



# Wind Turbines: How to Protect Your Coverage

**CBC**  **Radio-Canada**

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# To be avoided...



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# Example of impacts on television



Point I  
6/6/2005

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- What is the problem ?
- What can I do ?
- What tools are available ?
- What can I expect ?
- What about DTV ?

# What is the problem ?



- Vulnerable broadcasting services:

  - Analogue television

    - Ghosting
    - Flickering
    - Color shift
    - Synchronization loss

  - Digital television

  - AM radio

    - Antenna pattern distortion

- No regulatory or policy framework in place

# What is the problem ?



- Voluntary coordination left in the proponent's hands
  - Exceptions: CBC/Radio-Canada signals are taken into consideration when an environmental assessment is done
    - Federal
    - Québec
    - Ontario

# What is the problem ?



- The impacts' existence on radio frequency spectrum is still not fully recognized by wind energy project proponents
- Wind energy projects are sprouting everywhere

From now to 2012, **400%** growth in terms of installed turbines in Canada

# What is the problem ?



- Wind turbines are getting bigger
- Projects are getting bigger
- Projects are getting closer to urban areas

Kingston (Wolfe Island Wind Project)

Montréal (St-Rémi Wind Farm)

Several projects (Southern Ontario)

# What can I do ?



- Get involved in the environmental assessment process, if possible.
  - Request modifications to the wind energy project
  - Request commitments from the proponents
- Inform the local population of the potential problems
  - Avoid unjustified equipment purchase by your viewers
  - Reception can be fixed, but listeners have to report the problems

# What tools are available ?



- RABC/CanWEA Guidelines help to determine if an engineering study is required

All radio frequency spectrum users are accounted for in the guidelines

Simplified mathematical formulae help define consultation zones

Used as a starting point in the environmental assessment process

- Federal
- Ontario
- Québec

# What tools are available ?



- Engineering study is a must when:
  - Transmitters are located within the relevant coordination zone
  - Receivers are located within the relevant coordination zone
    - **Every dwelling equates a receiver location for broadcast systems**
- Before and after construction measurement campaigns will help you in cases of interference

# What can I expect ?



- Early stage involvement generally leads to a better protection of existing services
- A preliminary report (RABC/CanWEA Guidelines)
- If needed, an engineering impact study

# What can I expect ?



- Commitments from the proponent for TV can include:
  - Before and after measurement campaigns
  - Viewers' antenna replacement
  - Cable or satellite installation and monthly fees
  - Complaints registry
  - Information campaign on the project's impacts

# What about DTV ?



- From what we understand now:
  - The impacted area could be similar to NTSC
  - The impacts on viewers could be greater than for NTSC due to the « cliff effect » in ATSC
- **Widespread myth: DTV will fix all TV reception problems !**

# What about DTV ?



- Body of knowledge still to be defined regarding the impacts on ATSC reception
  - Characterizations have to be conducted
  - No credibility for protection requests without data on DTV effects
- Involvement from the broadcasting community in the future policy/regulatory definition will be key for DTV service contours protection

# Questions ?



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