Carbon Neutral NORTH

ARCTIC ENERGY ALLIANCE TAKING ACTION ON CLIMATE CHANGE

# Northerners taking action on Climate Change

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August, 2009

## Introduction to AEA

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**Vision**

- *NWT Society will become a global leader in clean, efficient, sustainable energy practice.*

**Mission**

- *"To promote and facilitate the adoption of efficient, renewable and carbon neutral energy practices by all members of NWT society."*

**Background**

- not-for-profit, non governmental organization, set up in 1997.

#101 5102 51st Street, Yellowknife

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## AEA Members

**General Members**

- MACA,
- ENR,
- PWS,
- NWTHC,
- Public Utilities Board,
- NWT Association of Communities.

- General Members sit on the Board of Directors and can vote on financial and other matters.

**Sustaining Members**

- NTPC,
- Northland Utilities,
- NWT Contsruction Association,
- Avalon Rare Metals

- Sustaining Members do not sit on the Board of Directors. They can attend all meetings and vote on non-financial matters.

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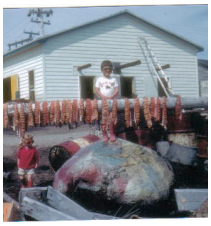
## AEA team – Executive Director



Andrew investigating the impacts of diesel power generation in Makkovik, Labrador. (c. 1980)

- Andrew Robinson, P. Eng.,
- Masters of Environmental Studies (York University)
- BASc. – Mechanical Engineering (University of Waterloo)
- Grew up in the North
- 5th year at AEA.

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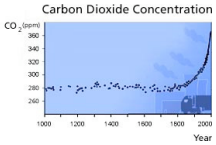
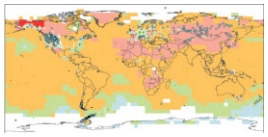
## Climate Change




•October 2008 – 386 ppm



Observed temperature change 1970 - 2004


•1990 – "unequivocal detection not likely for a decade."
•1995 – "balance of evidence suggests discernable human influence."
•2001 – "most of the warming the last 50 years is likely (odds 2 out of 3) due to human activities."
•2007 – "most of the warming is very likely (odds 9 out of 10) due to greenhouse gases."

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## Take Action …

TAKE ACTION

Follow these three steps...

**Step 1: Become Energy Efficient**

Using efficient technologies and designs, you can meet all of your lifestyle and business needs while saving money and reducing your impact on climate change.

**Step 2: Switch to Renewable Energy Sources**

Traditionally, the Land provided northern people with all the energy they needed. You can use renewable energy to meet your modern needs in the same way.

**Step 3: Become Carbon Netural**

After steps one and two, you can offset your remaining emissions by purchasing carbon offsets. The money pays people in other parts of the world to become more efficient and switch to renewable energy too.

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## Carbon Neutral North

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- New program launched in March, 2008

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## Calculators




- Travel
- Home & Building heating and electricity

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## AEA's Carbon Emissions


- Fall of 2006 – Fall 2007
- AEA Staff:
  - Flew 78,500km and
  - Drove 12,000km,
  - 21.8 Tonnes of $CO_{2EQ}$
- Could we buy offsets?

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## AEA's Carbon Emissions

- Our portion of the building used 7,350 litres of heating fuel.
- 20.8 tonnes of $CO_{2EQ}$ from heating last year!
- TOTAL – 42.6 tonnes $CO_{2EQ}$

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## Carbon Neutral AEA

- As of the year 2007, the AEA will be "Carbon Neutral".
- The AEA will purchase 42.6 tonnes of "Gold Standard" carbon credits.
- Cost $1,450
- Funds go to support projects like this wind-park in Madagascar.

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The Gold Standard

planetair

## We're not the only ones

- World Cup Soccer
- The Super Bowl
- Airlines
- HSBC
- Swiss Re
- Google
- Nike
- Dell
- Vancity credit Union
- Govt of BC
- Rolling Stones
- Coldplay
- Dave Mathews Band
- David Suzuki Foundation

Google Powering a clean energy revolution

Renewable Energy Cheaper Than Coal

Reducing our Carbon Footprint to Zero

Reducing our Carbon Footprint

Our business powers the platforms that drive the Inte lot of electricity. Generating that electricity requires e produce electricity using renewable energy resources

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## Case Study – City of Yellowknife

- Energy audit of major facilities completed.
- On track to meeting target of 20% reductions in CO2 emissions - 5 years ahead of schedule.
- YK building code is one of the most efficient in Canada.

•Wood pellet boiler being unloaded at YK City Pool & Arena.

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## A new target for 2014 – "Carbon Neutral Yellowknife"

- Climate Change *can* be solved.
- Solution requires leadership & global partnerships.
- Annual City emissions estimated at 4.1 kT. (not including flights)
- $165 K to offset @ $40/tonne.

Yellowknife community energy plan

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## Case Study – Housing in Inuvik

- Highly efficient duplex – EGH 86
- R50 Walls & Floor
- R80 Roof
- High Efficiency Gas boiler & water heaters (90 % AFUE)
- Triple-pane windows, low-e coating, argon filled.
- Heat Recovery Ventilator
- Each unit will use:
  - 47.5 GJ of Natural Gas
  - 9 MWh of Electricity
- 1 kW Solar PV system
  - Save 1.3 MWh/year
  - Cost $11,000
- 3 panel solar hot water
  - Save 7.6 GJ/year
  - Cost $12,000

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## Thanks!

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