

An Alternate Approach to Waste Diversion

Near-zero waste is achievable

- At near-zero cost to municipalities
- In a timeframe far faster than the construction of an incinerator
- Using existing technology
- Environmentally beneficial

Getting to Zero

The closer we get, the harder it gets

- The first 60% is easy
- Adding new categories could fairly readily bring that up another 10-15%
- Beyond that:
 - Need incentives to maximize recycling
 - Need education to persuade people to buy less wasteful products
 - Need restructuring on the producer side
- ***Biggest challenge is to engage the 10-15% that currently don't recycle***

How this idea came about

- Lateral Thinking
 - Not constrained by conventional 'wisdom'
 - Not constrained by status quo
 - Whole concepts rather than incremental
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1. Identify the problems that need to be fixed
 2. Visualize the solution
 3. Determine how to get there

The solution should:

- Provide incentives to reduce waste and to increase the reuse & recycling of what remains
- Make waste reduction/recycling mandatory for everybody
- Improve communication so people know what can be recycled and understand what they can do to reduce waste
- Provide incentives for producers and retailers to produce and sell products which are less 'wasteful'
- Maximize monetary return on recyclables
- Minimize air, water pollution
- Increase competition in the waste sector
- Less Big Brother

Solution in generalities

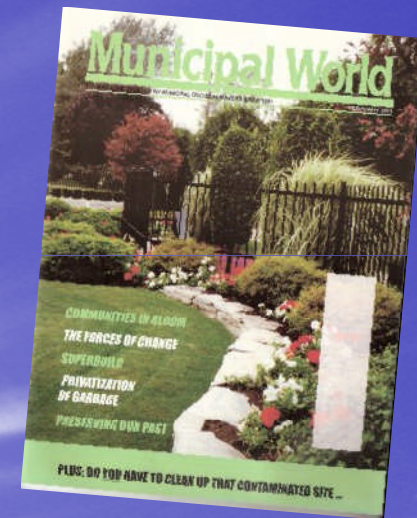
- Rearrange the players
- Re-evaluates the relationships between producers, waste companies, government and consumers
- Proposes a structure which can achieve the goals quickly and efficiently
- Existing technology
- Simplifies the system
- Nothing radical

The Solution - highlights

- Homeowners and businesses are individually responsible for their waste
- Homeowners, businesses, etc. contract directly with waste companies or co-ops for the handling of their garbage
- Government assumes regulatory role – sets diversion targets

Origins

- Idea first developed many years ago
- Published in 2001 *Municipal World*
 - Title: Privatization of garbage
- Presented to:
 - Ministry of Municipal Affairs
 - Ministry of the Environment
 - Durham Region
 - City of Toronto
- *Nothing Happened – bureaucrats don't make decisions*
- *>> Back burner*



The \$200 million dollar elephant in the room

- 14 Regional Councillors –11 face-to-face plus 3 lengthy conversations by phone
 - 2 more scheduled
 - Meetings vaguely promised by several more
- Other municipalities
 - Markham, Niagara, Windsor
- Ministry of the Environment
 - TOWARD A ZERO WASTE FUTURE: REVIEW OF ONTARIO'S *WASTE DIVERSION ACT, 2002*

Response

- *Good – interest to enthusiasm - lots of good questions*
- *Lots of misunderstandings*
- *Proposal is evolving in response to input*
- *New ideas added*

So, why now in 2008?

Why has nobody else come up with this idea?

Challenges

- **Getting people to:**
 - Read it / spend the time to understand it
 - Look beyond the status quo
 - Consider the current system in its broad historical context, rather than where we were last week or last year
 - consider waste within overall context of government responsibilities
- **Resistance to change, and expectation that others will resist change**
- **Background**

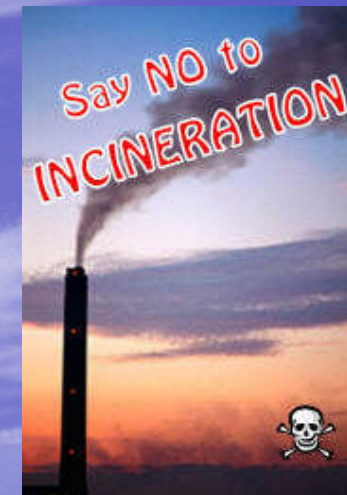
Getting to Zero – the 5 R's

1. Rethink
2. Refuse
3. Reduce
4. Reuse
5. Recycle

Still have residual waste

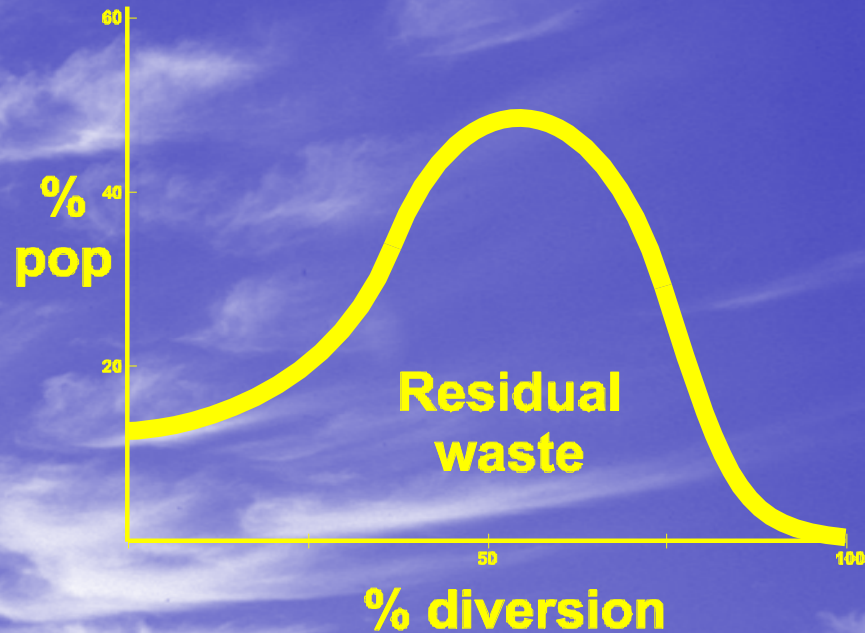
Need to Reduce Residual Waste

- **Wasted resources**
 - Waste consists of raw materials which if recovered will replace 'virgin' resources which are becoming scarcer and more expensive
- **Wasted energy**
 - Energy used in production of goods
- **Pollution**
 - Air, water, soil
- **Greenhouse gases**
 - Methane from landfill, CO₂ from incineration



Who wastes / diverts

- Lack of participation studies
- 'Wasters' are the problem
- 10 – 15% not recycling
- Some already diverting 85% or even higher
- No incentives: if one person puts out half a bag of garbage and another puts out 4 bags, then the one should be paying 8x as much as the other.



Impediments to Zero Waste

- No incentive to waste less – it all disappears – everybody pays the same on their tax bill
- Success of Blue box program dependent on sense of ‘civic duty’ – doing the right thing
- **Some do – Some don't.** 10 – 15% of consumers not participating in Blue box program – can't get past 85% diversion without their participation
- Little incentive for producers to create less wasteful products
- ***Waste must have a price***

From: Towards a zero-waste future

“Some issues with [current] model include:

- a municipal taxpayer who generates little waste may in fact end up paying into the system more than his or her fair share of the cost of managing the waste he or she generates;
- incentives for producers to strive for zero waste are reduced, since they are not fully responsible for all costs and are too far removed from the end-of-life handling of their products;
- incentives for municipalities to become more efficient and reduce the costs of collection and diversion are reduced because they do not bear the entire cost.”

Historic Perspective: 1

- **Consumers used to have Stewardship**
 - People were responsible for their own waste
 - Personal on-site garbage depositories
 - Private garbage dumps
 - Private operators paid under individual contracts (similar arrangements still exists through much of the ICI and multi-unit residential sector)

Historic Perspective: 2

- Problems: lack of standards, vermin, odours, esthetics
- Municipal governments took over garbage collection as a uniform tax-supported service
- Right decision at the time

However ...

Unintended Consequences

■ Consumer Stewardship ended

- Incentive to reduce waste disappeared – no cost implications
- Garbage vanished at the curb – no matter how much was put out
- Waste increased dramatically in the Postwar period – consumer society was born
- Built in obsolescence became the norm
- In spite of Blue Box program, huge landfills filled up – new ones needed – they filled up
- Garbage exported to Michigan

■ *Urgent Need to find alternatives*

Early Co-ops

- Informal groups of environmentalists
- Set up depots and collected paper, glass, metals
- Sourced markets - were informed that waste needed to be properly sorted in order to maximize value
- Governments realized that recycling could reduce waste – early efforts copied co-op depots

The Bluebox is born

- Limited range of items
- Minimal sorting – led to glut of unsorted worthless glass
- Five-year phase in – immediate acceptance
- Phase 2 & 3 – more items added – rapid acceptance
- Consumers keep pushing for more categories
- Municipalities diverge – system getting increasingly complex

Near Zero Waste is achievable

- Region has adopted goal of 70% diversion by 2010
- By increasing diversion just 1% per year, Durham can achieve near zero waste, even without my proposal

Year	Diversion rate	Residual %	Projected tonnage*
2010	70	30	79,994
2015	75	25	65,836
2020	80	20	72,483
2025	85	15	59,304
2030	90	10	42,405
2035	95	5	22,728

* Numbers extrapolated from Deloitte business case

The 'Players'

- Producers (Manufacturers, Importers, Farmers, Distributors, etc)
- Consumers (Individuals, Businesses, Institutions)
- Waste Companies
- Government

“Ontario’s Blue Box program is a shared responsibility program

- Municipalities collect, transport, and arrange for the recycling of waste from their taxpayers.
- Under the [Waste Diversion] Act, producers discharge their responsibility by reimbursing municipal governments for a portion of the costs of the Blue Box Program.
- In theory, municipalities contribute existing infrastructure and programs to facilitate consumer participation in diversion programs. Taxpayers pay municipal costs, generally on an equalized basis as part of their property taxes.”

Evolving Role of Government

- **Service provider role eroded by:**
 - Contracting out of garbage collection
 - Blueboxing – business side of recycling
- **Government role has become fragmented and inconsistent – OMMRI, CSR, WDO, Stewardship Ontario >> ?**
 - Every municipality going its own way
 - recycling different range of items
 - Some have gone pay-as-you-throw
 - Different bag limits
- **Municipalities increasingly at the mercy of a few large waste companies**

The evolving role of government

- Government as a service provider – uniform cost to each taxpayer – efficient
- Service role now performed by private waste companies
- Government is now micromanaging in a complex, fragmented, non-uniform, largely private system
- Many good ideas in play but most would be more efficiently delivered by the private sector:
 - Real time response to changing conditions
 - Innovation not the strong suit of government
- Government should set diversion targets and let the private sector determine how best to meet them – more efficient

Wrong Turn

- System is fragmented and confusing to residents, businesses and even government
- Decisions of what gets recycled and how are being made by committees of high-paid bureaucrats - private sector more efficient
- Governments are competing with each other for markets
- Smaller markets for recyclables are ignored because governments have huge quantities to sell
- *Government should have re-examined its role when recycling and contracting-out began - should have moved to its traditional role of regulating and licensing*

Producer Responsibility

- Good idea, but not very real because any costs put back onto producers will be paid by consumers through increased prices
- Provincial government has created complex system involving Waste Diversion Ontario (WDO) and Stewardship Ontario
- System helps to fund bluebox program but provides no incentive to individual producers to reduce waste or sell better quality products

That was all background

An Alternate Approach to Recycling / Waste Management

- **Government regulates and licenses**
 - Step 1: Waste services listed separately on the tax bill at true cost including direct subsidies (WDO, etc.) and indirect subsidies from ICI and MURB sectors
- **Consumers assume responsibility for the cost of disposing their waste**
 - Step 2: Allow Homeowners to opt out of municipal waste services by contracting individually with a waste diversion co-op or a private waste contractor

Two Waste Management Choices

1. Waste Recycling Co-op
2. Waste collection contractor

- Both options are private sector
- Both options provide competitive choices

(Default Option: If a homeowner or business fails to either join a co-op or contract with a waste collector they will be assigned to a default municipal contract.)

Consumer Stewardship

- People who waste less / recycle more will pay less
- This gives people incentives to choose products that are less wasteful
- Producers will be directly impacted by these choices

Waste Recycling Co-ops

- Belong to their members – membership fee provides operating capital
- Driven by the revenues which can be recovered from recyclables - minus the cost of disposing of residue
- Members will expect *their* co-op to maximize the opportunities to recycle and to minimize the residue
- Members will expect dividend
- Co-ops will be competing against each other and with contractors. Co-ops which consistently recycle more and pay the highest dividends will attract the most members. This will ensure that higher and higher diversion rates are achieved.

How a Recycling Co-op would work: 1

- Neighbourhood depots – ideal location would be in shopping plazas where people are already shopping
- Members bring their recyclables to depot
 - Materials sorted into many more categories in order to maximize value
 - e.g. glass sorted into clear, brown, green; paper sorted into newspapers, magazines, fine office paper, etc.

How a Recycling Co-op would work: 2

- **Members have a magnetic or barcode card which is scanned**
 - Recyclables are all weighed by category and entered into their account on computer
 - **Essentially the same process as a supermarket checkout using off-the-shelf point-of-sale software**
 - Residue weighed, and recorded on their account
 - Account record available on-line
- **Co-op sources buyers, and sells recyclables**
 - Members are credited with the actual value received for their recyclables and debited the cost of disposing of the residue
 - Members pay operating costs of co-op

The importance of source separation

- Source separation is usually more accurate
- Less handling
- Cleaner
- Source separation avoids cross contamination – once glass is broken it is nearly impossible to separate it by colour
- Cross contamination greatly reduces the value of recyclables
- Mechanical and optical sorting is expensive, dirty and dangerous work

Recyclables need to be sorted

■ Glass

- Clear
- Brown
- Green
- window

■ Cardboard

- Old corrugated cardboard
- Box board
- (manila folders)

■ Plastic

- Sort by type and colour

■ Paper

- Mixed Paper & magazines - \$9 per tonne
- Newsprint - \$39 per tonne
- Sorted office paper - \$64 per tonne
- White ledger - \$114 per tonne
- Waxed Cup Stock - \$19 per tonne

■ <http://www.recycle.net>

Markets for recyclables

- Volatile because supply is too variable for industry to stake their future on it
- Markets will stabilize when quantities and quality become dependable enough that recycling industries will compete for good quality material
- Recyclables already compete with raw materials in metal and paper markets – as raw materials go up in price so will recyclables

New Markets

- Almost anything can be recycled, but there may be a cost
- Need greater emphasis on achieving diversion targets and less on revenue – push the envelope
- Mandated recycling targets will lead to new players willing to recycle new materials
- In a private sector solution, this is no longer a tax issue

Who would join a co-op?

- Advantageous to anyone currently recycling more than 50% - currently about half of all residents
- Driven by desire to recycle even more – currently stymied by government policies
- Co-ops will work closely with their members to identify ways to avoid waste
- Driven by desire save money / make money

The role of waste collection contractors

- Waste collection contractors will negotiate individual contracts with homeowners
- Retail Waste Contracts will be tailored to individual homeowners based on questionnaires and sales interviews
- All waste to be sorted to achieve the regulated diversion target
- Contracts will include commitments on both sides as to who (contractor or homeowner) will do sorting and how much. Cheaper if homeowner does their own sorting – more expensive if contractor does it
- Responsibility of the contractor to ensure the homeowner knows what they are recycling and how
- Shift will be similar to the retailization of the gas and electricity markets – but the waste business offers genuine choices and opportunities.

The Regulatory Role of Government

- All co-ops and waste contractors will be licensed
- Licensing will require 'level of comfort' that licensee has the knowledge and capacity to handle waste safely
- Regulation will include overall diversion levels which would be gradually increased – might include specific targets: e.g. 90% of hazardous waste
- Regulation might include guidelines for final disposition of residual: e.g. no exporting, no landfilling or incineration of recyclables
- Co-ops and contractors must maintain records which are auditable on an individual contract level so that the level of diversion can be verified
- Barcoding will allow the automatic capture of information

About Waste auditing

- Auditing normally thought of in connection with finance but is also applied to quality audits (ISO 9000), environmental audits (ISO 14000), circulation audits (ABC), etc.
- An audit is a verifiable 'paper trail'
- In waste auditing, the paper trail documents all waste received and tracks it to where and how it was disposed
- A valid audit has to balance: i.e. outputs = inputs
- Submission of satisfactory audits would be a criteria for license renewal

How this will affect government

- Councillors will no longer be frontline 'customer service representatives'
- Municipal switchboards would have a database of contracts so that any complaints would be referred back to the contractor or co-op
- **Homeowners have choices** - if they are unhappy with their contractor or co-op they can find another

(Default Option)

- If a homeowner or business fails to either join a co-op or contract with a waste collector they will be assigned to a default municipal contract.
 - This option would deliberately be set as the most expensive in order to encourage people to choose one of the others
 - The default municipal option would be the most basic. Waste would be weighed and charged by weight. The contractor would be required to sort the waste and meet all diversion targets and would bill the municipality accordingly
 - Municipality would add that cost to the homeowner's tax bill - (reference: property standards)

How this will affect waste companies

- Waste companies will contract to individual homeowners instead of to municipalities (as they currently do to the ICI and MURB sectors)
- Companies will compete door-to-door (like the gas and electric retailers)
- Contracts will require each homeowner's trash to reach the regulated level of diversion – sorting will be required by either:
 - the homeowner, or
 - the contractor – who will charge for it

How this will affect homeowners

- Homeowners have choices – no more ‘big brother’
- Homeowners will pay according to what they waste and what they recycle
- Consumer stewardship – homeowners will be more inclined to choose less wasteful products

The Role of the Consumer

- “... consumers can play an important role in driving manufacturing decisions through their purchasing choices.
- Providing consumers with the appropriate tools for them to leverage their purchasing power to influence decisions on product design, or the type and quantity of packaging associated with products is key to enhancing waste diversion and building a green economy.”

How this will affect producers

- The concept of producer responsibility is something of a red herring – whatever costs are placed on the producer are ultimately paid for by the consumer
- “Consumer stewardship” directly impacts the producer – if a consumer doesn’t buy a product because it is overpackaged or poor quality, the producer is directly impacted

Other Measures

- Government needs to mandate direct incentives to consumers
 - Refunds for Bottle returns
 - Credits for Cradle-to-cradle returns
- Standardized packaging to encourage Reuse
- Targeted taxes on selected items
 - Plastic bags
 - Plastic water bottles

MURBs

- Apartments also required to meet diversion targets. Options for apartment owners:
 - Pick up as now by a waste contractor, but contractor will have to sort garbage to meet recycling targets. Contractor will charge landlord who will pass the cost on to the tenants
 - Apartment owner will work with tenants to achieve targets and reduce waste costs. Costs passed on to tenants
 - Apartment owner might set up his own co-op or encourage tenants to join an outside co-op (the garbage tax for these tenants would be removed from the landlord's property tax.
- Similar considerations in Condos

ICI Sector

- Not currently engaged – needs to be – identified in MOE discussion paper
- Currently directed by the province – encouraged to do waste audits and develop waste diversion plans – most have not – little interest or effort
- Because they are so far behind (generally) and because the problem is far more diverse – longer phase in may be required for some sectors

Commercial / Industrial

- **Where special circumstances exist:**
 - require statements indicating levels of diversion and plans to achieve diversion targets with a reasonable timeframe... with penalties for false statements
 - Businesses would write their own waste diversion plans, and, as long as they are reasonably aggressive, they would be accepted
 - Businesses which request it would be offered specialized assistance to achieve targets
 - Businesses would file annual waste statements indicating their progress – perhaps audited. Penalties for false statements

Comparable Models

- **Planning departments**
 - Zoning bylaws determine what can be built
 - Building codes determine how it is built
 - But private sector does the building

- **Retailization of electricity and gas markets**

Business Variables

- Contractors and Co-ops are free to adjust their structures and pricing in order to remain competitive
- Some businesses will be small, some large, some will be specialized, some will be vertically integrated
- Some businesses and co-ops will band together to achieve efficiencies
- ***Regulation needs to focus on the goals and leave the structures and methods to the innovative capacity of the private sector***

Winners / Losers

- **Most homeowners will love this**
 - Offers opportunity to do the right thing AND be rewarded for their efforts
 - Offers more options
 - Less government
 - Exception: the 10-15% who don't recycle
- **Politicians should love it**
 - Waste will quickly disappear as a political football as homeowners get used to the choices they have and are no longer treated as square pegs in round holes
- **Senior bureaucrats will not like it because it will turn their world upside down**
- **Most businesses will buy in as long as the rules are applied fairly**

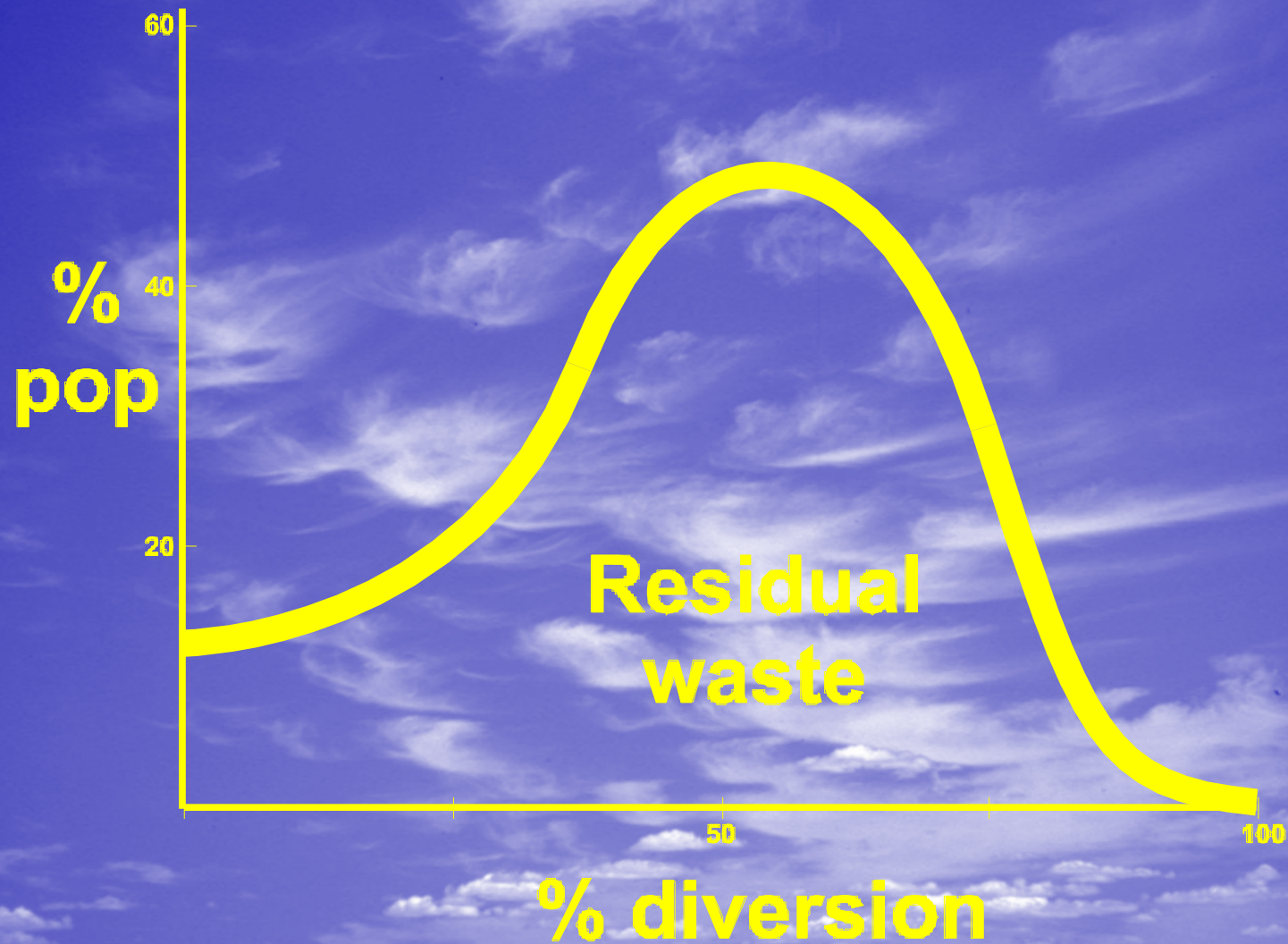
Opposition

- Homeowners who currently do not recycle
- Waste companies – this will require them to change the way they do business – but they will adjust
- Some MURBs and ICI will be opposed. Most have been pretty much detached from the waste issue up til now
- Incineration lobby will fight this tooth and nail – a \$billion in lost business

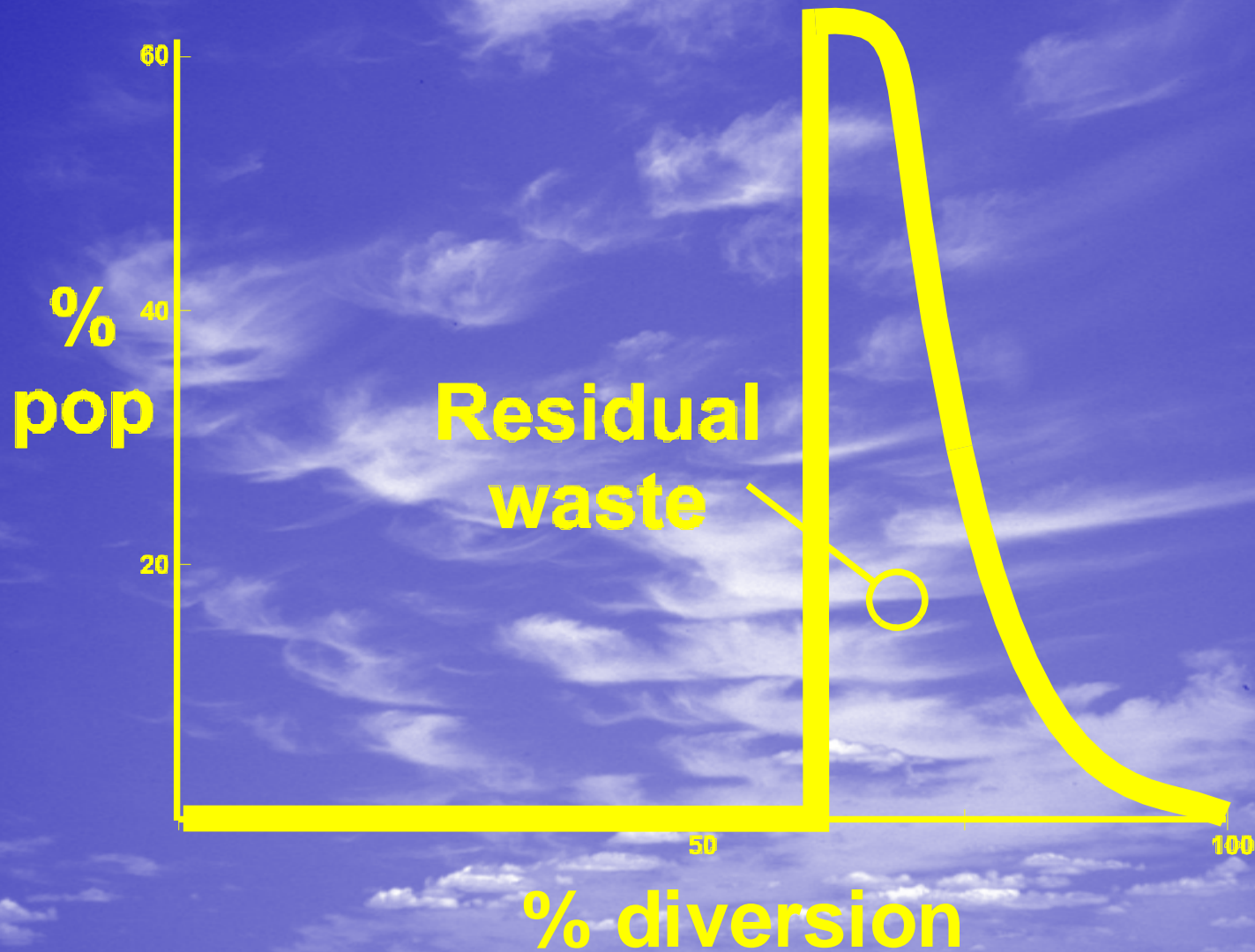
What about current infrastructure

- Recycling Centre – state of the art, highly marketable
- Several options

Current Diversion



Anticipated Diversion



Complicated?

- Status quo is always perceived as simpler because it what you do without thinking
- Current system is in fact very complex and bureaucratic
- Change is always regarded as complicated because it is perceived as requiring additional steps
- Proposed system is actually much simpler, more transparent and less bureaucratic

Next Stages

- Analysis by consultants with expertise in:
 - Waste issues
 - Co-operative business structures
 - Audit procedures
 - Retailization of gas and electricity markets
- Submission to Ministry of the Environment
 - Consultation re review of Waste Diversion Act

The End

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