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# **Solid Waste Policy – A Primer**

Prepared for The Natural Resources Committee – January 2007

By Rep. Bob Duchesne

**History:** In the late 1980's, the state was in a sorry situation. Many municipal dumps were closed because of leaks, poor siting, and exhausted capacity. Towns were forced to turn to regional incinerators and commercial landfills, and these landfills had fewer than five years of capacity remaining. In 1989, the Legislature passed several landmark policies, overhauling Maine's solid waste management. It set recycling goals, mandated that all future solid waste facilities would be state-owned, and created the Maine Waste Management Agency. This agency unified much of solid waste management in the state. Though the federal government had set a goal of recycling 25% of solid waste, Maine set the target at 50%.

For a time, the state made great leaps forward, providing guidance and grants to municipalities to boost recycling to an impressive 40%, leading the nation. A site for the first state-owned landfill was selected on Carpenter Ridge near Lincoln. Then, in 1995, as part of efforts to reduce the size of government, Governor Angus King asked the Legislature to dismantle the Maine Waste Management Agency, reducing staff from 16 to 6 and dividing the responsibilities between the State Planning Office (SPO) and the Department of Environmental Protection (DEP). In time, grants for recycling dried up, too, and progress stopped. There has been little improvement since 1997. Since then, the State Planning Office has had to ask each new Legislature for an extension of time to meet the goal, but with no actual plan or funding for achieving success.

By reducing and dividing oversight of solid waste, evidence suggests that state government lost the ability to recognize market changes and deal with them effectively. The Department of Environmental Protection has only two staff managers in place to watch over all the landfills in the northern half of the state, including two of the biggest in Hampden and Old Town. The source of funding has also shifted. In 1990, the General Fund paid for 20 solid waste program positions at DEP. By 1996, it was down to zero. Fees on tires, batteries, and special wastes paid for what few positions remained. For its part, the State Planning Office has been reduced to the role of cheerleader. It publishes tips and encouragement for municipal recycling, but lacks the resources to improve Maine's recycling capacity.

In its waning days, the 122<sup>nd</sup> Legislature established a Blue Ribbon Commission to review Maine's solid waste management policies: an investigation into whether the road to hell is being paved with good intentions. Specifically, the commission was charged with investigating the state's importation and exportation of municipal solid waste (MSW) and construction and demolition debris (CDD). It was also tasked with reviewing the governmental structure of how waste is managed in the state, benefits due to host communities, waste-to-energy incineration, recycling, and any other matter the commission finds relevant.

**Waste Streams:** Out-of-state waste remains the biggest concern for most citizens. Maine exports some of its waste, especially from border communities, and it exports almost all of its hazardous waste. Still, much more waste enters the state than leaves it, and this has many folks wondering why state government doesn't put a stop to it. In

simple terms, Maine can't. In a series of rulings, the U.S. Supreme Court has declared that solid waste is a commodity under the Commerce Clause of the Constitution and states cannot interfere with it. This allows the private owner of a waste disposal facility in Maine to accept as much out-of-state trash as he wishes. Congress has the power to take corrective action under the Commerce Clause, and several attempts have been made to fix the problem, but none has succeeded due to opposition from states that prefer to export their trash to places like Maine.

Maine's solution was rather elegant. If states cannot interfere with the commercial traffic of waste going to private facilities, then the state would just phase out private facilities altogether. In 1989 the legislature enacted a law that said all future facilities would be state-owned. While it would have been illegal to shut down existing facilities, over time private and municipal landfills would reach their capacity and incinerators would close because of age, leaving the state in control of its solid waste destiny. In implementing that strategy, Juniper Ridge became the first state-owned landfill and no *out-of-state* waste is allowed there. The problem is: there are no statutory definitions for in-state and out-of-state waste. In practice, the state has accepted that any waste that comes from out-of-state and is mechanically or chemically altered in Maine becomes in-state waste. Here's how it works.

Much of the refuse burned at Maine Energy Recovery Company (MERC) in Biddeford comes from out-of-state. The Penobscot Energy Recovery Company (PERC) incinerator burns mostly Maine-made trash, but accepts imported trash in leaner months to keep the boilers running. Once burned, out-of-state trash becomes in-state ash and may be landfilled in a state-owned facility. Furthermore, the trash at MERC and PERC must be sorted in order to convert it to fuel. All of the non-combustible material in out-of-state waste becomes in-state waste once sorted. Opponents decry this conversion of out-of-state trash to in-state waste, and complain that this is a back door means of filling up Maine's landfills with somebody else's garbage. Proponents point out that the trash generates Maine electricity and lowers municipal costs for solid waste disposal, which lowers property taxes.

There are four incinerators in Maine that produce electricity using Municipal Solid Waste (MSW) as fuel. Two are "mass burn" incinerators in Portland and Auburn. These municipal facilities do not pre-sort the trash and do not remove unburnable components. The others are PERC (Penobscot Energy Recovery Company in Orrington) and MERC (Maine Energy Recovery Company in Biddeford.) These are RDF (refuse-derived fuel) facilities. They remove the unburnables before combustion and shred the remainder into a more efficient fuel mix. Casella Waste Systems is the owner of MERC and a customer of PERC, bringing in-state and out-of-state trash to both facilities. Most of the residue from PERC and MERC goes to Juniper Ridge, which is state-owned but managed by Casella. While Mainers generally accept the appropriateness of using Maine's first state-owned landfill to dispose of bypass and ash generated from our own waste stream, there is considerable discomfort with disposal of residue from trash that originated out-of-state, even if that trash was used to generate electricity in Maine.

**CDD Fuel:** Using construction and demolition debris (CDD) as a fuel greatly heightens the discomfort, partly because of the risks involved with the fuel and partly because it poses the potential for a dramatic increase in the amount of waste that may end

up in Maine landfills. As the term implies, CDD is the waste leftover from the construction and demolition of buildings and similar projects. Waste wood from construction projects tends to be relatively clean, especially since the Maine legislature banned arsenic-treated wood. Demolition debris, however, is considerably more suspect. Not only can it contain arsenic, but also lead from lead-based paint and a variety of plastics and vinyls that produce dioxin when burned. Dioxins and heavy metals pose a significant environmental threat. On the other hand, if it can be handled, burned, and landfilled safely, CDD-derived fuel represents a cheap source of energy in a state that is crippled by high energy costs. CDD fuel is 2 to 3 times cheaper than green wood chips.

This was the logic that created the three-way deal to save jobs at Georgia Pacific in Old Town three years ago. Georgia Pacific purchased a used biomass boiler to reduce its energy costs, using money it obtained by selling its sludge dump to the state. In turn, the state obtained the funds from Casella to buy the landfill when it selected the company to be its long-term operator. Under the “revenue-neutral” deal, Casella would recoup its investment through profitable operation of the landfill. While the boiler would have saved GP energy by using the chipped byproducts of its own lumbering operations, the addition of CDD-derived fuel to the mix would have profited the company over a million dollars a year extra, preserving jobs. However, Georgia Pacific was soon to be bought by Koch Industries and the mill in Old Town was promptly closed anyway...leaving the area with a huge landfill, an old biomass boiler with historical operating problems, and no jobs. Extraordinary efforts were made to redevelop the mill, relying on the lower energy costs of the biomass boiler and CDD fuel. During the summer of 2006, deals were struck that began redevelopment with a company called Red Shield.

**CDD Controversy:** With the possible exception of solar power, all electricity generation requires an environmental compromise. The drawbacks of fossil fuels are well known. Even renewable resources such as hydro and wind require the damming of rivers or the industrialization of mountains. Biomass is usually considered a renewable resource. Though burned wood releases global-warming carbon dioxide, the replacement trees capture and lock up the carbon dioxide recently released. Even if the wood comes from construction and demolition debris, it is reasoned that replacement trees are now being grown to provide future construction materials. The knock against CDD-derived fuel is the toxicity of its contaminants.

In order to salvage the wood from construction and demolition debris for use as a fuel, careful sorting must occur. But under most practices, demolition is sloppy and contaminants readily reach the dumpster. Several processing facilities in New England, including one in Maine, employ differing techniques to remove as many contaminants as possible. But some elude detection and enter the fuel supply anyway. The common strategy for dealing with this known problem is to capture the remaining contaminants in the smokestack, which modern technology does reasonably well, though not completely. Of course, any contaminant that doesn't escape the flue ends up in the ash; they don't go away. Plus, there is the danger that fine particles of contaminated dust will blow away from the fuel while it is stockpiled in the yard.

Last year, the Maine Department of Environmental Protection proposed rules to limit the amount of contaminants in processed fuel to the strictest standard in America. DEP also greatly tightened the rules for safe storage of the CDD-derived fuel. For

opponents, this was not enough. Although no state in New England has banned CDD fuel, New Hampshire has established a moratorium on its use, pending further study. Opponents in Maine have recommended the same strategy. Proponents countered that the strategy might unnecessarily kill job creation at the Old Town mill. Furthermore, ash requires much less landfill space than unburned CDD, preserving precious capacity. It's important to note that the contaminants end up in the same place whether or not they're burned: a secure, lined landfill.

One reason other New England states don't burn biomass fuel is that they don't have biomass boilers. Due to its forest-based economy, Maine has many such boilers. At the same time, more urbanized New England states are running out of landfill capacity, especially for bulky construction and demolition debris. Indeed, Massachusetts is experimenting with a new law that requires all CDD to have recyclable materials removed before being landfilled. Maine's appetite for cheaper fuel and southern New England's appetite for shipping its CDD out of state have created a major market incentive to ship waste north to Maine. It is a major reason why the Pine Tree Landfill in Hampden is reaching its capacity years ahead of schedule and will close in 2009.

Some of the construction and demolition debris can be reused. Depending on the project, about 40% is wood, which can be turned into fuel. Roughly 5% is recyclable metal. Asphalt, brick, and stone can be mixed into paving material. Even fine grit and particulate matter is useful as a cover in landfills. The remaining 20-40% of debris consists of plastics, vinyl siding, shingles, drywall, contaminated wood, and other materials that must be landfilled. There are several recycling operations in New England. One is in Lewiston and is a subsidiary of Casella Waste Systems, the operator of Juniper Ridge. In truth, Maine recycles very little of its CDD. Precise figures are not available, but perhaps around 400,000 tons of CDD are generated in Maine each year and most of it ends up in landfills. Casella processes about 50,000 tons per year, but half of that originates out of state. Only about 8% of Maine's CDD gets recycled. Thus the amount of CDD fuel processed in Maine is scant.

Contrast that with Maine's potential appetite for CDD fuel. Two Boralex plants in Livermore Falls and Stratton already burn CDD. Red Shield (the old Georgia Pacific mill in Old Town) now does so. Sappi in Westbrook expects to. None of these boilers is capable of burning 100% CDD, which is drier than green wood, burns hotter, and contains contaminants that damage the boiler. However, GenPower, LLC has proposed a new boiler for Maine with technology that its backers say could burn 100% CDD. If all of these projects were to burn CDD at the limits of their capability, over 800,000 tons of CDD fuel would be needed each year - 32 times more fuel than Maine actually produces. It doesn't take a degree in economics to see the law of supply and demand at work here and visualize the thousands of northbound trucks crossing the bridge in Kittery. Even if Maine recycled all of its debris, it would still provide only 15% of the fuel needed. What's even more staggering: it would take well over 2 million tons of raw debris to produce that much fuel.

It is disappointing that Maine recycles so little of its CDD. On the other hand, this lack of processing capacity means that other states are still responsible for their own waste - that portion of the debris that is not recyclable. Look at what would happen if more private processing facilities were approved in Maine. Instead of one truckload of processed CDD fuel crossing the border every few minutes, five truckloads of

unprocessed debris would cross. Once processed on this side of the border, one truckload of fuel would go to biomass boilers, one truckload of recycled metal and aggregate would go off for resale, and three truckloads of unburnable residue would go to Juniper Ridge.

And it could be worse. There are no actual quality standards for imported CDD. Scrap metal has increased in value dramatically. Sprawl has swallowed up many of the sand and gravel resources in urbanized states, making aggregate more valuable. Even scrap wood is worth more today than it once was. What if the more valuable recyclables were removed from the debris before it ever got to Maine? Then the “recycling facility” located in Maine would be just a disguised transfer station converting Massachusetts trash into Maine trash.

**Managing Out-of-state Waste:** The State Planning Office is oriented toward the fulfillment of a mission that some consider to be outdated. Its current mandate is to assess remaining landfill capacity, report to the Legislature when there are four years of capacity left, and determine locations for future capacity. With a focus on capacity rather than what’s actually flowing through the gates, the data presently gathered is neither timely nor sufficient to recognize rapid changes. The Office has been instructed to report to the Legislature every two years and to reassess its strategy once every five years. This is in an era when solid waste marketplaces can change overnight. (Just imagine what Hurricane Katrina did to the solid waste marketplace for construction and demolition debris!) So there was genuine surprise when Casella’s Pine Tree Landfill in Hampden began reaching its capacity *five* years ahead of schedule. Much of the information reported by SPO to the Legislature is supplied by DEP. However, this information is gathered in a format useful for DEP decision-makers. Sometimes, when the information is converted into a format useful for SPO reporting purposes, even the original suppliers of the information no longer recognize it. And this occasionally leads to apples-to-oranges comparisons. For instance, past SPO reports to the Legislature have stated imported waste in terms of total tonnage and exported waste in terms of percentages of the waste stream – figures that defy comparison.

The division of waste management responsibilities between SPO and DEP has played a role in encouraging out-of-state trash. It was always a good idea to have the functions of management and regulation separated. If DEP exercised both roles, it would be an agency regulating itself: a recipe for trouble. However, as presently aligned, DEP is concerned with the environmental impacts of solid waste facilities but has little jurisdiction over where the waste comes from. SPO is primarily concerned with current and future capacity, but has no regulatory authority over the source of trash. The Department of Economic and Community Development, which needed new capacity at Juniper Ridge in order to save hundreds of jobs, also doesn’t have the responsibility for watching where trash comes from. One quickly realizes that the job of watching out-of-state trash doesn’t belong to anyone. It fell through the cracks in the original realignment, most probably because at that time, it didn’t matter. The private conglomerates had not yet consolidated waste management in Maine.

The acquisition of Juniper Ridge and the selection of Casella Waste Systems to operate it have created additional complications. The State Planning Office entered into an Operating Services Agreement with Casella that agreed to certain understandings and gave them the force of official state policy. Here are some interesting ones:

- The State Planning Office verbally agreed that the current, unwritten definitions of in-state and out-of-state MSW would apply to all waste streams.
- Casella can fill the state's landfill as fast as it wants. While the company supplied fill rate estimates during public testimony, the agreement sets no actual limits on the operator.
- In order to process CDD fuel and sell it at below market rates to the biomass boiler operator, Casella can bring any amount of raw CDD across the border and landfill the residue at Juniper Ridge without regard to the quantity or quality of the imported material.

Because of these understandings, Casella has already revised its original estimates and expects to exhaust capacity 13 years ahead of schedule.

**Issues for the 123<sup>rd</sup> Legislature:** The Blue Ribbon Commission on Solid Waste Management will deliver its recommendations to the Natural Resources Committee in the very near future. These recommendations and several additional bills will task the committee to resolve issues such as:

*Host Community Benefits.* Current statute requires certain benefits to be negotiated for communities that are host to solid waste facilities. These benefits are intended to offset some of the harms suffered by the host community. There are some minor flaws in statute that should be easy to fix. Then, there are a couple controversial issues. 1) Can the operator force a municipality to bargain away its regulatory oversight role? 2) What kind of protection should be afforded to adjacent communities that suffer the same impacts? The 122<sup>nd</sup> Legislature wrestled over these questions without sufficient resolution in cases involving Biddeford and Saco over Maine Energy, and with Old Town and Alton with regard to Juniper Ridge.

*Definition of a commercial solid waste facility.* What happens when a municipality creates a landfill and operates it like a commercial facility, allowing the importation of waste? Lewiston has been working with Casella to develop a landfill, which Casella would then operate. Lewiston would receive numerous benefits from the arrangement and Casella would use it for out-of-state waste, contrary to the 1989 goals set by the Maine Legislature.

*Definition of In-state Waste.* In 1989, the Maine Legislature decided to create future state-owned landfills to assure capacity for in-state waste. Two problems: 1) In-state waste is not a term defined in statute, and 2) Statute does not actually limit such landfills to in-state waste. The Governor could bargain away this capacity, for instance, to balance a budget or for economic development. The de facto definition for in-state waste includes out-of-state waste that is later sorted or processed in Maine, but this definition is not statutory. Household garbage varies little in quality. Since MSW cannot be easily processed out of state, and since about 85% of it is burned for fuel, this definition has worked reasonably well despite the protests of some citizens. But CDD is different. Only 40% is fuel. In fact, Casella says only 20% is fuel because of the new state rules on fuel quality. Instead of the 15% residue in MSW fuel, there is 60-80% residue in CDD fuel...and Maine is stuck with it all. Furthermore, unlike MSW, it is quite practical to sort construction and demolition debris near the source, in the state where it is created,

leaving that state responsible for its own waste. The Natural Resources Committee will be asked to decide if the de facto definition of in-state waste should apply the same to CDD as it does to MSW.

*CDD fuel mix.* The 122<sup>nd</sup> Legislature passed LD 141, which required the Board of Environmental Protection to institute the new CDD fuel quality rules. It also set a 50% annual limit on how much CDD can be in a biomass boiler's fuel mix until the DEP could report back to the committee on whether higher mixes could be burned safely and after other policy questions could be resolved. GenPower has been working hard to site and permit a modern facility that it claims can burn 100% CDD safely. Furthermore, it promises to import only the fuel and haul the ash back out of state, so that Maine is stuck with no residue. The majority of the Blue Ribbon Commission thought this was a reasonable promise. However, the Natural Resources Committee will need to decide whether it is making policy based on the promises of one particular company or whether the policy needs to be scientifically based and applied fairly to all businesses. DEP is to report its findings to the Committee in February.

*Resources.* The state does not have adequate resources to fund sufficient DEP monitoring and enforcement of solid waste facilities, nor does it have sufficient resources to fund State Planning Office recycling goals. The Natural Resources Committee may expect to hear proposals for new, stable sources of funding for adequate solid waste management. The committee will also be called upon to verify that the management duties are now efficiently split between the two departments, or consider changes that would improve oversight and reporting.

**Terms:**

MSW: Municipal Solid Waste

CDD: Construction & Demolition Debris.

C&D: Same

CDW: Wood from CDD

Residue: That part of the waste that cannot be burned, and is thus removed and landfilled.

Mass Burn Facility: Waste-to-energy facility that burns the entire waste stream. These include MMWAC in Auburn and EcoMaine in Portland.

RDF Facility: Waste-to-energy facility that removes the unburnable residue prior to incineration. The remainder is shredded and produces a hotter, more efficient fuel. PERC and MERC are RDF facilities.

**Players:**

- Department of Environmental Protection (DEP): Includes Commissioner David Littell, Bureau Director of Remediation and Waste Management Mark Hyland, and Director of Solid Waste Management Paula Clark.
- State Planning Office (SPO): Deputy Director Sue Inches and the Team Director of Waste Management and Recycling George MacDonald.
- Casella Waste Systems, owner of MERC in Biddeford, Pine Tree Landfill in Hampden, KTI in Lewiston (a small scale recycler of CDD), and the operator of Juniper Ridge landfill in Old Town. It is one of the largest solid waste managers in the country. Don Meagher (pronounced: Ma-



HAR) is Manager of Planning and Development for Casella Waste Systems; John Delahanty is a Pierce Atwood attorney who is Casella's chief lobbyist. Many other lobbyists, too.

- Waste Management: America's largest solid waste company, owner of the Crossroads Landfill in Norridgewock and numerous waste-hauling operations in Maine. Division Manager is Jeff McGown.
- Lewiston: site of a potential landfill development in partnership with Casella. Jim Bennett is city administrator and appears frequently in front of the committee.
- Saco: frequent adversary of Casella because of Maine Energy. Tim Murphy is city attorney and appears frequently in front of the committee.
- GenPower: company that wants to build a new, state-of-the art biomass boiler in Maine. Had proposed a site in Athens, but is now looking elsewhere. Claims its technology can burn 100% CDD safely. Tom Emero is General Counsel and Director of. Renewable Energy Projects.
- Red Shield: Company that took over the biomass boiler from Georgia Pacific in Old Town.
- Boralex: A Canadian company that operates biomass boilers throughout Maine. Boilers in Stratton and Livermore Falls burn CDD fuel. The boiler now in Old Town was a Boralex facility in Athens prior to being sold and moved. Operating problems at this boiler resulted in substantial fines and instigated the new rules.
- We The People: Citizens group opposed to state policies on solid waste. Most are Orono/Old Town/Alton residents near Juniper Ridge. Frequent speakers are Paul Schroeder (pronounced Shray-der), Debbie and Charlie Gibbs, Dana Snowman, Ed and Cheryl Spencer, and occasionally former state representative Laura Sanborn.
- Capit: Citizens group formed to oppose GenPower in Athens: Frequent speakers are Craig Denis and Hillary Lister.