A Green Plan for Manitoba

www.50by30.org

vision:

To increase Manitoba's renewable energy use to 50% (from the present 30%) by 2030 without increasing global GHGs.

Why 50 by ‘30?

- spend more of our money here
- reduce our greenhouse gases
- grow our green industries
- Increase our use of renewable energy

no single sector can do this alone

How will we get to 50 by ‘30?

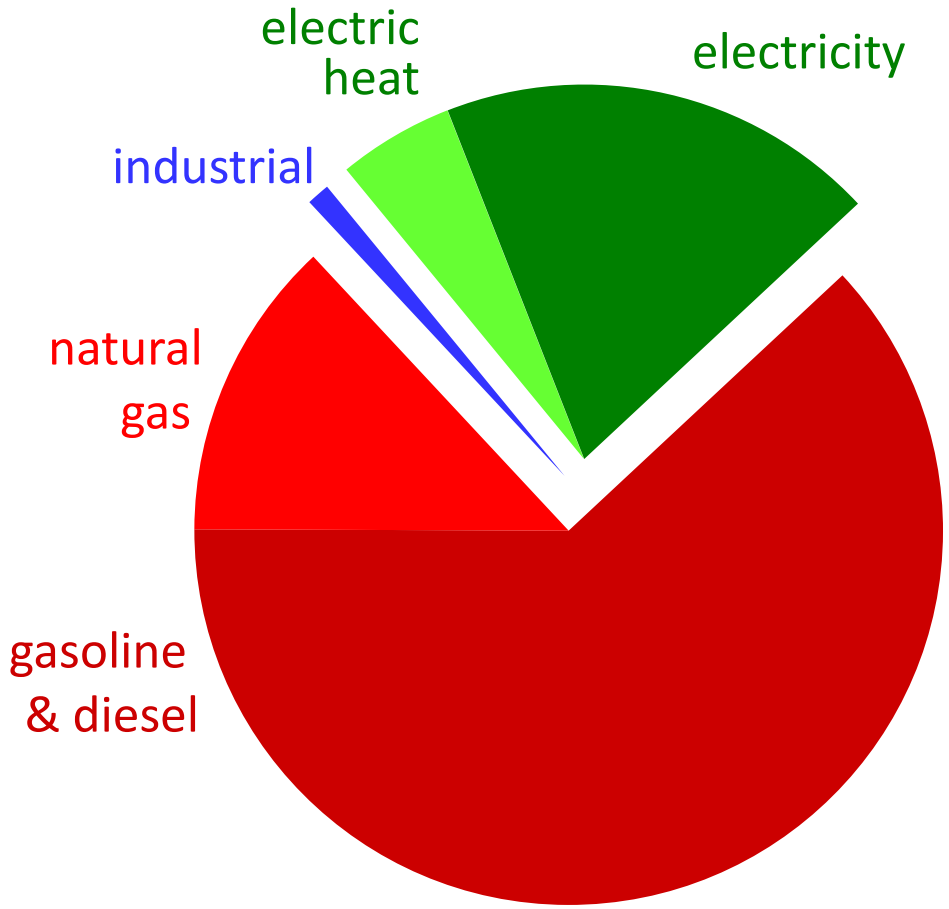
RED Strategy:

- **R**enewables
  - hydro
  - geothermal
  - biomass
  - solar
  - wind
- **E**nergy efficiency gains
- **D**emand reduction programs

How will we pay for 50 by 30?

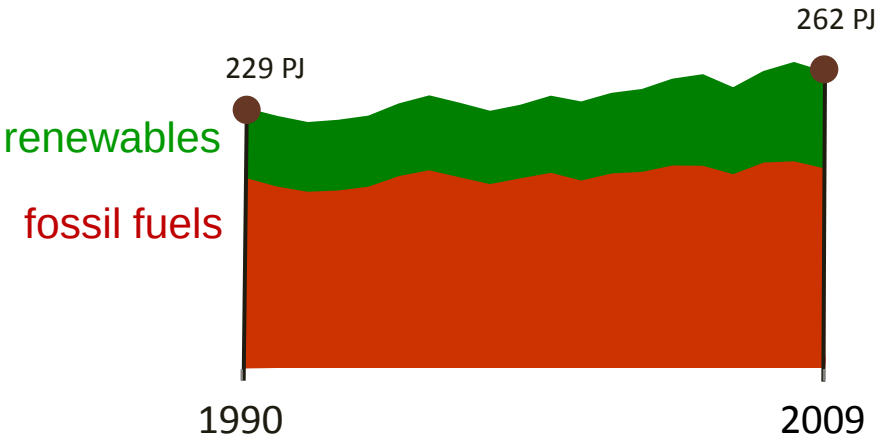
WE'RE ALREADY SPENDING THE MONEY

- $1B - natural gas
- $4B - gasoline & diesel



To date

energy sources



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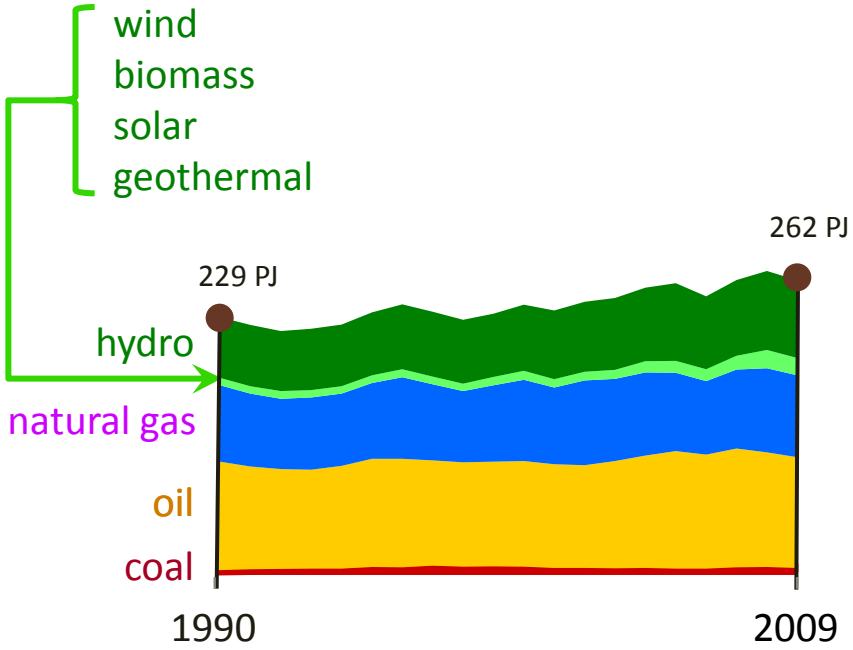
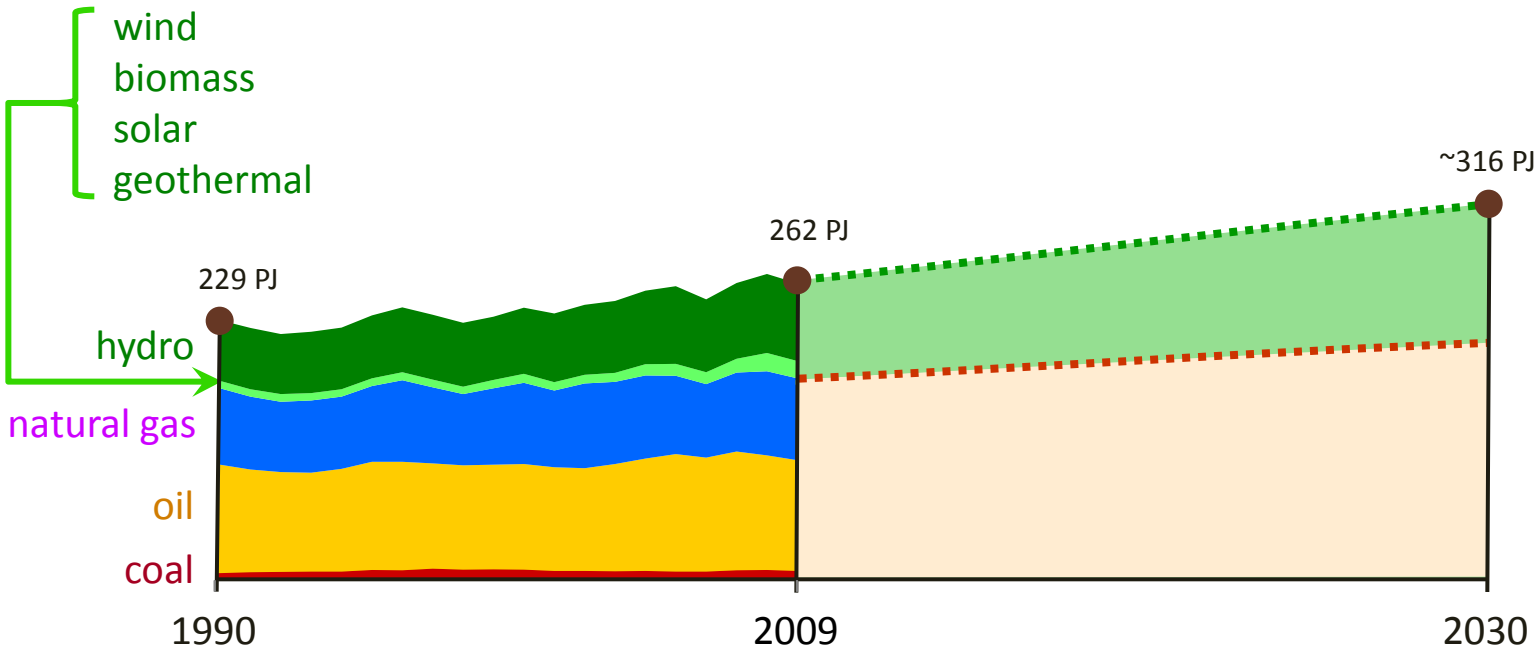


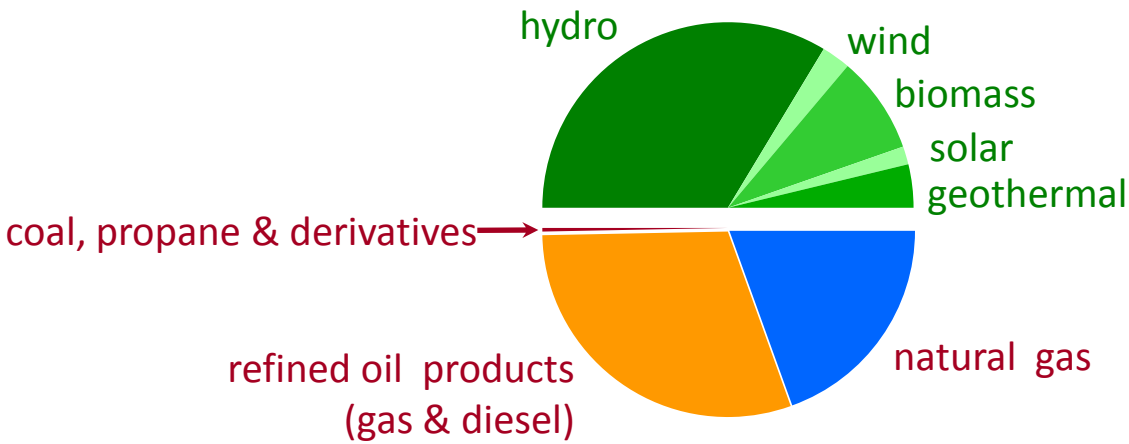
If current trends continue

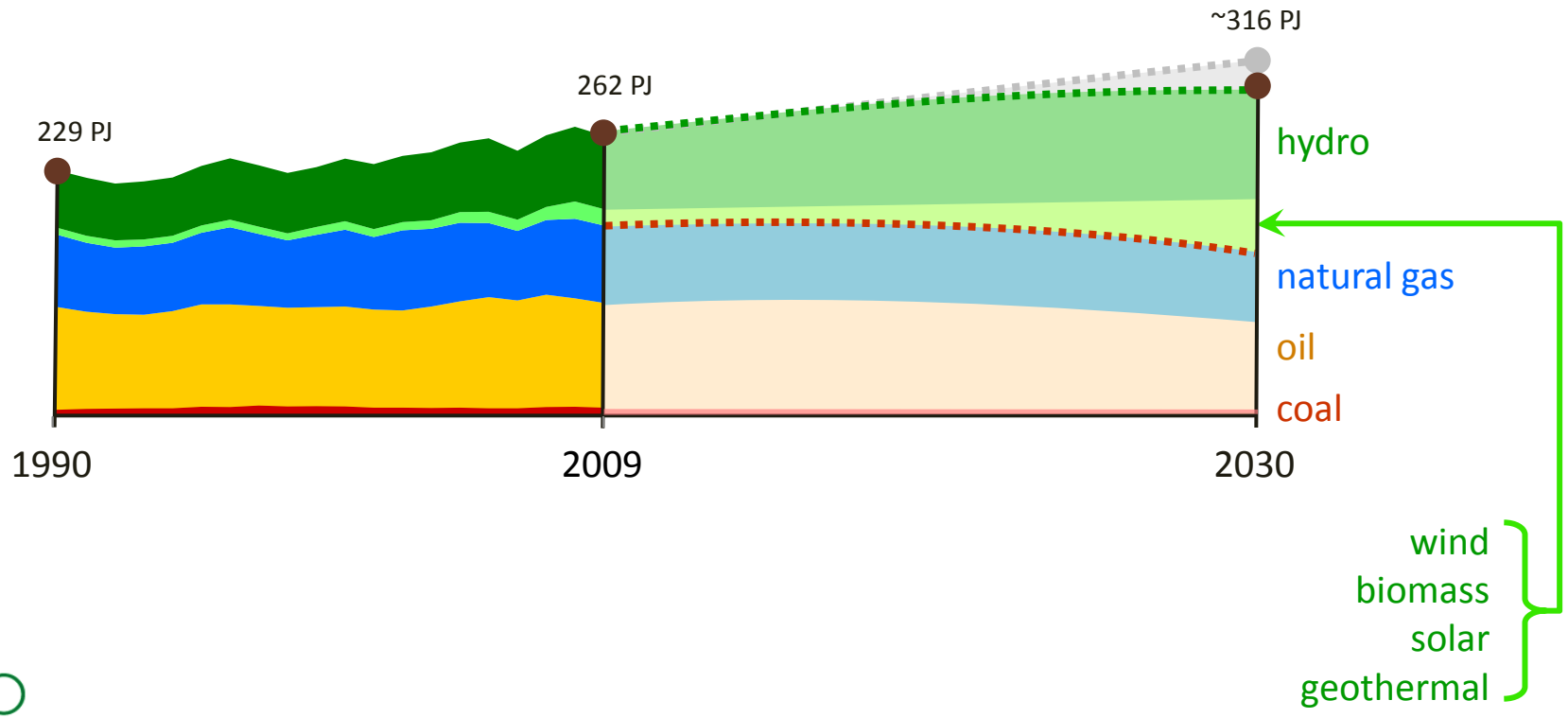
energy sources



A Green Plan

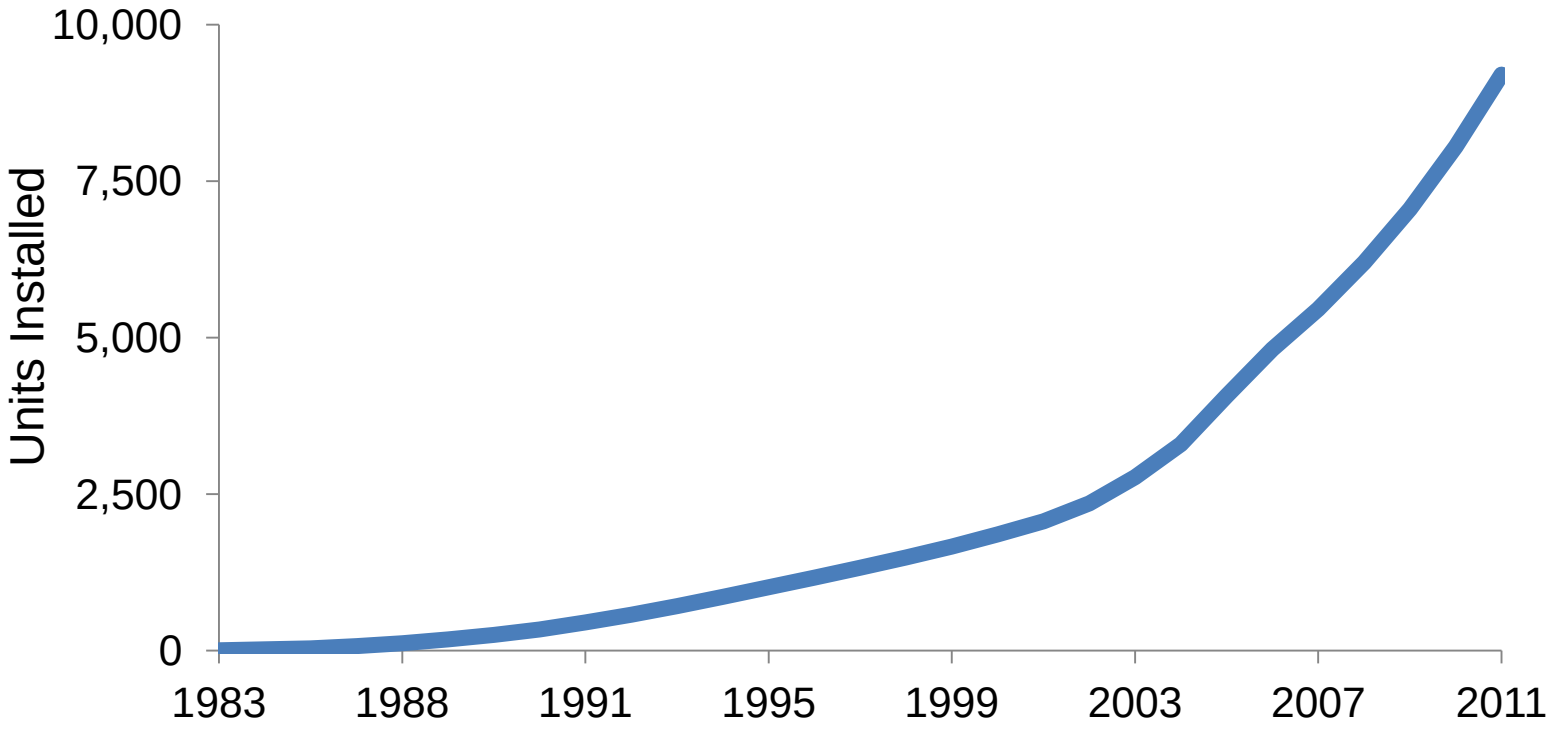
energy sources





Unrealistic? Look at just one example:

Ground-Source Heat Pumps



NFAT

-Manitoba needs to look at our overall energy future, not only a focus on less or more hydro

-What is the NEED FOR?

- Serious Efficiency and Demand Reduction Goals – i.e. a DSM program (DUNSKY report)
- Growth of Biomass/Solar/Geothermal heating
- Reduction in use of non-renewable energy
- Economic growth opportunities
- Reduction in GHGs

50by30 - A Green Plan

Manitoba needs an energy policy…with meaningful targets.

a few examples

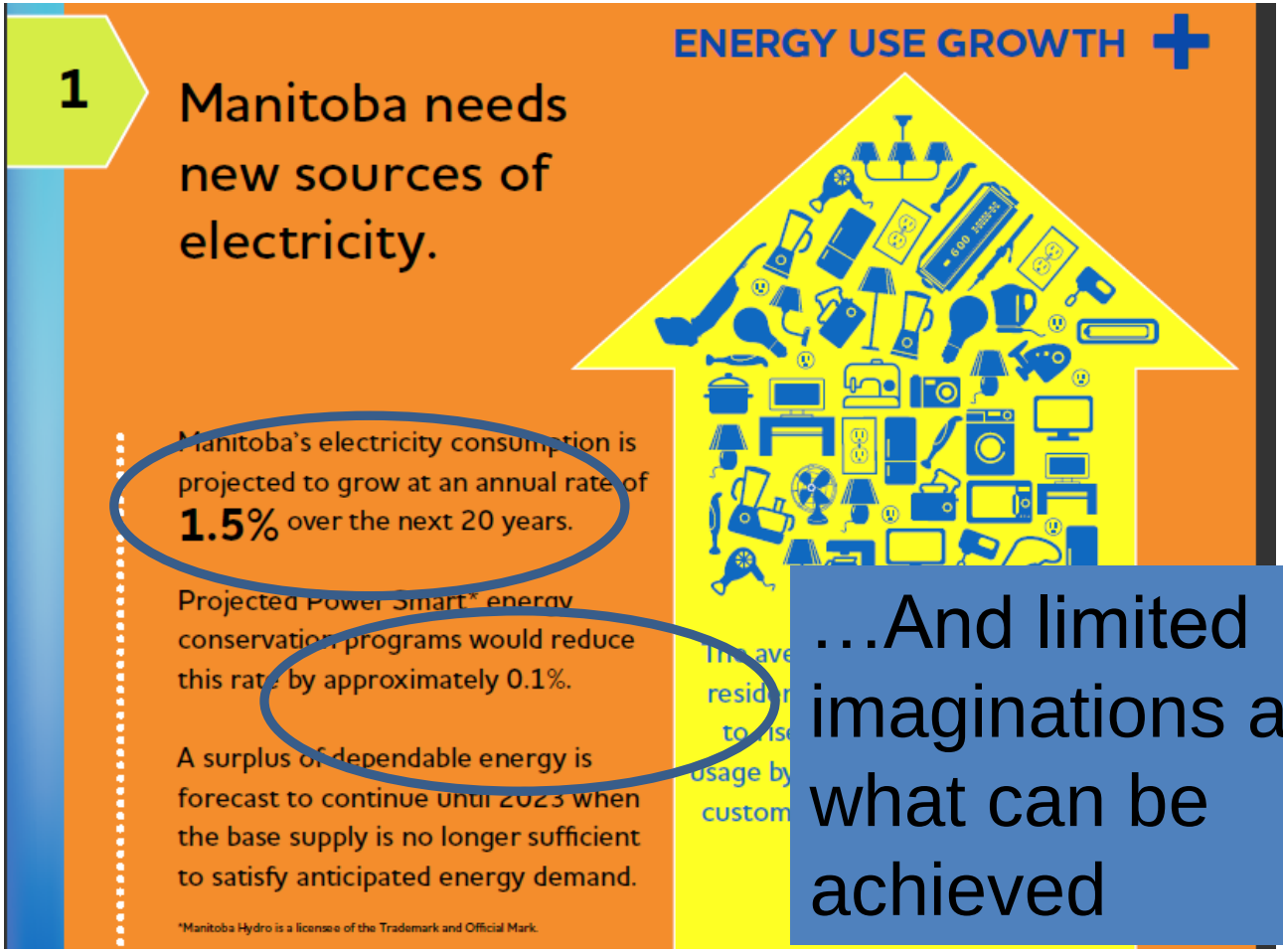
- Vermont
- North Dakota
- Denmark (100 by 50!)
- USA (25 by 25)
- British Columbia

50by30 – Manitoba's Energy Policy?

- The numbers can vary, but the point is to set a target, a vision, a direction

- A plan WITH targets provides a context for all energy decision making
  - Why build a new dam?
  - Why reduce natural gas usage?
  - Why increase efficiency goals?

Without a goal…we float on trends



…And limited imaginations as to what can be achieved

BC's Clean Energy Act …

The Clean Energy Act also raises the bar for BC Hydro's reliance on demand-side measures. Demand-side management (DSM) is crucial for meeting the Act's requirement to meet 66 per cent of all new power demand through conservation by 2020.

INTEGRATED RESOURCE PLAN (IRP)

Meeting future energy needs

The IRP is a flexible long-term strategic plan to meet B.C.'s growth in electricity demand over the next 20 years. It focuses on making prudent investments in conservation and clean energy, and on keeping future electricity supply options available. On November 15, 2013, BC Hydro submitted the plan to government and it was accepted on November 25.

About the IRP

What is the Integrated Resource Plan?

Development process

Planning a clean energy future.

Get involved

Overview of public, First Nations and stakeholder consultation.

Document centre

The Integrated Resource Plan and related reports.

Past plans

Previous long-term electricity plans.

How to reach us

Contact the Integrated Resource Planning project team.

NFAT Analysis

-NOT about technology battles

-NOT about more dams or oil wells

-MUST be about long term, comprehensive planning and thinking which prioritizes:

- Local Economic Growth
- Environmental Protection
- Social Health

-Needs to examine alternatives to electric generation and heating

Technologies	Renewables	Efficiency	Demand
electricity	- large-scale hydro - small-scale hydro - wind - photovoltaic solar	- PowerSmart - PAYS - LEDs - fluorescents	- lighting design

heating	- geothermal
	- solar wall
	- water-based solar
	- biomass (BEN)
	  ○ policy
	  ○ supply
	  ○ demand
	  ○ education
		- PowerSmart
		- PAYS
		- high-efficiency boilers & furnaces
		- insulation
			- building retrofits
			- building design
			- passive solar

transportation	- hybrid vehicles
	- low-fossil fuels
	- electric vehicles
	  ○ electrification infrastructure
		- transit
		- mileage standards
		  ○ truck engine design
		- truck aerodynamic enhancements
		- airships
		- goods-transit efficiencies
			- carsharing
			- carpooling
			- biking
			- urban design
			- rural design

Recommedations

1. Focus on building an energy policy for Manitoba with targets – including:
   - **R E D**
   - Multiple technological solutions
   - Community involvement and benefit
2. Combine agendas – eg. Lake Winnipeg clean up and biomass fuel connection

Targets

1. DSM to at least match BC
2. Replace electric heat with geothermal, biomass and solar
3. Limit growth of natural gas with biomass heat
4. Invest in developing other renewable energy sectors
5. Develop more Wind and Solar capacity

Renewable, Sustainable, Profitable