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Are You Gonna Eat That?: A New Wave of Mandatory Recycling has Massachussetts and Other New England States Paving the Way Towards Feasible Food Waste Diversion and a New Player in Alternative Energy

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ARE YOU GONNA EAT THAT?: A NEW WAVE OF MANDATORY RECYCLING HAS MASSACHUSETTS AND OTHER NEW ENGLAND STATES PAVING THE WAY TOWARD FEASIBLE FOOD WASTE DIVERSION AND A NEW PLAYER IN ALTERNATIVE ENERGY

I. What a Waste

The United States throws away more than a quarter of all its food.[1] As a result, the nation produces more than 36,000,000 tons of food waste each year.[2] Only about four percent of this mammoth mass of banana peels and rotten tomatoes is composted.[3] The remainder ends up sitting in landfills and burning at incineration sites.[4] Thus, food waste is a large contributor to the current waste problem facing the country.[5] In fact, food waste is the second largest component in American landfills.[6]

The problem with this 'out of sight, out of mind' attitude toward food waste is that rotting food produces methane gas.[7] Methane is a greenhouse gas twenty times more damaging to the atmosphere than carbon dioxide.[8] When methane enters the atmosphere, it accelerates the problem of climate change.[9] This has led the United Nations to recognize that "[t]he vast amount of food

1. *See Why is it Bad for Food Waste to Decompose in Landfills?*, EcoWatch, http://ecowatch.com/pubs/junjul08/whyis.htm (last visited Mar. 6, 2014) (explaining damaging consequences of colossal United States food waste).

2. *See Reducing Wasted Food Basics*, Envtl. Prot. Agency (Feb. 28, 2014), http://www.epa.gov/foodrecovery/ (listing yearly US food waste statistics for 2011).

3. *See id.* (highlighting small percentage of United States' food waste that is composted).

4. *See id.* (explaining consequences of organic waste in landfills and incinerators).

5. *See Environment for Development: Food Waste Facts*, United Nations Envt. Programme, http://www.unep.org/wed/quickfacts/ (last visited Mar. 6, 2014) (discussing factors contributing to food waste problems worldwide)

6. *See id.* (showing portion of US garbage composed of food waste).

7. *See Reducing Wasted Food Basics*, *supra* note 2 (explaining dangers of organic waste in landfills).

8. *See Overview of Greenhouse Gases*, Envtl. Prot. Agency (Sept. 9, 2013), http://www.epa.gov/climatechange/ghgemissions/gases.html (comparing effects of methane and carbon dioxide pound-for-pound).

9. *See Why is it Bad for Food Waste to Decompose in Landfills?*, *supra* note 1 (stating environmental dangers of methane gas).

going to landfills makes a significant contribution to global warming."[10]

Despite widespread concerns regarding overflowing landfills and pollution, the government has historically left recycling to the voluntary cooperation of individuals.[11] Recently, however, there has been a growing trend toward mandated recycling programs, which is beginning to attack the problem head-on.[12] The wave started with local collection of glass and plastic containers.[13] Although these local programs have been an important step in the right direction, they fail to substantially limit the incredible tonnage of food waste brought to landfills and incineration facilities each day.[14]

This Comment begins by highlighting largely influential state-mandated recycling programs in Pennsylvania and California.[15] It then discusses a new movement, principally taking place in New England, toward mandated diversion of food waste from landfills and incineration facilities.[16] Next, it focuses on a unique regulatory solution proposed by Massachusetts, which took effect on October 1, 2014, followed by an in-depth analysis of food waste regulations with a particular focus on the Massachusetts law.[17] Finally, this Comment concludes with a discussion of the potential impact of the mandated food waste diversion trend, and the vast benefits it could potentially bring to states throughout the nation.[18]

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10. *See Environment for Development: Food Waste Facts*, *supra* note 5 (explaining effects of current food waste disposal practices). Further, the United Nations has claimed that billions of tons of food waste every year "needlessly produce greenhouse gases." *Id.*

11. *See* John Dernbach, *Next Generation Recycling and Waste Reduction: Building on the Success of Pennsylvania's 1988 Legislation*, 21 WIDENER L.J. 285, 291 (2012) (surveying US recycling history and explaining education focused on individual actions).

12. *See id.* (noting recent growth of mandated recycling programs).

13. *See id.* (explaining early US recycling efforts).

14. *See generally* Patrick Serfass, *Vermont, Now Connecticut, Models for Diverting Organics*, BIOMASS MAGAZINE July 1, 2013, at 35, *available at* http://biomassmagazine.com/articles/9153/vermont-now-connecticut-models-for-diverting-organics/ (discussing new regulatory trend of mandated food waste diversion).

15. *See infra* notes 19-78.

16. *See infra* notes 79-93.

17. For discussion of the Massachusetts food waste ban, see *infra* notes 94-135. For analysis of food waste bans, see *infra* 136-183.

18. *See infra* notes 184-208.

II. IT'S NOT A CHOICE, IT'S A WAY OF LIFE

On trash day, blue and green recycling bins line the streets of cities and towns throughout the country.[19] Originally, these programs could only process a few select materials.[20] Now, technological advancements allow processing of previously unrecyclable products as well.[21] Advances in sorting technology have made recycling easier for waste producers and more feasible for recycling plants.[22] For instance, mixed recycling allows all potentially recyclable waste to be comingled and then separated for processing automatically.[23] Although these sorting systems are expensive, their growing prevalence shows a concerted effort to increase recycling and decrease waste.[24]

As scientists continue to uncover the dangers of greenhouse gas emissions and global warming, efforts to recycle are growing across the country.[25] Although Americans recycle millions of tons of materials every year, it is simply not enough to put a dent in the continued threat of climate change.[26] Some states have decided to mandate certain recycling efforts, hoping to improve the situation.[27] Pennsylvania and California have been especially aggressive

19. *See* Dernbach, *supra* note 11, at 291 (surveying US recycling improvements over last two decades).

20. *See id.* at 318-319 (discussing reasons for recycling improvement throughout US).

21. *See id.* (noting scanning technology in waste sorting devices).

22. *See id.* (explaining benefits of waste sorting devices).

23. *See id.* (discussing numerous benefits of mixed recycling).

24. *See* Dernbach, *supra* note 11, at 319 (discussing practicality of waste scanning technology).

25. *See id.* at 289 (showing increases in overall US recycling).

26. *See Recycling in General*, KEEP AMERICA BEAUTIFUL, INC. (2013), http://www.kab.org/site/PageServer?pagename=recycling_facts_and_stats (discussing effects of current US recycling efforts). In 2009, 82 million tons of material was recycled in the United States. *Id.* With respect to carbon dioxide emissions, this was equivalent to taking 33 million cars off the road. *Id.* For an interesting comparison between the United States and the European Union, see Christopher J. Foreman, *A Comparative Analysis of Internal Controls on the Transfer of Waste Within the E.U. and U.S.*, 3 CARDOZO J. INT'L & COMP. L. 251, 305-06 (1995) (discussing waste totals of EU versus US). Europe, and in particular the EU, has done a far better job of controlling waste production than the US. *See id.* The average EU citizen produces about half of the waste of his American counterpart. *See id.* At least some of this comes from the fact that the European Court of Justice has allowed tighter restrictions on waste as a transported good. *See id.* at 307. The United States has failed to take this liberal approach to defining waste, and thus has been unable to force recycling to the same extent. *See id.* Furthermore, the EU has supported bans on waste dumping, in situations similar to those deemed discriminatory by the US Supreme Court has when faced with similar action. *See id.* at 308

27. *See* Dernbach, *supra* note 11, at 291 (discussing general issues facing US recycling programs).

in finding legislative solutions to their respective waste problems.[28] This section focuses on efforts in these two states, which have served as models for the potential widespread growth of mandated recycling programs.[29] Then, it surveys an emerging movement, largely taking shape in New England, where states are looking to mandate repurposing of food waste.[30]

A. Pennsylvania

On September 26, 1990, the recycling mandates of Pennsylvania Act 101 (Act 101) went into effect in large Pennsylvanian municipalities, making the Keystone State the largest in the country to require recycling.[31] At the time, the primary reasons for adopting Act 101 were to "aid in the conservation and recovery of valuable resources, conserve energy in the manufacturing process, [and] increase the supply of reusable materials for the Commonwealth's industries."[32] Act 101 mandates recycling for municipalities, government entities, and other specified institutions.[33] Additionally, it regulates disposal of certain materials such as lead acid batteries and leaf waste.[34]

Act 101 also requires municipalities with populations greater than ten thousand to develop and implement comprehensive recycling programs.[35] These programs must include curbside pickup at least once a month.[36] Further, Act 101 requires regulated municipalities to recycle at least three designated materials.[37] It also includes provisions addressing recycling programs for certain organic wastes.[38] For example, waste disposal facilities in Pennsylvania are

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28. *See id.* (mentioning states attempting to increase recycling efforts).

29. *See infra* notes 31-78.

30. *See infra* notes 79-93.

31. *See* Dernbach, *supra* note 11, at 287-88 (summarizing Pennsylvania Act 101).

32. 53 PA. STAT. ANN. § 4000.102 (West) (detailing goals of Pennsylvania Act 101).

33. *See id.* (detailing goals of Pennsylvania Act 101).

34. *See* Dernbach, *supra* note 11, at 296 (summarizing Pennsylvania Act 101).

35. *See id.* (outlining Pennsylvania Act 101).

36. *See id.* (explaining Pennsylvania Act 101).

37. *See id.* at 296-297 (summarizing Pennsylvania Act 101). These materials are: clear glass, colored glass, plastics, aluminum, steel and bimetallic cans, high grade office paper, corrugated paper, and newsprint. *See id.*

38. *See id.* at 298 (summarizing Pennsylvania Act 101).

not allowed to accept shipments of leaf waste.[39] Instead, it must be sent to separate facilities for composting.[40]

Although Act 101 substantially focuses on improving recycling efforts for household waste, it is not limited to that purpose.[41] The law also provides guidelines for certain hazardous wastes, and encourages hazardous waste collection programs.[42] Additionally, Act 101 makes it illegal to throw away automotive and lead acid batteries.[43] Instead, they must be disposed of through authorized recyclers.[44] Given the high cost of recycling these batteries, the Commonwealth also requires certain retailers to offer proper disposal of at least one old battery for each new one their customers purchase.[45]

Act 101 also has an educational component.[46] Regulated municipalities must inform the public about recycling opportunities and their benefits.[47] Further, schools are required to teach children about recycling, and communities must make efforts to encourage individuals to utilize available programs.[48]

Given the broad reach of Act 101, Pennsylvanians would be unable to comply without proper funding.[49] Aware of this fact, the legislature incorporated certain financial provisions.[50] For each ton of municipal waste deposited in landfills, the Commonwealth collects a two-dollar fee.[51] By charging this per-ton rate, Pennsylvania has managed to fund its recycling efforts for more than

39. *See* 53 PA. STAT. ANN. § 4000.1502 (West) (outlining substances banned from Pennsylvania landfills).

40. *See* Dernbach, *supra* note 11, at 298 (discussing Pennsylvania Act 101 restrictions for organic wastes).

41. *See* 53 PA. STAT. ANN. § 4000.1502 (West) (detailing wastes affected by Pennsylvania's recycling statutes); *see also*, Dernbach, *supra* note 11, at 298 (summarizing responsibilities under Pennsylvania Act 101).

42. 53 PA. STAT. ANN. § 4000.1502 (detailing wastes affected by Pennsylvania's recycling statutes).

43. *See* Dernbach, *supra* note 11, at 326 (summarizing responsibilities under Pennsylvania Act 101).

44. *See id.* (articulating responsibilities under Pennsylvania Act 101).

45. *See id.* (explaining battery recycling program under Pennsylvania Act 101).

46. *See id.* at 287 (summarizing education programs under Pennsylvania Act 101).

47. *See* Dernbach, *supra* note 11, at 287 (explaining education programs under Pennsylvania Act 101).

48. *See id.* (summarizing education programs under Pennsylvania Act 101).

49. *See id.* at 296 (highlighting importance of funding in Pennsylvania Act 101).

50. *See id.* (summarizing Pennsylvania Act 101).

51. *See id.* at 298 (explaining how Pennsylvania Act 101 attempts to fund itself).

twenty years.[52] Additionally, the fee encourages individual actors to reduce their production of waste.[53] Meanwhile, the overall cost of waste disposal in cities and towns decreases as recycling rates rise.[54]

Act 101 serves as the standard for states looking to improve recycling efforts through legislation. At the time of its inception, the breadth of Act 101 was unparalleled.[55] After numerous revisions, this law remains at the forefront of many waste reduction movements, and continues to push Pennsylvania toward a lower carbon footprint and a healthier future.[56]

B. California

California is also a vanguard for mandated recycling in the United States.[57] Unlike Pennsylvania's Act 101, California's recent efforts have focused on commercial waste producers, which account for nearly seventy-five percent of the state's waste.[58] In response to a daunting volume of garbage entering landfills, the California adopted mandatory commercial recycling pursuant to the California Global Warming Solutions Act (CGWSA).[59] The law was approved on May 7, 2012, and took effect immediately.[60] The CGWSA focuses on waste diversion, and requires large producers of solid waste to have and follow complying recycling programs.[61] As a newer initiative, the stated goals of the CGWSA are drastically dif-

52. *See* Dernbach, *supra* note 11, at 296-98 (detailing keys to longevity of Pennsylvania Act 101). Although the cost of implementing Act 101 is substantial, during periods of high returns from the two-dollar fee and profits from recycled materials, the program can be self-sustaining. *Id.* Still, much of the time, the government has to subsidize recycling efforts to ensure compliance with Act 101. *Id.*

53. *See id.* (discussing incentives created by Pennsylvania Act 101 disposal fee).

54. *See id.* (summarizing benefits of Pennsylvania Act 101). The costs associated with recycling and waste disposal are also responsible for encouraging consumers and producers to prefer durable, repairable, recyclable, and minimally packaged products. *See id.*

55. *See id.* (highlighting groundbreaking nature of Pennsylvania Act 101).

56. *See id.* at 291-94 (summarizing the impacts of Pennsylvania Act 101).

57. *See* California Department of Resources Recycling and Recovery, *Mandatory Commercial Recycling* (Jan. 28, 2013)[hereinafter CalRecycle], http://www.calrecycle.ca.gov/recycle/commercial/ (outlining California's mandatory recycling program).

58. *See id.* (explaining California's commercial recycling efforts).

59. *See id.* (explaining California's commitment to commercial recycling through California Global Warming Solutions Act). This statute was adopted in 2006, laying out requirements for various waste programs throughout the state. *See id.*

60. *See id.* (chronicling enactment of California's mandatory recycling program).

61. *See id.* (discussing requirements of California's mandatory recycling program).

ferent than those of Pennsylvania in 1990.[62] With overwhelming evidence that global warming is partially caused by human interference, the California legislature devised its mandate hoping to reduce greenhouse gas emissions.[63] At the same time, the law also states more traditional reasons for recycling.[64] For instance, it discusses the need to save space in landfills and various financial incentives.[65]

The CGWSA's recycling requirement applies to all businesses generating at least four cubic yards of solid waste per week.[66] Although mandated commercial recycling may seem limited to government entities and large businesses, it impacts many individuals as well.[67] For example, California property owners may be required to have tenants separate recycling in some larger multi-family dwellings.[68] To accommodate regulated parties, the law provides affected producers with varied disposal methods to choose from.[69]

In August 2014, the CalRecycle Review program began reviewing and inspecting regulated sites to ensure commercial producers recycle efficiently and in accordance with the law.[70] Every two to four years, the state will perform a review of each commercial producer and provide a detailed report outlining their progress.[71] The CalRecycle Review program will hold producers accountable for failure to comply, possibly by issuing orders of compliance.[72] At the

62. *See generally* CalRecycle, *supra* note 57 (listing goals of CGWSA); *see also* 53 PA. STAT. ANN. § 4000.102 (West) (detailing goals of Pennsylvania Act 101). For further discussion of the goals of Pennsylvania Act 101, see *supra* note 32 and accompanying text.

63. *See* CalRecycle, *supra* note 57 (describing goals behind California's mandatory recycling program).

64. *See id.* (listing goals behind California's mandatory recycling program).

65. *See id.* (describing goals behind California's mandatory recycling program).

66. *See* CalRecycle, *supra* note 57 (detailing size of producers affected by California's state mandated recycling program).

67. *See id.* (explaining how California's recycling program affects individuals).

68. *See id.* (explaining instances when California's recycling program can apply to individuals).

69. *See id.* (explaining California's mandated recycling program affords waste producers with options to properly dispose of waste). Under California's state-mandated recycling program, producers have the option to self-haul their garbage, subscribe to an authorized waste hauler, arrange for pickup of recyclables, or subscribe to a recycling service. *Id.* These same options are available, regardless of the size of a regulated waste producer. *Id.*

70. *See id.* (highlighting oversight program for mandated recycling program).

71. *See* CalRecycle, *supra* note 57 (outlining provision of oversight program tracking producers' compliance progress).

72. *See id.* (detailing specific enforcement methods for encouraging compliance with California's recycling program).

same time, producers making good-faith efforts to fulfil their obligations will be praised and recognized for their efforts.[73]

California lawmakers further suggest local governments pass their own commercial recycling ordinances.[74] The state's website offers sample ordinances as well as educational materials for community leaders interested in more aggressive recycling efforts.[75] The California government believes that collaboration between state and local governments is essential for effective implementation of the aggressive commercial recycling mandate.[76] Although it is too soon to determine whether the program has been effective, early indications suggest that large-scale mandated commercial recycling will be successful.[77] California's efforts have proven popular with other states as well, as many are looking toward implementing similar legislation.[78]

C. The Food Waste Ban Movement

States across New England have begun to take California's mandated recycling for large waste producers a step further.[79] Connecticut, for example, paved the way for mandated diversion of food waste in October 2011, when it passed Public Act 11-217.[80] Public Act 11-217 requires large commercial generators of food waste to divert the waste they usually send to landfills and incinerators to facilities capable of composting or repurposing it.[81] However, Connecticut's food waste ban only applies to producers within twenty miles of a licensed processing facility.[82]

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73. *See id.* (explaining negative and positive methods for encouraging compliance with California's recycling program).

74. *See id.* (referencing goal to ensure cooperation between state and local governments in California).

75. *See id.* (explaining how local governments can encourage compliance with California state recycling efforts). These forms can be found at http://www.calrecycle.ca.gov/Forms/.

76. *See* CalRecycle, *supra* note 57 (highlighting importance of local government cooperation with statewide recycling program).

77. *See generally id.* (speculating potential success of California's CalRecycle program).

78. *See id.* (recognizing potential influence of CalRecycle program on other states).

79. *See* Serfass, *supra* note 14, at 35 (describing new trends toward mandating food waste diversion).

80. *See id.* (explaining first United States food waste ban in Connecticut).

81. *See id.* (explaining food waste ban's applicability to producers of large amounts of food waste). Under Connecticut's new law, a large producer produces more than 104 tons of food waste per year. *See id.* (defining large producer under Connecticut's food waste ban).

82. *See id.* (detailing intricacies of Connecticut's food waste ban).

On July 1, 2012, Vermont followed suit by implementing "An Act Relating to Establishing Universal Recycling of Solid Waste" (Universal Recycling Act).[83] The Universal Recycling Act is virtually identical to Connecticut's Act 11-217.[84] The main difference between the two acts is Vermont's commitment to gradually include smaller producers until 2020, when all food waste produced within twenty miles of a processing facility will no longer be allowed in the state's landfills.[85] Connecticut followed Vermont's lead by revising their program through Act 13-285 in 2013.[86] Connecticut's food waste ban now similarly applies to smaller food waste producers gradually until 2020; however, it will not ultimately include all producers, and will still require fifty-two tons of waste per year before the ban will apply.[87] Although these programs are exciting, the effects of Connecticut and Vermont's laws remain unknown, as they did not become effective until January 1, 2014, and July 1, 2014, respectively.[88]

Connecticut and Vermont have decided to rely on the market to ensure the development of food waste processing facilities.[89] Both state legislatures believe mandating producers within twenty miles of licensed facilities to divert food waste will sufficiently incentivize private construction of new facilities.[90] These new facilities are guaranteed customers, as large food waste producers will have little option but to use their services.[91] Another New England state, Massachusetts, has taken a more aggressive approach to ensure a

83. *See id.* (noting Vermont's subsequent food waste ban).

84. *See* Serfass, *supra* note 14, at 35 (comparing Connecticut and Vermont's food waste ban).

85. *See* Allan Gerlat, *Mandatory Organics Recycling to Become Law in Vermont*, WASTE 360 (June 8, 2012), http://waste360.com/state-and-local/mandatory-organics-recycling-become-law-vermont (discussing consequences of Vermont's food waste ban). For a full schedule of the increasing applicability of Vermont's food waste ban, see *Act 148, An Act Relating to Establishing Universal Recycling of Solid Waste,* VT. AGENCY OF NATURAL RES., 0 (last visited Feb. 2, 2015) (providing table of Vermont food waste ban implementation schedule).

86. *See* Serfass, *supra* note 14, at 35 (comparing Connecticut and Vermont food waste bans).

87. *See id.* (explaining changes in recent update of Connecticut food waste ban).

88. *See id.* (discussing Connecticut and Vermont food waste ban implementation).

89. *See id.* (discussing feasibility of Connecticut and Vermont's food waste bans only applying within twenty miles of certified facilities).

90. *See id.* (discussing potential industry growth resulting from Connecticut and Vermont's food waste bans applying within twenty miles of certified facilities).

91. *See* Serfass, *supra* note 14, at 35 (showing benefits for food waste processors attempting to conduct business in Connecticut or Vermont).

feasible commercial food waste ban.[92] The next section of this this Comment will focus on the Massachusetts program.[93]

III. MASSACHUSETTS CAN'T *WASTE* FOR A CHANGE

Food waste is undoubtedly a major contributor to the global warming crisis, and Massachusetts produces plenty of it.[94] Another well-established, even larger, contributor is the burning of fossil fuels for energy.[95] Massachusetts is taking a front seat in the nationwide movement towards reducing waste and "going green."[96] Through recent legislative efforts, the Commonwealth may have found a way to combat both problems at once.[97] In fact, the legislature believes it will achieve both goals, while stimulating the economy and creating growth in an emerging private industry.[98] Moreover, Massachusetts has set a lofty goal of reducing its total waste stream by "thirty percent by 2020, and eighty percent by 2050."[99] This portion of the Comment will explain Massachusetts' food waste ban program.[100] In addition, it will discuss a unique aspect of the program designed to encourage private industry to expand efforts to develop one particular organic waste processing method: anaerobic digestion.[101]

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92. *See* David Abel, *Commercial Food Waste to Be Banned: Later Rule May Extend to Homes*, BOSTON.COM (May 4, 2012), http://www.boston.com/news/local/massachusetts/articles/2012/05/04/state_to_propose_banning_commercial_food_waste_from_landfills_by_2014/ (indicating Massachusetts' intention to propose commercial ban on food waste from landfills).

93. For further discussion of Massachusetts' recycling program, see *infra* notes 94-135 and accompanying text.

94. *See* Keep America Beautiful, Inc., *supra* note 26 (showing detrimental effects of greenhouse gases).

95. *See id.* (noting many problems arising from burning fossil fuels).

96. *See Massachusetts Leads Again, This Time Bans Food Waste*, SUSTAINABLEBUSINESS.COM (Feb. 04, 2014, 6:03 PM), http://www.sustainablebusiness.com/index.cfm/go/news.display/id/25495 (discussing Massachusetts' leading role in recycling and green energy legislation). Massachusetts has been named one of the top states for solar power and is recognized as the most energy efficient state in the country. *See id.* (discussing Massachusetts' history of green energy leadership).

97. *See* Massachusetts Executive Office of Environmental Affairs, *Patrick Administration Announces Plan to Ban Disposal of Commercial Food Waste* (July 10, 2013)[hereinafter EEA 2013], http://www.mass.gov/eea/pr-2013/commercial-food-waste-ban.html (detailing how anaerobic digestion can be used to avoid rogue methane emission and create clean energy).

98. *See id.* (detailing multi-faceted environmental and economic goals of Massachusetts' commercial food waste ban).

99. *See id.* (explaining Massachusetts' goal to reduce food waste).

100. *See infra* notes 102-16.

101. *See infra* notes 117-35.

A. The Massachusetts Ban

Massachusetts has proposed an aggressive and groundbreaking regulation.[102] On January 31, 2014, Governor Deval Patrick and the Massachusetts Department of Environmental Protection (Mass DEP) announced final regulations banning certain food wastes from being disposed in landfills and incinerators.[103] Since October 1, 2014, commercial waste producers have been banned from discarding food waste in regular trash.[104] Through this regulation, Massachusetts intends to save landfill space and reduce greenhouse gas emissions.[105]

In Massachusetts, food and organic waste constitute twenty-five percent of the state's current waste stream.[106] This amounts to 600,000 to 900,000 *tons* of rotting food traditionally sent to landfills and incinerators each year.[107] The ban is estimated to reduce the state's food waste in landfills by thirty-three percent in its first five to six years.[108] Producers creating at least one ton of food waste each week will fall subject to the regulation.[109] In addition to promoting alternative modes of waste disposal, Massachusetts is encouraging restaurants, caterers, colleges, hotels, supermarkets, and other institutions to "repurpose any unused but edible food, whether by reusing it in the kitchen or by donating it to a charity."[110] Previously, strict liability laws made it difficult to donate certain food items to charity, encouraging further waste rather than

102. *See* EEA 2013, *supra* note 97 (highlighting novelty of Massachusetts' proposed regulation); *see also* Abel, *supra* note 92 (discussing nature of Massachusetts' proposed food waste ban).

103. Massachusetts Executive Office of Environmental Affairs, *Patrick Administration Finalizes Commercial Food Waste Disposal Ban* (Jan. 31, 2014) [hereinafter EEA 2014], http://www.mass.gov/eea/pr-2014/food-waste-disposal.html (discussing final version of Massachusetts' commercial food waste ban).

104. *See id.* (discussing implementation schedule of Massachusetts' commercial food waste ban).

105. *See* Abel, *supra* note 92 (explaining practicality of Massachusetts' food waste ban).

106. *See* EEA 2014, *supra* note 103 (highlighting waste problems Massachusetts' food waste ban hopes to address).

107. *See* Julia Shanks, *Are You Ready? Preparing for Massachusetts' Commercial Food Waste Ban*, JULIA SHANKS FOOD CONSULTING (Nov. 5, 2013), http://www.juliashanks.com/are-you-ready-preparing-for-massachusettss-commercial-food-waste-ban/ (explaining which Massachusetts businesses fall under food waste ban regulation).

108. *See* Abel, *supra* note 92 (noting expected effects of Massachusetts' commercial food waste ban).

109. *See* Shanks, *supra* note 107 (explaining applicability of Massachusetts' food waste ban).

110. *Id.* (explaining requirements of Massachusetts' food waste ban).

eliminating it.[111] The food waste ban addresses this issue by including provisions to make it easier to donate.[112]

What cannot be reused or donated will no longer be allowed to comingle with other waste in the state's bulging landfills.[113] Some of this waste will go to traditional composting facilities and animal-feed operations.[114] The remainder will be sent to anaerobic digestion facilities and converted into clean energy.[115] This aggressive plan has the potential to significantly diminish greenhouse gas emissions, as "composting just five gallons of food is equivalent to saving one gallon of gasoline."[116]

B. Anaerobic Digestion

The Massachusetts food waste ban is designed to promote the use of a burgeoning technology: anaerobic digestion.[117] The commitment to foster this particular method of food waste conversion is unique to the Massachusetts ban.[118] Similar to traditional composting, anaerobic digestion converts organic waste into usable compost.[119] Anaerobic digesters, however, are fitted with additional equipment allowing them to capture biogases released during the

111. *See id.* (discussing prior impediments to food diversion in Massachusetts addressed by new regulation).

112. *See id.* (discussing how Massachusetts is making food donation easier through new regulation).

113. *See id.* (outlining major points within Massachusetts' commercial food waste ban).

114. *See* EEA 2014, *supra* note 103 (explaining where food will be diverted under final Massachusetts food waste ban regulation).

115. *See id.* (explaining where additional food waste not being recycled through traditional means will be sent under final Massachusetts food waste ban regulation).

116. *See* Shanks, *supra* note 107 (discussing tangible environmental benefits of food waste diversion).

117. *See id.* (explaining Massachusetts' commitment to focus food diversion efforts on increasing statewide anaerobic digestion).

118. *See* EEA 2014, *supra* note 103 (discussing Massachusetts' decision to tie commercial food waste diversion to anaerobic digestion). Massachusetts' decision to encourage processing locations to grow within a particular industry is different than the approach taken by Connecticut and Vermont. *See* Serfass, *supra* note 14, at 35. This is not to say that other states do not allow food waste to be diverted to anaerobic digesters. In fact, Connecticut provides information about anaerobic digestion on the state's website, and developers of anaerobic digestion may be eligible for some funding provided within the Connecticut food waste ban. *See Composting and Organics Recycling*, DEPT. OF ENERGY AND ENVT'L PROT. (Dec. 24, 2014), http://www.ct.gov/deep/cwp/view.asp?a=2718&q=325344&deepNav_GID=1645%20 (providing information and forms for those considering anaerobic digestion or seeking further information regarding the technology).

119. *See* Shanks, *supra* note 107 (describing byproducts of anaerobic digestion).

composting process.[120] In turn, these gases can be used as a more environmentally friendly source of energy.[121]

Although the process of anaerobic digestion is quite complex, the basic concept is simple.[122] Organic wastes, such as food waste, are sealed within airtight chambers free of oxygen, called digesters, and microbes inside the digesters break down the waste into compost.[123] During this process, biogas is released, which can then be captured and used to create heat and generate electricity.[124] Alternatively, it can also be converted into compressed natural gas to power vehicles.[125]

It is one thing to say that anaerobic digestion is a viable option; it is another to ensure its use and development.[126] Since talk of a food waste began, Massachusetts has seen an increase in the development of anaerobic digestion equipment.[127] Facilities throughout the state at dairy farms, municipal landfills, and wastewater treatment plants have begun developing this technology.[128] Despite this boom in development, there is a long way to go before it is feasible for Massachusetts to dispose of all its food waste in this way.[129]

To make anaerobic digestion a widespread industry, Massachusetts has decided to supplement the cost of building anaerobic digesters and bringing waste to anaerobic digestion sites.[130] Legislators have allocated four million dollars in low-interest loans for grants, of which three million will be given to private companies building anaerobic digesters.[131] The remaining one million will be awarded to public entities via MassDEP and the Massachusetts De-

120. *See id.* (explaining gas collection during anaerobic digestion).

121. *See id.* (explaining usefulness of biogas collected during anaerobic digestion).

122. *See* EEA 2013, *supra* note 97 (explaining process of anaerobic digestion).

123. *See id.* (explaining role of microbes during anaerobic digestion).

124. *See id.* (explaining how biogas created during anaerobic digestion can be used to produce usable energy).

125. *See id.* (explaining uses for biogas created during anaerobic digestion to power vehicles).

126. *See id.* (detailing Massachusetts' commitment to fund growth of anaerobic digestion industry).

127. *See* EEA 2014, *supra* note 103 (highlighting growth of anaerobic digestion industry in anticipation of Massachusetts' food waste ban).

128. *See id.* (explaining sectors where anaerobic digestion has started to develop).

129. *See id.* (highlighting limitations of current anaerobic digestion industry).

130. *See* Shanks, *supra* note 107 (explaining funding made available to businesses to make waste diversion affordable in Massachusetts).

131. *See* EEA 2013, *supra* note 97 (detailing specific funding made available for anaerobic digester development in Massachusetts).

partment of Energy Resources.[132] The state water resource agency already received a grant for its existing wastewater treatment plant.[133] The plant currently digests sludge to create its own power.[134] With the help of this grant, the operation will soon experiment with introducing food waste into the liquid digesters, hoping to create additional energy.[135]

IV. A PROGRAM NOT NEARLY AS *CRUMBY* AS THE MATERIALS IT REGULATES

Despite general support for the new food waste ban, Massachusetts faces various concerns as it implements the new program.[136] This portion of the Comment discusses the policy and legal concerns raised by Massachusetts' new regulatory program.[137]

A. Policy Concerns

Not surprisingly, companies in the anaerobic digestion business have responded positively to Massachusetts' new effort.[138] Tony Callendrello, Chief Operating Officer of NEO Energy stated, "'The legislature and the regulatory agencies in Massachusetts have taken important steps to create a positive environment for private companies such as ours to make significant investments in the development of anaerobic digestion projects.'"[139] Massachusetts' active encouragement of an emerging market separates the Commonwealth's commercial food waste ban from other mandated recycling regulations.[140] This innovative marriage of private enterprise with societal and environmental goals is unique, and states

132. *See id.* (detailing public funding made available for anaerobic digester development in Massachusetts).

133. *See id.* (noting specific funding earmarked for anaerobic digester development in existing water treatment plant).

134. *See id.* (explaining current anaerobic digestion efforts at water treatment plant receiving funds).

135. *See id.*(noting wastewater operations receiving funds will incorporate food waste in anaerobic digesters).

136. *See generally* Jennifer C. Fiser, *Legal and Policy Issues Related to Anaerobic Digestion at United States Livestock Facilities*, 3 KY. J. EQUINE, AG. & NAT. RES. L. 221 (2011) (outlining historical challenges facing anaerobic digestion programs and discussing potential future growth).

137. For an analysis of the concerns surrounding the Massachusetts' regulatory program, see *infra* notes 138-183 and accompanying text.

138. *See* EEA 2013, *supra* note 97 (discussing support for Massachusetts' commercial food waste ban from energy companies).

139. *Id.* (citation omitted)(discussing support for Massachusetts' commercial food waste ban from NEO energy).

140. *See id.* (noting lack of opposition to Massachusetts' commercial food waste ban).

throughout the country are taking note.[141] Senator Gale Candaras has boasted: " 'The Commonwealth is paving the way for public-private partnerships to develop a new, environmentally-friendly, renewable energy-producing industry.' "[142] She went on to point out that this new industry " 'will not only keep [Massachusetts'] communities clean but also create jobs and revenue.' "[143] Rather than allowing organics to rot and release methane and carbon dioxide into the atmosphere, thereby contributing to global warming, anaerobic digestion ensures these hazardous gases "never enter the atmosphere at all."[144] This regulation simultaneously addresses the serious problem of greenhouse gas emissions, the continued need to develop cleaner alternative energy, and the need to create jobs following the housing bubble burst in 2008.[145]

Regulated businesses may also stand to gain from Massachusetts' new law.[146] Many Massachusetts businesses had begun to divert their food waste even before the ban came into effect.[147] Specifically, one program led by MassDEP and the Massachusetts Food Association has worked with 300 supermarkets throughout the state.[148] Although taking time to sort and dispose of food waste separately might seem prohibitively expensive, participating supermarkets saved as much as $20,000 annually.[149] Nevertheless, one might hypothesize that some food waste producers will be unhappy with the increased responsibility to separate food waste before disposing of it.[150]

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141. *See id.* (highlighting potential impact of Massachusetts' plan nationwide).

142. *Id.* (discussing political support for environmental benefits of Massachusetts' food waste ban).

143. *See* EEA 2013, *supra* note 97 (discussing political support for jobs created by Massachusetts' food waste ban).

144. Shanks, *supra* note 107 (discussing potential benefits of anaerobic digestion).

145. *See* EEA 2013, *supra* note 97 (explaining numerous benefits of food waste regulation).

146. *See* Abel, *supra* note 92 (highlighting financial gain for companies diverting food waste).

147. *See id.* (noting financial gain already realized by companies diverting food).

148. *See id.* (highlighting test which showed financial gain for supermarkets diverting food waste).

149. *See id.* (highlighting financial gain realized by actual supermarkets diverting food waste).

150. *See* Allan Gold, *Recycling to Expand to Businesses in New York*, N.Y. TIMES (May 1, 1991), http://www.nytimes.com/1991/05/01/nyregion/recycling-to-expand-to-businesses-in-new-york.html (discussing reluctance among businesses to comply with mandatory recycling in New York City).

By encouraging anaerobic digestion so aggressively, Massachusetts is also poised to create a new commodity within the Commonwealth.[151] In 1993, it was believed that there were very few uses for digester effluents.[152] Since that time however, many constructive uses have been found.[153] For example, digester effluents can be formed into pellets and used as a fuel source or spread as a fertilizer.[154] This nutrient-rich byproduct has an active and competitive market, which has increased the profitability of food composting.[155]

Still, not everything about the Massachusetts commercial food waste ban is as overwhelmingly positive as industrialists and legislators may suggest.[156] Anaerobic digestion was first developed as a response to the fuel crisis in the 1970s, and experienced a brief period of rapid growth.[157] By the mid-1990s however, most anaerobic digesters were no longer operating.[158] Several practical concerns contributed to this industry failure, including: "lack of operator skills, poor choice of design and equipment, and lack of maintenance."[159] Additionally, the Economics, Statistics, and Cooperatives Service, a former division of the U.S. Department of Agriculture, reported in 1978 that "'widespread application of anaerobic digestion technology in American agriculture does not now, nor in the foreseeable future, appear economically feasible.'"[160] The report noted concerns regarding "economies of scale, large capital requirements, inability to supply a substantial amount

151. *See* Shanks, *supra* note 107 (listing potential benefits of anaerobic digestion).

152. *See* Fiser, *supra* note 136 at 242 (noting past failures to find uses for byproducts of anaerobic digestion).

153. *See id.* (discussing how livestock producers have discovered many viable uses for anaerobic digestion byproducts).

154. *See id.* (listing specific uses for anaerobic digestion byproducts).

155. *See* Shanks, *supra* note 107 (elaborating potential economic benefits of anaerobic digestion and state adoption of food waste bans).

156. *See generally* Fiser, *supra* note 136, at 221 (outlining historical challenges facing anaerobic digestion programs and discussing potential future growth).

157. *See generally id.* (citing DAVID RIGGLE, BIOCYCLE, ANAEROBIC DIGESTION GETS NEW LIFE ON FARMS 74 (Jan. 1997), *available at* http://www.epa.org/agstar/documents/Riggle_11 26 07.pdf)) (outlining historical desire for anaerobic digestion programs the challenges faces and discussing potential future growth). Riggle further notes that, "During the 1970s energy crisis, 141 anaerobic digesters were built at livestock facilities in the United States." *Id.*

158. *See* Fiser, *supra* note 136, at 226 (highlighting previous failure of anaerobic digestion industry and relation to energy).

159. *Id.* (explaining practical reasons why anaerobic digestion was previously less prevalent).

160. *Id.* at 225 (quoting TED THORNTON, U.S. DEP'T OF AGRIC., NO. ESCS-06, AN ASSESSMENT OF ANAEROBIC DIGESTION IN U.S. AGRICULTURE v (1978)) (stating economic reasons why anaerobic digestion was previously less prevalent).

of energy, and the time and effort required to maintain the systems."[161] Once the fuel crisis subsided, demand for alternative energy also waned, and government subsidies for anaerobic digestion ceased, compounding the problems facing the industry.[162]

Although some concerns remain, changing circumstances have helped alleviate many criticisms and rekindle support for anaerobic digestion as a feasible step toward solving the United States' waste problem.[163] A new sensitivity to global warming and climate change has created a somewhat inelastic demand for alternative energy.[164] Even as fuel prices fluctuate, anaerobic digestion's significant environmental benefits may be able to overcome price sensitivity in a way not possible twenty years ago.[165] Additionally, various federal subsidies have increased economic feasibility of alternative energy production.[166] Massachusetts has further encouraged expansion through its funding for private and public development of anaerobic digestion facilities earmarked within its commercial food waste ban.[167]

Still, by choosing to tie its program so tightly to anaerobic digestion, Massachusetts may face considerable criticism from individuals concerned about potential problems, such as perceived risks of explosions and the release of harmful gases.[168] Other concerns include the high cost of compliance monitoring, as well as invasion of privacy when the government inspects garbage to ensure producers

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161. Fiser, *supra* note 136, at 225-26 (explaining monetary barriers to development of anaerobic digestion in the past).

162. *See id.* at 226 (citing PETER N. HOBSON & ANDREW D. WHEATLEY, ANAEROBIC DIGESTION: MODERN THEORY AND PRACTICE 7, 11(1st ed. 1993)) (noting demand for anaerobic digestion dropped after the 1970s fuel crisis).

163. *See id.* at 227-28 (describing why past problems with anaerobic digestion are less applicable today).

164. *See id.* In fact, global warming has increasingly come to the forefront of political debate in the United States, regardless of the current state of fluctuating energy prices. For an interesting discussion of global pressures to address climate change, and a recent accord between almost two hundred nations called the "Lima Accord", see Coral Davenport, NY TIMES A3 (Dec. 15, 2014), *available at* http://www.nytimes.com/2014/12/15/world/americas/lima-climate-deal.html?_r=0.

165. *See id.* at 227(asserting that individuals began to realize "previously unappreciated benefits" of anaerobic digestion and its contribution as more than "a source of cheap energy").

166. *See id.* at 232 (explaining that greenhouses gases are of greater issue today and past problems with anaerobic digestion).

167. *See* EEA 2014, *supra* note 103 (highlighting grants made available by MassDEP and the Department of Energy Resources (DOER) for anaerobic digestion expansion).

168. *See* Fiser, *supra* note 136, at 243 (stating current negative critiques of anaerobic digestion).

are doing their part.[169] In fact, Massachusetts has observed these concerns first-hand, when strict enforcement of a city-mandated recycling program in Cambridge led residents to complain that they could "'imagine such things happening in the Third Reich.'"[170]

B. Regulatory Concerns

Even with general support, a statewide commercial food waste ban faces certain legal challenges.[171] On a constitutional level, a challenge under the Dormant Commerce Clause is plausible.[172] Food coming into Massachusetts from other states could arguably qualify as interstate commerce, subjecting the regulation to judicial scrutiny.[173]

In an attempt to avoid invalidity of the food waste ban, Massachusetts could rely on the Supreme Court's prior assertions that a law is constitutional unless it places more than an incidental burden on interstate commerce or the law's benefits do not significantly outweigh any burdens it imposes.[174] Banning food waste may create some burden on interstate sales (perhaps as a result of potential producers minimizing their orders to avoid additional waste); however, it appears clear that the benefits of recycling food waste greatly outweigh this negligible burden.[175]

Challenging the validity of this law becomes even more difficult considering that local laws burdening local customers and taxpayers are presumptively valid, and must be rebutted by the challenger.[176] This makes it extremely difficult for any burdened waste producer to have the ban declared invalid, especially given

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169. James O'Reilly, *State & Local Gov't Solid Waste Mgmt.* § 4:7 (2d ed.) 2013 (describing complications when enforcing mandatory recycling and waste diversion programs).

170. *Id.* (citing Picky, *9 Insight* at 26 (April 26, 1993)) (describing past complications when enforcing mandatory recycling programs in Massachusetts).

171. *See generally* Fiser, *supra* note 136 (outlining historical challenges facing anaerobic digestion programs and discussing potential future growth).

172. *See* Bradford C. Mank, *Are Public Facilities Different from Private Ones?: Adopting A New Standard of Review for the Dormant Commerce Clause*, 60 SMU L. REV. 157, 160 (2007) (criticizing current rationale when deciding Dormant Commerce Clause cases).

173. *See id.* at 162-63 (explaining current rationale for applying Dormant Commerce Clause).

174. *See id.* at 163 (explaining current rule for deciding Dormant Commerce Clause issues).

175. *See id.* (outlining Dormant Commerce Clause decisions).

176. *See id.* (highlighting limitations faced in Dormant Commerce Clause cases).

that producers likely save money through compliance.[177] Further, in *United Haulers Ass'n v. Oneida-Herkimer Solid Waste Mgmt. Auth.*, the Second Circuit determined that increased recycling could outweighing a detriment to the free market for waste disposal.[178]

Companies rushing to create a new anaerobic digestion industry also face other complications.[179] Although many waste disposal matters are regulated by the federal government, no current federal standards exist for anaerobic digestion, leaving states with the responsibility to regulate.[180] To build anaerobic digesters, potential operators must often secure water quality, air quality, zoning, solid waste disposal, and utility connection permits.[181] Even after these permits are acquired, industry standards remain rudimentary because few environmental regulations existed when anaerobic digestion had its first period of growth in the 1970s.[182] Currently, required permitting and legal responsibilities differ between jurisdictions, creating confusion and delays as regulators try to create uniform guidelines for an industry they still know very little about.[183]

V. WHAT ABOUT THE LEFTOVERS?

Should these bans prove effective, mandated food waste diversion could spread throughout the United States.[184] In fact, strong support for similar laws has already taken hold in Rhode Island and New Jersey.[185] Furthermore, this type of requirement could ex-

177. *See* Mank, *supra* note 172, at 163 (discussing further Dormant Commerce Clause cases).

178. United Haulers Ass'n, Inc. v. Oneida-Herkimer Solid Waste Mgmt. Auth., 438 F.3d 150, 163 (2d Cir. 2006) *aff'd*, 550 U.S. 330 (holding that benefits from waste program substantially outweigh any burden upon waste haulers).

179. *See* Fiser, *supra* note 136, at 237 (explaining numerous regulatory and permitting challenges builders of new anaerobic digesters confront).

180. *See id.* at 237-38 (highlighting lack of federal regulations for anaerobic digesters and need for state regulation of anaerobic digesters).

181. *See id.* (explaining numerous regulatory requirements when building new anaerobic digesters).

182. *See* Fiser, *supra* note 136, at 238(explaining historical basis for anaerobic digester regulatory uncertainty).

183. *See id.* (explaining confusion resulting from conflicting regulatory obligations and numerous permitting challenges).

184. *See* EEA 2013, *supra* note 97 (praising Massachusetts' regulation for potential country-wide change).

185. Rhode Island's food waste disposal ban was passed in June 2014, and is scheduled to go into effect January 1, 2016. It will apply to producers generating fifty-two tons of food waste per year that are located within fifteen miles of an approved facility. *See They're Here: Food Waste Disposal Bans*, NORTH EAST BIOSOLIDS & RESIDUALS ASS'N (Aug. 31, 2014), http://www.nebiosolids.org/food-waste-disposal-bans/. On October 14, 2014 Senator Raymond Lesnial introduced a bill that

pand to residential homes, as is projected for Vermont in 2020.[186] If this were to happen, it could drastically reduce the incredible sum of greenhouse gases emitted from decomposing food waste in the United States, helping to create a more sustainable future.[187]

Given that food waste bans are on the cutting edge of recycling legislation, their effectiveness remains unknown.[188] Potentially high costs associated with monitoring and enforcing food waste disposal requirements may reduce the attractiveness of these programs in certain areas.[189] Also, despite initial optimism, the true costs of large-scale food waste diversion and anaerobic digestion remain unclear.[190]

While it remains to be seen whether Massachusetts' commitment to focus its efforts on anaerobic digestion and mandate compliance regardless of a producer's distance from a processing facility will be successful, so closely associating a recycling mandate with an emerging private industry is innovative and exciting.[191] Increased growth in the energy and anaerobic digestion industries is encouraging, and will likely be an attractive incentive for other states looking to create jobs and revitalize struggling economies.[192] Supporting a specific private industry, while concurrently creating demand for their services through legislation, could prove a great way to advance environmental and economic agendas.[193] For example, the Massachusetts regulation has received support from en-

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would create a food waste ban regulating any producer of more than one hundred and four tons of food waste annually. For more information, see Bill Simmons, *UHappy Holidays. S-2494 Would Ban Commercial Food Waste From NJ Landfills* (Oct. 26, 2014 8:02PM), http://patch.com/new-jersey/middletown-nj/happy-holidays-s-2494-would-ban-commercial-food-waste-nj-landfills.

186. *See* Abel, *supra* note 92 (describing possible future expansion of Massachusetts' food waste ban to residences).

187. *See* EEA 2013, *supra* note 97 (praising Massachusetts' regulation for potential country-wide change).

188. *See* Abel, *supra* note 92 (describing potential consequences of new food waste ban).

189. *See id.* (explaining that ramifications of food waste bans remain to be seen). For example, Massachusetts will need to monitor approximately one thousand seven hundred locations, and enforce its food waste ban. Katherine Perry, *Mass. To Make Big Food Wasters Lose the Landfill*, NPR (Aug. 6, 2014), http://www.npr.org/blogs/thesalt/2014/08/06/338317224/mass-to-make-big-food-wasters-lose-the-landfill.

190. *See id.* (describing potential consequences of new food waste ban).

191. *See* EEA 2013, *supra* note 97 (praising Massachusetts' regulation for potential national influence).

192. *See* Abel, *supra* note 92 (explaining boom in Massachusetts' anaerobic digestion industry).

193. *See id.* (explaining economic benefits of Massachusetts' plan for anaerobic digestion industry).

vironmentalists concerned with recycling and global warming issues, as well as industrial leaders.[194] In fact, there seems to be very little opposition to the program, showing its potential as a template for other states looking to bolster recycling and alternative fuel efforts.[195]

Regulatory support for anaerobic digestion could also lead to an exciting new energy market relatively untapped in the United States.[196] The process produces clean and sustainable biogas energy from food scraps, and may lead to a competitive national industry already expanding throughout Massachusetts and other New England states.[197] By encouraging anaerobic digestion, Massachusetts' legislation may provide the incentive necessary to develop biogas as an affordable and efficient source of alternative fuel.[198] This could also have a massive impact on fuel emissions, and lessen American dependency on oil.[199]

Despite the many positives stemming from the Massachusetts food waste ban, there are some factors that may impede other states from following suit.[200] Although not the case in Massachusetts, some states restrict the use of anaerobic digestion for disposal of food waste.[201] This could lead more states to adopt less ambitious plans like those in Connecticut and Vermont, which require food waste diversion only within twenty miles of a registered processing site.[202] These plans may be more attractive because of their simpler

194. *See* EEA 2013, *supra* note 97 (stating diverse goals of Massachusetts' regulation).

195. *See generally* Fiser, *supra* note 136 (explaining challenges and new found support for anaerobic digestion despite past industry failures).

196. *See* Shanks, *supra* note 107 (listing potential benefits for businesses under Massachusetts new regulatory scheme).

197. *See id.* (listing further potential benefits for businesses under Massachusetts new regulatory scheme).

198. *See id.* (listing potential fuel benefits under Massachusetts new regulatory scheme).

199. *See id.* (listing potential geo-political benefits under Massachusetts new regulatory scheme if applied nation-wide).

200. *See* Fiser, *supra* note 136, at 237 (expressing concerns for success of large scale anaerobic digestion in US).

201. *See id.* at 237-38 (expressing concerns for success of large scale anaerobic digestion in US given anaerobic digestion bans in some states). Michigan and California consider applications for non-animal waste anaerobic digesters on case by case basis and require additional permits. *See id.* These strict procedures have limited growth in the anaerobic digestion business in those states. *See id.*

202. *See* Serfass, *supra* note 14, at 35 (explaining rationale behind qualifications under Connecticut and Vermont waste bans).

implementation, although they may not advance recycling and alternative fuel efforts to the same extent.[203]

To date, states implementing food waste bans have all been smaller, densely populated, New England states.[204] These states are unique in that "landfill capacity is limited and disposal costs are high."[205] In states with more landfill space and disposal costs closer to or below the national average, there may be less pressure to move forward with aggressive mandatory programs.[206] Whatever impacts the Massachusetts regulatory ban may have, there is no question that it is "'lead[ing] the way with solutions that not only save on energy and protect our environment, but also green up the bottom line.'"[207]

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203. *See id.* (explaining benefits of distance qualifications under Connecticut and Vermont waste bans).

204. *See* Emily Bobrow, *Waste Not, Want Not: Massachusetts is Leading the Way in Recycling Organic Waste*, ECONOMIST (Nov. 18, 2013), *available at* http://www.economist.com/news/21589122-massachusetts-leading-way-recycling-organic-waste-waste-not-want-not (reasoning why food waste bans are emerging solely in New England).

205. *Id.* (explaining particular benefits of food waste bans in New England). In fact, waste disposal costs in Massachusetts are nearly twice the national average. *See id.*

206. *See id.* (reasoning why New England has pushed food waste diversion).

207. *See* EEA 2014, *supra* note 103 (quoting Senator Marc R. Pacheco, Senate Chair of the Joint Committee on Environment, Natural Resources and Agriculture) (praising Massachusetts' latest recycling and waste diversion efforts).

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