

Envirothon NB Scenario

Net Zero Generation in New Brunswick: A Vision for a Sustainable Future



NCF Envirothon

Renewable Energy for a Sustainable Future



Envirothon NB Scenario

- New Brunswick is moving toward net zero GHG emissions by 2050
 - Need to decarbonize the electricity system
 - Phase out coal-generated electricity by 2030 (Belledune)
 - Need additional 700 MW of electricity by 2035
- You are consultants hired by province to help address the 700 MW shortfall
 - Must be single source of renewable energy
 - Can be located anywhere in the province
 - Need to identify how much energy will be produced
 - Cost of project
 - Consider impacts to environment and society
- First step is to look at choices available and select the one best suited to meet the projected shortfall

Hydro

Total of 12 generating stations
Range from 3MW to 688 MW
Total generated by hydro 950 MW



https://en.wikipedia.org/wiki/List_of_generating_stations_in_New_Brunswick



Wind

Total of 8 wind installations
Range from 2.4 MW to 167 MW
Total of 397 MW



Biomass

Pulp Mill (Edmundston) 45 MW

https://en.wikipedia.org/wiki/List_of_generating_stations_in_New_Brunswick

Solar

Mostly residential



Geothermal

Mostly residential



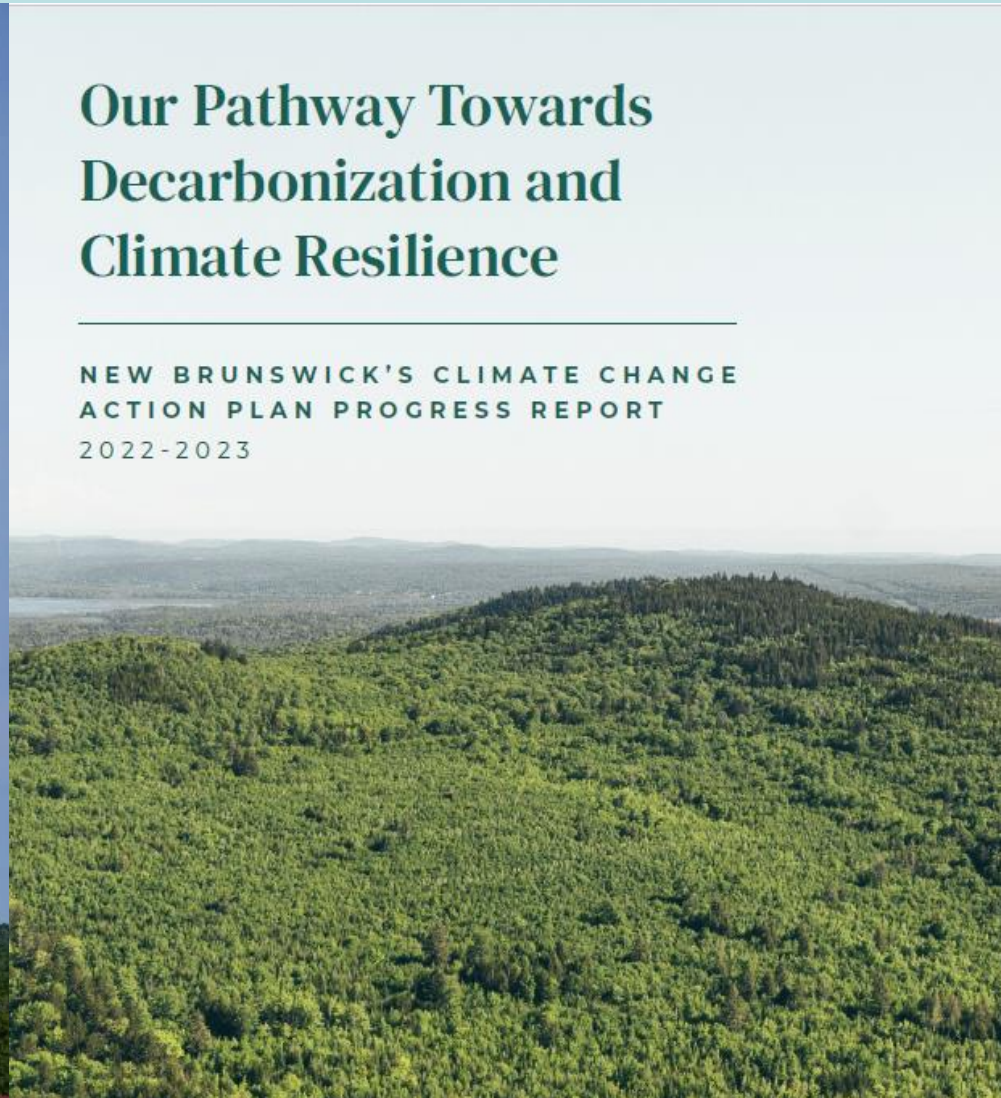
New Brunswick Resources

Powering our Economy and the World with Clean Energy

OUR PATH FORWARD TO 2035

Our Pathway Towards Decarbonization and Climate Resilience

NEW BRUNSWICK'S CLIMATE CHANGE
ACTION PLAN PROGRESS REPORT
2022-2023



NCF Resource

Good information on
global use of renewable
energy sources

Pros and cons of
renewable energy sources

Some of content is quite
technical in nature (might
be useful to add depth of
content to presentation)



RENEWABLE ENERGY FOR A SUSTAINABLE FUTURE

2024 Current
Environmental Issue

STUDY RESOURCES

Part A



Envirothon NB Competition

Team registration Sunday/Monday

Field tests on Sunday (100 points each)

Optional practice session on Sunday night

Oral presentations on Monday (200 points)

Teams present to panel of 5 judges

- Rotate judges

- Drop low and high score

Maximum duration 20 minutes

Timer will let you know 5, 2 ,1 minutes left

Stop at 20 minutes

Top 3 **overall** teams will present again



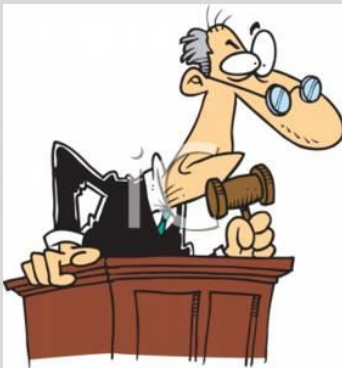
Who are the judges (5)?

Experts in at least one of the fields

Good understanding of current topic

They are **not** the enemy

They want you to succeed



A well-balanced presentation is easy to judge



Envirothon NB Judges' Scoring Sheet for Team Presentations

Team Number _____
Room Number _____
Judges Initials _____

Scale for Scoring		
0 -	Not at all	6 - Good
2 -	poor or poorly	8 - Excellent
4 -	fair or slightly well	10 - Outstanding

Part I - Preparation & Presentation of Plan (60 points maximum)

Circle score	
0 2 4 6 8 10	A. How well did the presentation address or identify:
0 2 4 6 8 10	• The interrelationship between the environment, natural resources, and the different natural resource management strategies?
0 2 4 6 8 10	• All the different players/interest groups affected by the problem?
0 2 4 6 8 10	• The major natural resources areas (soils/land use, aquatic ecology, forestry, wildlife)?
0 2 4 6 8 10	• The current issue?
0 2 4 6 8 10	• The specific environmental problem and related issues regarding the problem?
0 2 4 6 8 10	B. Were references and resources cited in the team presentation?

Part I - Subtotal

Part II - Application of Data (80 points maximum)

Circle score	
0 2 4 6 8 10	A. Team demonstrated a solid understanding of political issue(s) related to the problem (regulations, mandates, impact on political system/community).
0 2 4 6 8 10	B. Team demonstrated a solid understanding of ecological/environmental issue(s) related to the problem.
0 2 4 6 8 10	C. The team demonstrated a solid understanding of economic issue(s) related to the problem including the cost and benefits of the proposed plan, cost of implementing the plan, economic impact on local resources, cost of doing nothing, future costs, funding source(s), etc.).
0 2 4 6 8 10	D. The team demonstrated a solid understanding of social and/or cultural issue(s) related to the problem (private property rights, traditions, clean and healthy environment, right to farm, urban issues, cultural issues, environmental justice).
0 2 4 6 8 10	E. The team presented one viable solution to the problem addressing the resource issue.
0 2 4 6 8 10	F. The main parts were clearly stated and supported.
0 2 4 6 8 10	G. Solution in the presentation has potential to be applied or implemented with long term sustainability to natural resources.
0 2 4 6 8 10	H. Did the solution reflect or address the concerns of all affected groups and issues?

Part II - Subtotal

Part III - Quality of Presentation (40 points maximum)

Circle score	
0 2 4 6 8 10	A. Presentation was well organized with a clear introduction and strong conclusion.
0 2 4 6 8 10	B. Participants enhanced the presentation (eye contact, gestures, voice inflection, originality, exhibited professionalism, etc.).
0 2 4 6 8 10	C. Visual aids were used to make major points and show conclusions. (Visual aids should be correct, eye appealing, readable, neat, etc.).
0 2 4 6 8 10	D. Questions were answered logically and concisely by all team members participating.

Part III - Subtotal

Part IV - Required Elements (20 points maximum)

Circle score	
0 2 4 6 8 10	A. Add up to ten points for team member participants in presentation. (Each team member gets up to 2 points for equal oral participation in presentation).
0 1 2 3 4 5	B. Add up to five points if the presentation was accomplished in the allotted time scale and the team made effective use of their time. (Time scale is 17-20 minutes).
0 1 2 3 4 5	C. Add up to five points if the presentation accomplished the task of presenting a plan.

Part IV - Subtotal

5 pts : 17-20 min	4 pts : 15-16 min	3 pts : 13-14 min	2 pts : 11-12 min	1 pt : 9-10 min
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Final Score	
Total points for part I (60 maximum)	
Total points for part II (80 maximum)	
Total points for part III (40 maximum)	
Total points for part IV (20 maximum)	
Final Score (out of 200 points)	

Scale for scoring (general)

- 0 Not at all
- 2 Major misconceptions and gaps; ineffective, inadequate, inappropriate
- 4 Some misconceptions and flaws: minimally effective, somewhat appropriate
- 6 Complete and accurate; effective, adequate, and appropriate
- 8 Complete: very detailed, logical, ideas well supported and well organized; highly effective, all details appropriate
- 10 Profound: in-depth, done in an insightful manner; extremely effective, points to a most effective strategy

NCF-Envirothon Judges Training
Video



Envirothon NB

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0 –	Not at all	6 –	Good
2 –	poor or poorly	8 –	Excellent
4 –	fair or slightly well	10 –	Outstanding

Part I Preparation & Presentation of Plan (60 points maximum)

Circle score

A. How well did the presentation address or identify :

- | | | | | | | |
|---|---|---|---|---|---|----|
| • The interrelationship between the environment, natural resources, and the different natural resource management strategies? | 0 | 2 | 4 | 6 | 8 | 10 |
| • All the different players/interest groups affected by the problem? | 0 | 2 | 4 | 6 | 8 | 10 |
| • The major natural resources areas (soils/land use, aquatic ecology, forestry, wildlife)? | 0 | 2 | 4 | 6 | 8 | 10 |
| • The current issue? | 0 | 2 | 4 | 6 | 8 | 10 |
| • The specific environmental problem and related issues regarding the problem? | 0 | 2 | 4 | 6 | 8 | 10 |

B. Were references and resources cited in the team presentation?

0 2 4 6 8 10

Part I – Subtotal



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4 –	fair or slightly well	10 –	Outstanding

Part II – Application of Data (80 points maximum)

Circle score

A. Team demonstrated a solid understanding of political issue(s) related to the problem (regulations, mandates, impact on political system/community).	0	2	4	6	8	10
B. Team demonstrated a solid understanding of ecological/environmental issue(s) related to the problem.	0	2	4	6	8	10
C. The team demonstrated a solid understanding of economic issue(s) related to the problem including the cost and benefits of the proposed plan, (cost of implementing the plan, economic impact on local resources, cost of doing nothing, future costs, funding source(s), etc.).	0	2	4	6	8	10
D. The team demonstrated a solid understanding of social and/or cultural issue(s) related to the problem (private property rights, traditions, clean and healthy environment, right to farm, urban issues, cultural issues, environmental justice).	0	2	4	6	8	10
E. The team presented one viable solution to the problem addressing the resource issue.	0	2	4	6	8	10
F. The main parts were clearly stated and supported.	0	2	4	6	8	10
G. Solution in the presentation has potential to be applied or implemented with long term sustainability to natural resources.	0	2	4	6	8	10
H. Did the solution reflect or address the concerns of all affected groups and issues?	0	2	4	6	8	10

Part II – Subtotal



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Part III – Quality of Presentation (40 points maximum)

Circle score

A. Presentation was well organized with a clear introduction and strong conclusion.	0	2	4	6	8	10
B. Participants enhanced the presentation (eye contact, gestures, voice inflection, originality, exhibited professionalism, etc).	0	2	4	6	8	10
C. Visual aids were used to make major points and show conclusions. (Visual aids should be correct, eye appealing, readable, neat, etc.).	0	2	4	6	8	10
D. Questions were answered logically and concisely by all team members participating.	0	2	4	6	8	10

Part III – Subtotal

Part IV – Required Elements (20 points maximum)

Circle score

A. Add up to ten points for team member participants in presentation. (Each team member gets up to 2 points for equal oral participation in presentation).	0	2	4	6	8	10
B. Add up to five points if the presentation was accomplished in the allotted time scale and the team made effective use of their time. (Time scale is 17-20 minutes.).	0	1	2	3	4	5
C. Add up to five points if the presentation accomplished the task of presenting a plan.	0	1	2	3	4	5

Part IV – Subtotal

5 pts : 17-20 min	4 pts : 15-16 min	3 pts : 13-14 min	2 pts : 11-12 min	1 pt : 9-10 min
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How to prepare

Read the scenario carefully and decide on course of action

Prepare outline and assign tasks to group members

You have **seven** weeks remaining – don't wait until last minute

Know what judges are looking for (scoring sheet)

Have strong introduction and conclusion

PRACTICE

PRACTICE

PRACTICE

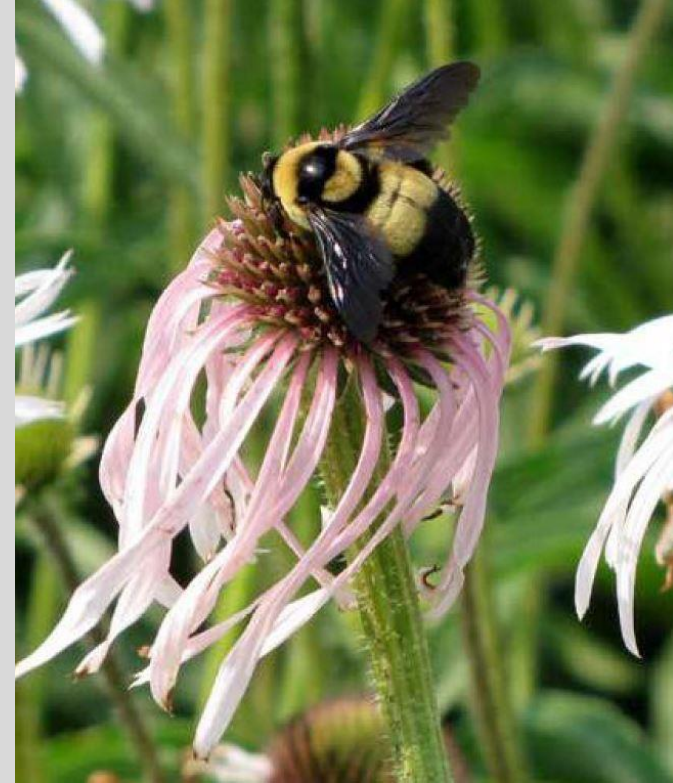
Sample Outline

- Introduction (topic and introduction of team members)
- Background (tell judges about the situation)
- Plan (how to address the problem)
- Implementation (what needs to be done)
- Benefits/consequences (society, environment, economy, etc.)
- Conclusion
- Other ?????



General comments

- You have 20 minutes – use it!
- Use cue cards with key words
- Areas of concern when preparing
 - Focus on scenario
 - Forestry, wildlife, aquatics, soils (don't spend too much time with these)
 - Use **credible** references (according to followed by fact)
 - Political issues (legislation, regulations, municipal, provincial, federal, international)
 - Economic issues
 - Environmental issues are key
- Make sure to PRACTICE



Oral Presentation Rules

Maximum 20 slides (high school); 10 slides (middle school)

Last slide used to list references used during presentation

Maximum presentation time

20 minutes + 10 minutes questions (high school)

10 minutes + 5 minutes questions (middle school)

Do not identify your team when introducing yourselves

Each student allowed 5 cue cards (standard 3 x 5)

Presentation on memory sticks (2) plus printed copy of presentation must be dropped off at registration

No use of videos or sounds

Can use animation feature in PowerPoint

Words of advice

- Being nervous is OK (use it)
- Best way to avoid nerves is to be prepared
- Speak loudly and clearly
- Be engaged – even when not speaking
- Look like a team
- Only use as many slides as you need
- Use images instead of text where possible
- Don't read from slides
- Assume a role (scientist, biologist, politician, engineer, etc.)



Thank you

PRACTICE!

