yorkpublic/26b55afe-fad3-4b48-8377-745f122aad8f/2015_Diversion_Report_Acc_WEB_FINAL.pdf?MOD=AJPERES

5.1 What some cities are doing on Waste

More and more cities and towns are adopting aggressive zero waste initiatives.

- Here are 10 major US cities with zero waste goals
- Info about SF, NY, and some international cities with zero waste goals
- Small cities solve big problems - a good USA Today article.

York Detail Report

6 Carbon Removal: A

Removing greenhouse gases from the atmosphere will reduce the impacts of climate change. Carbon dioxide, the most prevalent greenhouse gas, can be removed from the atmosphere and stored in trees, forests, plants, and soil, mostly through photosynthesis - the process by which carbon is stored in plants and oxygen is released into the atmosphere.

York has a program that will contribute to removing carbon from the atmosphere. Therefore the grade starts at a C. There appear to be metrics for the program. And the metrics, if met, would result in an increase in carbon storage capacity, even if the metrics are not specifically carbon related (for example – the biomass of city trees}. Therefore the grade has been increased one whole level. York's grade could be increased by 1/3 level if carbon storage capacity was included in the program's metrics. York's grade has been increased by one whole level because program metrics were met in the most recent year.

Program used to create this grade:
http://www.york.ca/wps/portal/yorkhome/yorkregion/yr/plansreportsandstrategies/greeningstrategy/greeningstrategy/!ut/p/a1/vZRRb4IwFIV_jY9NC0Upjx1ZFJz44JIBL6ZgwW5SsHRm7Nevbj7NOOfSrG_3NPnuPTm5F-YwhblkB1EzLVrJdsc6n6wjOo1mszmKlx4JEUVLGrs-QWTuwyeYw7yUutNbmA1qXbZSc6lHaGjViyl6LfTrp7BtG_4lK14b-gh1OyZ7xbtW6Z7JTa8V0-aL9yNUK86lkPVJG86VY9-uFBuYeazyCzfYAIa8AHilU4DAKUtAKjLBblF5OCDGSGaMoAuPol_5_JmQmRb-RcbKgasbZ74C9C0DXdc2cGwbaNty9NdQ4giFDjXAKb7HiLpRSO5wTJIE2Z4QWwZS2ylT25bp7SnH19bXrL943u9zao7V8UK9aZj-67UyA7hqES5q44vpLRCyamF6kQnTc8KZ0jUNwQOQ749V06yTBLCCIDzuDt-E3eGBfgAOypSf/dl5/d5/L2dBISEvZ0FBIS9nQSEh/#.WHO9P9LR-Uk

6.1 Trees for carbon removal (sequestration)

Urban forestry is a popular method of carbon sequestration within city limits. Maintaining a healthy tree canopy has myriad benefits in addition to reducing atmospheric concentrations of CO2 and positively impacting climate change.

There are some terrific free tools available to cities.

- iTree, peer-reviewed software created by the USDA Forest Service, provides urban forestry analysis and benefits assessment tools through a combination of tree inventory and use of satellite analysis. iTree provides a way to regularly count trees and concretely assess the benefits they provide.
- EarthDefine is building the largest collection of high-resolution land cover information for the contiguous United States. This dataset currently covers over 233 million acres and is continuously expanding.

In **St. Louis Park, MN**, using the above two tools, the city forestry department uses a combination of a physical street tree inventory, biomass from LIDAR satellite images, and a Geographic Information System (GIS) Asset Management database for its trees.

While the number of trees important, it is their overall biomass that largely determines their carbon removal capabilities. Policies could be put in place that set targets for biomass with language on carbon removal. They could also include language to preserve trees in parks and redevelopment zones, and implement a more robust replanting policy.

Atlanta, like many cities, has a formal policy requiring a permit for tree removal on private property, and ensuring that replanting happens.

Burlington, VT has a policy for the city to plant 588 trees per year. See pages 18 and 23 of the Burlington Climate Action Plan for more information, including a great description on the many benefits of effectively managing trees.

6.2 Soil for carbon removal (sequestration)

Here is a great article by Judith Schwartz, author or the book *Cows Save the Planet and Other Improbable Ways of Restoring Soil to Heal the Earth* that describes how better managing soil can play a significant role in addressing the climate crisis.

7 Youth Involvement: None

York does not have youth formally involved in advising on, or helping to develop climate change related policies or plans. If youth are involved, then York's grade would be increased by ½ level.

8 Other resources for cities

Note that all materials linked to are either publicly available and/or have been provided with the consent of the creating organization.

- Rocky Mountain Institute (RMI) has an excellent new Community Resource Guide that provides a blueprint to launch a community energy transformation. Additional resources from RMI include:
  - A strategy presentation supporting the climate action plan of Fort Collins, CO.
  - A spreadsheet of specific tactics for Fort Collins
  - This page has links to the full set of community resources available from Rocky Mountain Institute.
- Redstone Strategy Group is a leading advisor to private foundations and non-profits around the world, and created this excellent report for Menlo Spark, an organization looking to lead Menlo Park, CA, to climate neutrality by 2025.
- Natural Capitalism Solutions created a Climate Protection Manual for Cities that takes cities through the steps needed to conduct a greenhouse gas inventory, create a climate action plan, and measure results.

Climate Inheritance Resolution

A Resolution expressing the commitment of the York Regional Council to protect the children and grandchildren of this community from the risks of climate destruction.

WHEREAS, 195 countries, including Canada and every country that is a member of the United Nations, reached an agreement in Paris, France on December 12, 2015, that recognizes the risk to our children's and grandchildren's future from climate change;

WHEREAS, the greatest burden resulting from an inadequate response to the climate crisis will be carried by the youngest generation, and all who follow;

WHEREAS, the risks from an inadequate response are potentially devastating, and include economic and environmental disruptions many of which are already being felt such as more severe storms, longer and hotter heat waves, worsening flood and drought cycles, growing invasive species and insect problems, accelerated species extinction rates, rising sea levels, increased wildfires, and a dramatic increase in refugees from climate impacted lands;

WHEREAS, leading climate scientists[1] have indicated that further delay in significantly reducing greenhouse gas emissions will rapidly push humanity past the point where disastrous consequences can be avoided;

WHEREAS, numerous governmental and non-governmental bodies across the nation and the world have already adopted climate action plans to immediately and rapidly reduce greenhouse gas emissions while also stopping them entirely within 25 years;

WHEREAS, youth of York Region have brought this Council a Youth Climate Report Card highlighting the gap between what we are doing today and actions that would be necessary to protect their future;

WHEREAS, youth of York Region have indicated a willingness to work with this Council on such actions, we, therefore, declare it:

RESOLVED, that York Regional Council commits to working constructively, using ingenuity, innovation, and courageous determination to complete or update a York Climate Action Plan for consideration that significantly reduces York's net greenhouse gas emissions to zero by the year 2040 and that would protect our community's children and grandchildren from the risk of climate destruction.

BE IT FURTHER RESOLVED, that the York Regional Council commits to start a York Youth Advisory Committee within 90 days as a mechanism for the ongoing inclusion of young people in the process of creating and executing climate related policies and actions.

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[1] Hansen J, Kharecha P, Sato M, Masson-Delmotte V, Ackerman F, Beerling DJ, et al. (2013) Assessing "Dangerous Climate Change": Required Reduction of Carbon Emissions to Protect Young People, Future Generations and Nature. PLoS ONE 8(12): e81648. doi:10.1371/journal.pone.0081648

CERTIFICATION

The foregoing resolution was adopted by _____ in _____ on _____ with a quorum present.

Signed by: _____

Attest: _____