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**OREGON'S CONCENTRATED ANIMAL FEEDING OPERATIONS**  
**Air Quality as the Epicenter of Environmental Justice Issues & Regulatory Solutions**

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## INTRODUCTION

Large Concentrated Animal Feeding Operations (CAFOs) are lots or facilities where large threshold numbers of land animals (for example, more than 1,000 cattle, 10,000 pigs, or 125,000 chickens) are confined for over 45 days each year.<sup>1</sup> Animal agribusiness consolidates operations into these crowded facilities in order to maximize output and profit. However, it comes at a cost in terms of environmental harm, the burdens of which are disproportionately borne by vulnerable communities, predominantly comprised of low-income people of color. This paper uses the term environmental justice (EJ) communities when referring to these populations. Oregon in particular has a growing number of large CAFOs, despite recent scandals involving poor regulation and catastrophic pollution in the state.<sup>2</sup> The EJ implications of the rising CAFO presence in Oregon include neighborhood pollution, workers' rights, water wars, global hunger, and climate crisis.

This paper argues that air emissions are the epicenter of both EJ issues and regulatory solutions. Accordingly, it argues that the most relevant pathway toward heightened checks on CAFO operations lies in air emissions regulation under the federal Clean Air Act and Oregon state legislation. Part I unpacks the many EJ issues associated with CAFOs. Part II then touches on previous failed attempts to regulate the industry. Part III delves into an air-emissions-based approach to CAFO regulation and the relevant federal and state regulatory structures at play. The paper concludes with a projection of various EJ benefits that could result from the proposed approaches.

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<sup>1</sup> 40 C.F.R. § 122.23 (2008).

<sup>2</sup> *Notice of Revocation of CAFO NPDES Individual Permit No. OR994129* OR. ST. LEG. (Nov. 16, 2020, 12:45 PM), <https://olis.leg.state.or.us/liz/201711/Downloads/CommitteeMeetingDocument/150548>.

## I. THE ISSUES

CAFOs are most often located near EJ communities, including both low-income<sup>3</sup> and BIPOC populations.<sup>4</sup> For example, Oregon's two largest CAFOs are located in a county with more than double the state average Latinx population.<sup>5</sup> Neighborhood pollution is a serious EJ issue as CAFO storage of large quantities of livestock manure can cause emissions of unsafe quantities of ammonia, nitrous oxide, hydrogen sulfide, volatile organic compounds, and particulate matter.<sup>6</sup> Urine, animal hair, antibiotics, and hormones also emit harmful compounds.<sup>7</sup> These pollutants can cause respiratory problems, headaches, nausea, low blood oxygen, stomach and esophageal cancer, and infection, in addition to further impacts such as decreasing property values, which impact generational wealth and further entrench the poverty cycle.<sup>8</sup> Oregon communities are often well aware of these threats, but the permitting agencies do not weigh their concerns equally with the interests of the CAFO industry. For example, during a public comment period in 2016, community members submitted thousands of comments opposing a new large CAFO, but the agency ultimately permitted the operation despite this public outcry.<sup>9</sup>

The laborers employed in this industry are also members of marginalized demographics, as they are often undocumented immigrants.<sup>10</sup> CAFOs pay their workers decidedly low-wages despite the fact that the workers face serious physical dangers as a result of long hours, tiring

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<sup>3</sup> Donham, Kelly J. et al., *Community health and socioeconomic issues surrounding concentrated animal feeding operations* 115 ENV. HEALTH PERSPECTIVES 317-318 (2007).

<sup>4</sup> Christine Ball-Blakely, *Cafos: Plaguing North Carolina Communities of Color* 18 SUST. DEV. L. & POL'Y 4 (2017).

<sup>5</sup> U.S. Census Bureau, *Census Reporter Profile Page for Oregon (2019)* CENSUS REPORTER (Nov. 16 2020, 12:56 PM), <https://censusreporter.org/profiles/04000US41-oregon/>.

<sup>6</sup> U.S. GOV'T ACCOUNTABILITY OFFICE, GAO-08-944, CONCENTRATED ANIMAL FEEDING OPERATIONS (2008).

<sup>7</sup> J.B. Ruhl, *Farms, Their Environmental Harms, and Environmental Law* 27 ECOLOGY L.Q. 285-286 (2000).

<sup>8</sup> Carrie Hribar, *Understanding Concentrated Animal Feeding Operations and their Impacts on Communities* NAT'L ASS'N OF LOC. BOARDS OF HEALTH 11 (2010).

<sup>9</sup> *Confined Animal Feeding Operation (CAFO) NPDES Proposed CAFO Individual Permit for Lost Valley Farm, Greg teVelde, Response to Public Comments* OR. DEP'T OF AG., OR. DEP'T OF ENV. QUAL. (Nov. 16, 2020, 1:21 PM), <https://www.oregon.gov/ODA/programs/NaturalResources/Documents/CAFOPublicNotices/LostValleyFarm/LostValleyFarmComments.pdf>.

<sup>10</sup> Michael S. Worrall, *Meatpacking Safety: Is Osha Enforcement Adequate?*, 9 DRAKE J. AG. L. 299 (2004).

work, and sharp equipment used for slaughter.<sup>11</sup> CAFO workers also experience psychological trauma as a result of slaughtering animals at ever-quickenning paces.<sup>12</sup> There are other inherent health hazards for CAFO workers, including chronic obstructive airways disease, interstitial lung disease, occupational asthma, acute and chronic bronchitis, and organic dust toxic syndrome.<sup>13</sup> These trends are exacerbated as farms grow in size and density.<sup>14</sup> Data on workers' rights abuses specific to Oregon are sparse, although there are records of individual instances. For example, the Oregon Lost Valley CAFO initially received a permit even though it failed to provide restroom facilities for its employees.<sup>15</sup> Furthermore, Oregon employers are not required to pay overtime to CAFO workers and may also be exempt from paying minimum wage.<sup>16</sup>

Another EJ concern relates to the massive amount of water required for CAFO operations and the impacts that this has on Indigenous communities in Oregon. In 2020, the local ranching industry threatened the Klamath Tribe's water rights by seeking to restore irrigation operations in the basin even after a federal judge validated existing water-rights agreements.<sup>17</sup> The battle over water rights between the agriculture industry and Indigenous communities is another example of how CAFO facilities pose serious EJ threats to Oregon's population.

Lastly, EJ harm by the CAFO industry reaches across the globe. Feeding half of the world's grain crops to livestock rather than directly to human beings wastes resources due to the

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<sup>11</sup> Jennifer Dillard, *A Slaughterhouse Nightmare: Psychological Harm Suffered by Slaughterhouse Employees and the Possibility of Redress Through Legal Reform*, 15 GEORGETOWN J. L. POL'Y 391 (2008).

<sup>12</sup> *Id.*

<sup>13</sup> Hribar, *supra* note 8.

<sup>14</sup> F.M. Mitloehner & M.S. Calvo, *Worker health and safety in concentrated animal feeding operations*, J. AG. SAFETY AND HEALTH 14 (September 25, 2020, 3:50 PM), <https://pubmed.ncbi.nlm.nih.gov/18524283/>.

<sup>15</sup> *Notice of Revocation of CAFO NPDES Individual Permit No. OR994129*, OR. ST. LEG. (Nov. 16, 2020, 12:45 PM), <https://olis.leg.state.or.us/liz/201711/Downloads/CommitteeMeetingDocument/150548>.

<sup>16</sup> 29 C.F.R. §780.115 and §780.205 O.A.R. 839-020-0004 (4).

<sup>17</sup> *Hawkins et al. v. Bernhardt et al.*, No. 20-5074, Appellants' Opening Brief Filed, 2020 WL 4039041 (D.C. Cir. July 17, 2020).

land, fossil fuel, and water inefficiency of meat-heavy diets such as those prevalent in the U.S., despite growing hunger crises across the world.<sup>18</sup> CAFOs also heavily contribute to climate change through the greenhouse gases (GHGs) carbon dioxide, nitrous oxide, and methane.<sup>19</sup> As climate change disproportionately harms EJ communities, CAFOs' generation of GHGs also contributes to that harm. Oregon demonstrated interest in being positive global actors along these lines in Governor Kate Brown's Climate Executive Order,<sup>20</sup> which is why it is surprising that Oregon increasingly deregulates the CAFO industry.

## II. FAILED LEGAL PATHWAYS

The U.S. government consistently creates statutory exclusions and economic subsidies to support agribusiness, a practice known as "agricultural exceptionalism."<sup>21</sup> Legal advocates acknowledge the absurdity of these free passes as they relate to the CAFO industry: "It is past time for [the federal government] to start treating factory farming as the polluting industry it is, and bring these facilities into the 21st Century of pollution control regulation."<sup>22</sup>

One recent example is that the 2018 Fair Agricultural Reporting Method (FARM) Act<sup>23</sup> exempts CAFOs from reporting requirements under the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA, or "Superfund")<sup>24</sup> and the Emergency

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<sup>18</sup> Humane Society International, *The Impact of Industrialized Animal Agriculture on World Hunger* FOOD & AG. ORG. U.N. (Nov. 16, 2020, 1:32 PM), <http://www.fao.org/ag/againfo/themes/animal-welfare/news-detail/en/c/36723/>.

<sup>19</sup> NAT. RES. COUNC., AIR EMISSIONS FROM ANIMAL FEEDING OPERATIONS: CURRENT KNOWLEDGE, FUTURE NEEDS 17 (2003).

<sup>20</sup> OR. GOVERNOR'S OFFICE, E.O. NO. 20-04., DIRECTING STATE AGENCIES TO TAKE ACTIONS TO REDUCE AND REGULATE GREENHOUSE GAS EMISSIONS (March 10, 2020).

<sup>21</sup> Katrina A. Tomas, *Manure Management for Climate Change Mitigation: Regulating Cafo Greenhouse Gas Emissions Under the Clean Air Act*, 73 U. MIAMI L. REV. 531 (2019).

<sup>22</sup> Tarah Heinzen, *Stopping the Campaign to Deregulate Factory Farm Air Pollution*, 17 N.Y.U. ENV. L.J. 1482 (2009).

<sup>23</sup> Madhavi Kulkarni, *Out of Sight, but Not Out of Mind: Reevaluating the Role of Federalism in Adequately Regulating Concentrated Animal Feeding Operations*, 44 WM. & MARY ENV. L. & POL'Y REV. 285 (2019).

<sup>24</sup> 42 U.S.C. §§ 9601-9675 (2000).

Planning and Community Right-to-Know Act (EPCRA).<sup>25</sup> CERCLA & EPCRA were established to require emitters of hazardous pollutants (for example, CAFOs emitting ammonia and hydrogen sulfide) to report significant emissions to national, state, and local response centers, making these data publicly available.<sup>26</sup> This information is instrumental to community and environmental advocacy group efforts, allowing for crucial insights into polluters' activities in order to back up calls for accountability and regulation (and creating a deterrent as a result of this threat).<sup>27</sup> Oregon specifically feels the effects of this deregulation. Without these statutes, the state rates "low" for the transparency in CAFO data, including low transparency of manure storage, type of animal, and owner information, which could contribute to the chronic lack of support for CAFO regulation.<sup>28</sup>

Another of these systematic support mechanisms of the agriculture industry are state Right-To-Farm (RTF) laws. Oregon's affords some of the most significant protections to CAFOs,<sup>29</sup> shielding operators (and other operations, including meat processing facilities) from nuisance and trespass tort law liability for all practices that are or may become accepted as "reasonable and prudent," which is undefined.<sup>30</sup> The immunity encompasses all actions or claims based on physical contaminants such as noise, odors, dust, and mist from irrigation.<sup>31</sup> Although Oregon's RTF law applies to most sectors of the agricultural industry, the problems may be most severe with respect to CAFOs.<sup>32</sup> As slaughterhouses and CAFOs continue appearing in Oregon

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<sup>25</sup> 42 U.S.C. §§ 11001-11050 (2000).

<sup>26</sup> Heinzen, *supra* note 22.

<sup>27</sup> *Id.*

<sup>28</sup> D. Lee Miller, *CAFOs: What We Don't Know is Hurting Us*, NAT'L RES. DEF. COUNCIL REP. (September 25, 2020, 2:45 PM), <https://www.nrdc.org/sites/default/files/cafos-dont-know-hurting-us-report.pdf>.

<sup>29</sup> OR. REV. STAT. §§ 30.930 - 30.947 (1999).

<sup>30</sup> Lisa N. Thomas, *Forgiving Nuisance and Trespass: Is Oregon's Right-to-Farm Law Constitutional?*, 16 J. ENV. L. & LIT. 445 (2001).

<sup>31</sup> *Id.*

<sup>32</sup> *Id.* at 446.

communities, neighbors cannot bring claims against the facilities for trespass caused by the common associated physical intrusions such as flies, pesticides, contaminated runoff, or animal wastes.<sup>33</sup> Due to these frustrations, non-farmers may someday challenge Oregon’s RTF law. Until then, RTF laws cannot protect the industry from environmental regulations. Therefore, environmental regulations may be “the public’s only avenue of protection against polluting agricultural operations.”<sup>34</sup>

The sole current federal CAFO environmental regulation comes under the U.S. Environmental Protection Agency’s (EPA’s) Clean Water Act (CWA)<sup>35</sup>, which prohibits point sources of pollution from discharging into surface waters without a National Pollutant Discharge Elimination System (NPDES) permit. The law still enables facilities to pollute waterways, and does nothing to regulate discharges into groundwater, but it provides important parameters and limits to them doing so. The EPA defines CAFOs as point sources and therefore requires the permitting program to be applied to their operations. However, only a fraction of all large CAFOs actually currently have CWA permits, due to the fact that NPDES permits are not required until a point source is already discharging pollutants. As state governments administer these permits, several states including Oregon require NPDES (or equivalent state) permits for all CAFOs, including those that have not been caught discharging pollutants. The Oregon Department of Environmental Quality (DEQ) delegated responsibility for administering CAFO permits to the Department of Agriculture (ODA) through a memorandum of understanding.<sup>36</sup> This transfer was never approved by the EPA, and the fact that the ODA is now the enforcement

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<sup>33</sup> *Id.*

<sup>34</sup> Reagan M. Marble, *The Last Frontier: Regulating Factory Farms*, 43 TEX. ENV. L. J. 175 (2013).

<sup>35</sup> 42 U.S.C. §7401 et seq. (1970).

<sup>36</sup> Kathy Hessler et. al., *Report on the Oregon Department of Agriculture’s Enforcement of the Clean Water Act’s NPDES program related to CAFOs*, ANIMAL LAW CLINIC AT LEWIS & CLARK LAW SCHOOL (2013).

body is arguably a conflict of interest.<sup>37</sup> Regardless, ODA is legally obligated to consider CAFOs' impacts on EJ communities when permitting new facilities.<sup>38</sup> Exerting pressure on ODA to consider these duties when permitting CAFOs is one avenue for more robust controls.

It is clear that the current legal system, both at federal and state levels, is not operating to effectively shield EJ communities from CAFO harm. "Agricultural exceptionalism" continues to expand and entrench deeper into policies and standards. But why? Part of the answer might lie in the agribusiness industry's influence. In 2018 alone, the dairy industry spent close to \$7.5 million, the livestock industry close to \$4 million, and the eggs and poultry industry close to \$2 million on lobbying efforts nationwide.<sup>39</sup> This might explain the \$867 billion 2018 Farm Bill signed into law by President Trump that allocated the greatest federal subsidies to the largest operations, many of which operate multiple large CAFOs.<sup>40</sup> Oregon is not immune from these influences either, as it is the top state in the country when it comes to corporate giving.<sup>41</sup> Lobbyists exert pressure onto state government in many ways specific to the CAFO industry as well. For example, Oregon's dairy industry alone has donated over \$1 million to state lawmakers in the past decade.<sup>42</sup> Imposing state limits on corporate campaign donors might limit this external pressure, allowing for more EJ considerations to have a fighting chance in the legislature. Regardless, establishing checks on this industry will be an uphill battle. Strategic and creative legal approaches to checking the industry are more important now than ever.

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<sup>37</sup> *Id.*

<sup>38</sup> OR. REV. STAT. ANN. §182.545(1).

<sup>39</sup> Kulkarni, *supra* note 25.

<sup>40</sup> *Id.*

<sup>41</sup> Rob Davis, *Polluted by Money*, OREGONIAN (September 25, 2020, 3:00 PM), <https://projects.oregonlive.com/polluted-by-money/part-1>.

<sup>42</sup> National Institute on Money in Politics, *Dairy Contributions to Candidates and Committees in Elections in Oregon*, Follow The Money (Nov. 16, 2020, 2:53 PM), <https://www.followthemoney.org/show-me?dt=1&s=OR&d-cci=4#%5B%7B1%7Cgro=d-id>.

### III. AN EJ-CENTERED APPROACH: AIR EMISSIONS REGULATION

As noted in Section I (Issues, pg. 3-5), there are serious EJ concerns as a result of CAFO air emissions, including local pollution of neighborhoods' and farmworkers' air quality as well as pollutants contributing to climate change. CAFOs produce air pollutants throughout the facility, in barns, feedlots, manure storage, and animals themselves, although decomposing animal manure is the primary cause.<sup>43</sup> These hazards are widespread in Oregon, especially as the agribusiness industry continues to set up new and ever-larger CAFOs within the state. One CAFO in eastern Oregon is already notable on a national scale for its contributions to air quality hazards; Threemile Canyon Farms has 52,000 cows who produce copious pollutants, including up to 15,500 pounds of ammonia every day and 505 tons of Volatile Organic Compounds every year.<sup>44</sup> Therefore, both federal and state air emissions regulation has been an increasingly relevant and popular battlefield for CAFO EJ efforts. Although there are currently no success stories for CAFO air emissions regulation to date, there are key areas and unexplored pathways in this arena.

#### A. The Federal Clean Air Act

The Clean Air Act (CAA), implemented and enforced by the EPA, is the U.S. government's primary mechanism of regulating air pollution.<sup>45</sup> Congress drafted it in 1970 to rein in pollution from motor vehicles and stationary sources (i.e., power plants, industrial plants, and other facilities). In looking at potential for CAFO air emissions regulation, which clearly

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<sup>43</sup> J. Nicholas Hoover, *Can't You Smell That Smell? Clean Air Act Fixes for Factory Farm Air Pollution*, 6 STAN. J. ANIMAL L. & POL'Y 1 (2013).

<sup>44</sup> Sarah C. Wilson, *Hogwash! Why Industrial Animal Agriculture Is Not Beyond the Scope of Clean Air Act Regulation*, 24 PACE ENV. L. REV. 439 (2007).

<sup>45</sup> Clean Air Act, 42 U.S.C. § 7401 (1963).

falls into the latter category, there are several relevant provisions of the CAA.<sup>46</sup> They are enforced through State Implementation Plans (SIPs) and generally, if a facility is not in compliance with SIPs, citizens or regulators can file a CAA enforcement action. Before delving into the analysis of the CAA specifics, it is important to establish that the (admittedly convoluted) landscape of existing pathways for regulation under the CAA is currently impeded by a wide-reaching loophole, which itself is quite complex.

### **1. The Loophole: EPA & CAFOs' Air Compliance Agreement**

The EPA only brought a few CAA suits against individual CAFO operations that violated sections of the CAA before establishing the loophole. In 2005, due to their alleged need to better understand CAFO emissions and how they should be regulated under the CAA, the EPA launched a nationwide emissions study called the National Air Emissions Monitoring Study (NAEMS). The EPA determined that this study necessitated a contract with CAFO operators that they termed the Air Compliance Agreement (Agreement).<sup>47</sup>

The Agreement, which began in 2006, allowed the EPA to monitor air emissions (volatile organic compounds, hydrogen sulfide, particulate matter, and ammonia) from some CAFOs in exchange for granting all participating CAFOs immunity from the CAA and other federal environmental statutes.<sup>48</sup> Only a few dozen CAFOs were ever monitored, while almost 99% of the nation's CAFOs (over 14,000) received immunity without any engagement whatsoever.<sup>49</sup> Furthermore, although the Agreement did not prohibit CAA citizen suits outright, participating

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<sup>46</sup> Danielle Elefritz, *"From Frisbees to Flatulence": Regulating Greenhouse Gases from Concentrated Animal Feeding Operations Under the Clean Air Act*, 48 ENV. L. 891 (2018).

<sup>47</sup> Wilson, *supra* note 44.

<sup>48</sup> *Id.*

<sup>49</sup> Heinzen, *supra* note 22.

CAFOs were advised that they would effectively be shielded from these suits as well.<sup>50</sup> Therefore, it is widely agreed that courts were hesitant to entertain a citizen suit against a participating CAFO. Thus, this action sufficiently deterred citizens from making claims due to the severe cost of litigation so unlikely to prevail.<sup>51</sup> Ultimately, even the CAFOs that were not included in the Agreement were made collaterally immune, as the EPA included in the Agreement that, due to a lack of data, it could not establish emission thresholds for CAFOs (“leaving the industry without a standard to even potentially violate”).<sup>52</sup>

The ironic reality of the Agreement is that the EPA already had the authority to monitor CAFO operations as emitters under the CAA.<sup>53</sup> Perhaps their decision to pursue such an unnecessary deregulation might be explained by the fact that the drafters of the Agreement were largely agribusiness representatives.<sup>54</sup> The NAEMS was finally completed in 2010, and theoretically informs CAFO emissions estimation methodologies (EEMs) in order to determine whether or not facilities comply with CAA standards.<sup>55</sup> However, the EPA has yet to establish any follow-up work plan or time frames to finalize these EEMs.<sup>56</sup> Until the EPA’s EEMs are completed, the Agreement and its correlated immunities for CAFOs remain in effect.<sup>57</sup>

## **2. Immediate & Future Application of CAA to CAFOs**

Although the Agreement severely compromised the CAA’s utility, it was limited in the sense that it only granted immunity to CAFOs from civil violations relating to the emission of

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<sup>50</sup> *Id.*

<sup>51</sup> *Id.*

<sup>52</sup> Tomas, *supra* note 21.

<sup>53</sup> Wilson, *supra* note 44.

<sup>54</sup> *Id.*

<sup>55</sup> OFFICE OF INSPECTOR GENERAL, REPORT NO. 17-P-0396, IMPROVING AIR QUALITY (2017).

<sup>56</sup> *Id.*

<sup>57</sup> *Groups Sue EPA Over Need for CAFO Air Quality Rule*, 2017 WL 3708150.

the specific pollutants that they were monitoring at that time (again, volatile organic compounds, hydrogen sulfide, particulate matter, and ammonia).<sup>58</sup> The EPA even went so far as to clearly state that the releases and covenant not to sue would not extend to emissions of gases beyond the few explicitly named.<sup>59</sup> This may provide a significant opportunity for CAA regulation of GHG emissions, which were not included in those originally monitored.<sup>60</sup>

Recent precedent has already established that the EPA has authority to regulate GHG emissions under the CAA, as GHGs can also cause or contribute to air pollution that may endanger public health or welfare.<sup>61</sup> CAFOs emit some of the most potent and harmful GHGs, including methane and nitrous oxide (the two most abundant non-carbon dioxide GHGs), and yet these emissions are entirely unregulated under the CAA.<sup>62</sup> This is an opportunity to vastly impact climate change through their regulation.

Therefore, in analyzing how the CAA could regulate CAFO air emissions, there are two pathways. First, the CAA could immediately regulate GHGs. Second, post-Agreement immunities, the CAA could more comprehensively regulate air emissions overall. The following is a breakdown of the two pathways.

### 3. NAAQS

The CAA's primary regulatory instrument is called the National Ambient Air Quality Standards (NAAQS) and controls common, widespread pollutants.<sup>63</sup> These standards establish

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<sup>58</sup> John Verheul, *Methane As A Greenhouse Gas: Why the EPA Should Regulate Emissions from Animal Feeding Operations and Concentrated Animal Feeding Operations Under the Clean Air Act*, 51 NAT. RES. J. 163 (2011).

<sup>59</sup> *Id.* at 181.

<sup>60</sup> *Id.*

<sup>61</sup> *Massachusetts v. EPA*, 549 U.S. 497, 532 (2007).

<sup>62</sup> Tomas, *supra* note 21.

<sup>63</sup> Elefritz, *supra* note 48.

the maximum allowable concentration of six criteria pollutants: carbon monoxide, lead, nitrogen dioxide, ozone, particulate matter, and sulfur dioxide.<sup>64</sup> The CAA provides that the EPA may conduct “endangerment findings” and list additional criteria pollutants over time, in accordance with increasing scientific understanding.<sup>65</sup> Overall, the EPA reviews air quality data and determines whether or not areas across the U.S. are in compliance with the standards. It designates each area as a “non-attainment” or “attainment” area accordingly. Air quality planning and control requirements differ for each designation, but most importantly, SIPs must provide for nonattainment areas’ attainment within a set timeframe.<sup>66</sup>

Seeking regulation of CAFO GHGs under the initial NAAQS provision would require listing the two strongest CAFO GHG pollutants (methane and nitrous oxide) as criteria pollutants. However, regulating CAFO GHGs under the NAAQS provision might not be the most effective way to regulate CAFO GHG emissions under the CAA.<sup>67</sup> The NAAQS provision assesses air emissions with region-based methods, a notoriously difficult way to measure GHGs, which do not remain stagnant in the regions where they are emitted.<sup>68</sup> Overall, this would be a tough fight for a relatively small reward.

In terms of post-Agreement immunities, as there are currently NAAQS for a variety of pollutants, including particulate matter, ammonia, and hydrogen sulfide, CAFOs could be subject to SIP requirements accordingly. These pollutants are currently tied up in the Agreement immunities, but after the conclusion of the EPA’s EEM work, these will be fair game again, opening up a large swath of regulation.

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<sup>64</sup> Kulkarni, *supra* note 25.

<sup>65</sup> Elefritz, *supra* note 48.

<sup>66</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf).

<sup>67</sup> Tomas, *supra* note 21.

<sup>68</sup> *Id.*

#### 4. NSR (NNSR & PSD)

The CAA New Source Review (NSR) also applies to stationary sources such as CAFOs.<sup>69</sup> It mandates that sources seeking to build or modify be subject to one of two permitting programs. These programs are applied based on an areas' current compliance with the NAAQs: Nonattainment New Source Review (NNSR) for areas not in attainment or Prevention of Significant Deterioration (PSD) for areas in attainment.<sup>70</sup> The NNSR permit requires new sources to comply with certain high industry standards.<sup>71</sup> It also mandates that new plants not be built at all unless new emissions are offset by other nearby facilities (companies may choose to do so in a variety of ways).<sup>72</sup> The PSD permit applies only to stationary sources that emit regulated pollutants above set levels (also called "major sources").<sup>73</sup> For these sources, both the air pollutant that triggers the "major" threshold and any other significant air pollutants emitted are subject to PSD regulatory controls.<sup>74</sup> Essentially, major sources must obtain a PSD permit before beginning construction of a new facility or modification of an existing facility that results in a significant emissions increase, requiring that the sources be designed to comply with certain high industry standards.<sup>75</sup>

The NSR might apply to GHG emissions regulation in some ways. The NNSR permits only regulate criteria pollutants, and GHGs are not criteria pollutants.<sup>76</sup> However, the PSD permit applies to any regulated air pollutant (meaning pollutants subject to any provision in the

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<sup>69</sup> Elefritz, *supra* note 48.

<sup>70</sup> *Id.*

<sup>71</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf)

<sup>72</sup> *Id.*

<sup>73</sup> Elefritz, *supra* note 48.

<sup>74</sup> *Id.*

<sup>75</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf)

<sup>76</sup> Elefritz, *supra* note 48.

CAA, including non-criteria pollutants), and therefore remains a promising pathway.<sup>77</sup>

Regulating CAFO GHGs under the PSD program would apply high industry standards to the construction or modification of major sources, which would impact air emissions.

In terms of post-Agreement immunity options, as previously mentioned, there are NAAQS for pollutants such as particulate matter, ammonia, and hydrogen sulfide. Therefore, CAFOs, as stationary sources, could be subject to either of the NSR programs under SIPs accordingly, which could significantly reduce air emissions. EPA and state agencies are generally reluctant to impose construction or operation permits on CAFOs, but if advocates push for NSR application to CAFO GHGs or other air emissions, it could provide for significant regulation.<sup>78</sup>

## 5. NESHAP & HAPs

Although the EPA may list additional criteria pollutants over time, it has been slow to exercise this power.<sup>79</sup> Because of this, the 1990 CAA Amendments established a new program to provide regulation for additional pollutants as needed.<sup>80</sup> This program is called the National Emissions Standards for Hazardous Air Pollutants (NESHAP), leading to another relevant component of the CAA: the listing of Hazardous Air Pollutants (HAPs).<sup>81</sup> These are especially localized and toxic pollutants and thus the EPA issues “maximum achievable control technology” (MACT) emissions standards for all new and existing major industrial sources.<sup>82</sup>

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<sup>77</sup> *Id.*

<sup>78</sup> Tomas, *supra* note 21.

<sup>79</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf)

<sup>80</sup> *Id.*

<sup>81</sup> Clean Air Act, 42 U.S.C. § 7401 (1963).

<sup>82</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf)

EPA requires that existing polluters of these substances meet the emissions levels of the best-performing twelve percent of the industry, and new facilities to meet the level achieved by the best controlled facility.<sup>83</sup>

GHG regulation probably irrelevant under this provision, as GHGs would likely not meet the definition of the term “hazardous.”<sup>84</sup> However, there are strong arguments to be made that hydrogen sulfide and ammonia, common CAFO air emissions that are currently tied up in the Agreement immunities, should be listed as HAPs. If the EPA was to do so, thorough corresponding regulation would follow.<sup>85</sup> This has not yet happened, but after the immunities are lifted, it would be a strong approach.

## 6. NSPS

Lastly, under the CAA New Source Performance Standards (NSPS), the EPA establishes specific categories of stationary sources; then, as new sources are created, they are subject to their category’s individual performance standards.<sup>86</sup> This is unlike the NAAQS, NSR, and NESHAP approaches because the NSPS approach does not deal with single pollutants, but rather categories of polluters.

The NSPS approach is likely the most promising for both GHG regulations and post-Agreement immunities emissions regulations overall. The EPA has yet to list CAFOs as a source category, but if it did, it could regulate a large variety of their air emissions (including GHGs methane and nitrous oxide, which are not subject to Agreement immunities, and particulate

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<sup>83</sup> Hoover, *supra* note 43.

<sup>84</sup> *Id.*

<sup>85</sup> *Id.*

<sup>86</sup> Karl J. Worsham, “All I Do Is Win”: The No-Lose Strategy of Cafo Regulation Under the Caa, 12 J. Food L. & Pol’y 83 (2016)

matter, ammonia, and hydrogen sulfide, which are).<sup>87</sup> Moreover, it would allow all CAFOs across the country to be uniformly regulated (i.e. regulations would not vary between attainment and nonattainment areas). This approach also allows the EPA to “distinguish among classes, types, and sizes within categories” when establishing standards, meaning that they could target specific types and sizes of CAFOs with higher standards.<sup>88</sup> Importantly, when setting the source category standard, the EPA can consider “non air quality health and environmental impacts,” which could certainly apply to CAFOs.<sup>89</sup> This seriously implicates a variety of CAFO EJ concerns, and may even provide for specific workplace protections and regulations.<sup>90</sup> Obviously the EPA has yet to establish NSPS standards for CAFOs, and will predictably be resistant to doing so, but it would be a comprehensive approach.

Overall, while the EPA finalizes the EEMs, and therefore the Agreement immunities remain intact, there are a few options with respect to GHG regulation. However, the real change will come once EPA releases the EEMs, and the flood of CAA regulations can pour in with respect to all of the air pollutants these facilities produce. It is a waiting game, as exemplified by a recent case brought by the Humane Society of the United States and other advocates.<sup>91</sup> The action pushed for the EPA to respond to the advocates’ petition that demanded many of these routes to regulation under the CAA.<sup>92</sup> The EPA ultimately denied that petition, in part relying on the fact that the EEM process is not yet complete. It is only a matter of time before the EPA finalizes the EEMs, opening the door to robust accountability for the industry under the CAA.

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<sup>87</sup> *Id* at 106.

<sup>88</sup> *Id*.

<sup>89</sup> *Id* at 107.

<sup>90</sup> Tomas, *supra* note 21.

<sup>91</sup> *Humane Society of the United States et al. v. Pruitt et al.*, No. 17-1719, Complaint Filed, 2017 WL 3634135 (D.D.C. Aug. 23, 2017).

<sup>92</sup> *Id*.

## B. Oregon State Air Pollution Laws

Federal regulation of CAFO air emissions, specifically under the CAA, could provide critical benefits in terms of uniformity and widespread impact, but large-scale change is slow. In the meantime, statewide regulation in Oregon may be a more realistic opportunity. Generally speaking, state programs (laws and regulations) may be designed to provide adequate regulation while awaiting a more comprehensive federal approach, namely in the form of Permits by Rule, Consolidated Air Quality Permits, Emission Limitations, Pre-Operational Requirements, Pollution Prevention Plans and Operational Requirements, Local Government Participation, or Research Programs.<sup>93</sup>

Of course, neither the CAA generally nor the Agreement restrict a state's ability to adopt standards or requirements that are more stringent (at least for stationary sources).<sup>94</sup> However, Oregon's air pollution laws also expressly shield agriculture from regulation.<sup>95</sup> As a result, the head of the DEQ's air quality division admitted that the agency does not “have the tools they normally have” to address CAFO pollution.<sup>96</sup> Despite this fact, there have been key accomplishments. Oregon has already begun to take the lead in state regulation of CAFOs by (1) requiring CAFO operators to identify sources of odors and submit an odor management or control plan and (2) stipulating that new CAFOs “should not be located where prevailing winds

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<sup>93</sup> Jody M. Endres & Margaret Rosso Grossman, *Air Emissions from Animal Feeding Operations: Can State Rules Help?*, 13 PENN ST. ENV. L. REV. 1 (2004)

<sup>94</sup> *The Clean Air Act in a Nutshell*, ENVIRONMENTAL PROTECTION AGENCY (Nov. 16, 2020, 4:46 PM), [https://www.epa.gov/sites/production/files/2015-05/documents/caa\\_nutshell.pdf](https://www.epa.gov/sites/production/files/2015-05/documents/caa_nutshell.pdf)

<sup>95</sup> OR. REV. STAT. § 468A.020 (2005).

<sup>96</sup> Wilson, *supra* note 44.

are likely to carry odors into residential or recreational areas.”<sup>97</sup> The following section discusses the other main pathway that currently exists for Oregon state regulation of CAFOs.

In 2007, the Oregon State Legislature passed a bill to address air emissions from dairy CAFOs.<sup>98</sup> This bill, SB 235, created the Oregon Dairy Air Quality Task Force (Task Force) to study emissions from dairy CAFOs, evaluate how to reduce emissions, and present findings and recommendations to ODA and DEQ.<sup>99</sup> The Task Force’s Final Report was published in 2008, and explicitly called for the ODA and DEQ to create an Oregon Dairy Emissions Program (ODEP) to conduct further research on dairy CAFO air emissions and create interim regulatory measures for air emissions.<sup>100</sup> Over a decade has passed and the legislature has yet to fund the Task Force’s recommended ODEP or to adopt air pollution regulatory measures.

Tired of waiting for the state to take action, advocates introduced S.B. 197 in the 2017 legislative session.<sup>101</sup> The bill would have required ODA and DEQ to adopt rulemaking to establish the ODEP and regulate air emissions from dairy CAFOs based on the original recommendations from the Task Force’s Final Report.<sup>102</sup> However, this bill failed in the legislature. In 2019, advocates introduced two more bills that were ultimately unsuccessful as well. The first, S.B. 103, provided for similar demands as S.B. 197 as well as demands that ODA and DEQ instate a moratorium on new “mega-dairy” CAFOs.<sup>103</sup> The second, S.B. 104, simply would have allowed local governments to adopt human health and safety ordinances restricting or prohibiting air and water emissions by these facilities.<sup>104</sup> Clearly, holding ODA and DEQ

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<sup>97</sup> OR. ADMIN. R. 340-051-0075(2).

<sup>98</sup> S.B. 235, 2007 Leg., Reg. Sess. (Or. 2007).

<sup>99</sup> *Id.*

<sup>100</sup> *Id.*

<sup>101</sup> S.B. 197, 2017 Leg., Reg. Sess. (Or. 2017).

<sup>102</sup> *Id.*

<sup>103</sup> S.B. 103, 2019 Leg., Reg. Sess. (Or. 2019).

<sup>104</sup> S.B. 104, 2019 Leg., Reg. Sess. (Or. 2019).

accountable to the Task Force's Final Report will not be easy, but although the attempts have been unsuccessful thus far, they carved out a conversation and space for new initiatives. Oregon is now fertile ground for air emissions regulation of CAFOs, and advocates have a clear tool to work with (The Task Force's Final Report) in order to make it happen.

There are clearly advantages and drawbacks to federal versus state regulations of CAFO air emissions, and therefore an approach rooted in federalism might be crucial.<sup>105</sup> In other words, it is possible that both federal and state regulation are needed to sufficiently address CAFO air pollution. Having discussed available pathways, this analysis now turns to the potential impact these different approaches could have for EJ communities.

### **C. Potential Impact of Air Emissions Regulation on EJ Issues**

If the EPA finalizes the CAA EEMs, if advocates successfully push for CAA GHG regulation in the interim, or if Oregon legislation provides for air emissions regulation under state law, new and existing CAFO operations will have to significantly adjust their practices. The main reason that they would do so would be to comply with new regulations. However, they could also choose to adjust their practices if compliance with regulation proves to be too expensive, and they need to de-classify themselves as categories subject to those regulations in the first place (such as major sources of pollution or even CAFOs at all). Ultimately, whichever method CAFO operators choose has its own positive corresponding impact for EJ communities.

The first possibility is that CAFO operators would purchase anaerobic methane digesters. These digesters capture and convert methane from CAFO manure into biogas, which is subsequently used as an energy source for the CAFO itself or sold and transferred offsite.<sup>106</sup>

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<sup>105</sup> Kulkarni, *supra* note 25.

<sup>106</sup> Tomas, *supra* note 21.

Although digesters would reduce methane emissions, there are serious limitations. First, although digesters provide a relatively simple approach for reducing CAFO methane emissions, these systems are expensive (up to \$2 million each) and are thus only economically realistic options for the largest CAFOs.<sup>107</sup> This further incentivizes the consolidation of livestock operations into increasingly large CAFOs that can afford these structures, facilitating greater concentration of livestock and their manure in the process.<sup>108</sup> Another problem with this approach is that the digesters do not capture and utilize 100% of the methane emissions from manure storage and do nothing with respect to the enteric fermentation (physical expulsion of air emissions by the animals themselves), which constitute the majority of CAFOs' methane emissions.<sup>109</sup> Lastly, the digesters obviously do not mitigate the other (non-methane) CAFO air pollutants. The federal government has invested millions of dollars in research surrounding these digesters,<sup>110</sup> and the United States Department of Agriculture's Environmental Quality Incentives Program (EQIP) also already provides CAFO operators hundreds of thousands of dollars to undertake digester projects.<sup>111</sup> Therefore, it is likely that these digesters will continue to be a tool utilized by CAFOs to mitigate methane emissions. This would reduce climate change impact. however, any significant impact in terms of local pollution of neighbors' or workers' air quality is unlikely.

The next and arguably simplest impact of CAFO air emissions regulation could be that CAFOs would reduce in size. In other words, facilities could comply with air emissions regulations by minimizing the number of animals in each facility to begin with. If the number of

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<sup>107</sup> Siena Chrisman, *The Foodprint of Dairy*, FoodPrint (Nov. 17, 2020 6:06 PM), <https://foodprint.org/reports/the-foodprint-of-dairy/>

<sup>108</sup> *Id.*

<sup>109</sup> Tomas, *supra* note 21 at 564.

<sup>110</sup> Michelle B. Nowlin (FNd1), *Sustainable Production of Swine: Putting Lipstick on A Pig?*, 37 Vt. L. Rev. 1079 (2013).

<sup>111</sup> Doug Gurian-Sherman, *CAFOs Uncovered: The Untold Costs of Confined Animal Feeding Operations*, Union of Concerned Scientists (Nov. 13 2020, 11:23AM), <https://www.ucsusa.org/sites/default/files/2019-10/cafos-uncovered-full-report.pdf>.

CAFOs remain the same, this would result in a reduction in the total number of farmed animals. If the number of CAFOs grows, this would result in the same total number of livestock, but they would be smaller facilities spread out across more space. Either way, it would undoubtedly decrease the strain on local communities and workers, as there would be fewer animals per unit of area emitting these pollutants. The likelihood of this approach (CAFO operators electing to reduce in size) is unclear, although research suggests that small and medium CAFOs can be just as cost-effective as large ones, depending on factors such as the style of management.<sup>112</sup> Therefore, this remains a potentially viable option as well.

A third approach would be for CAFO facilities to transition to pasture -based systems. Re-working the CAFO model at its core and moving livestock out into fields would reduce air emissions in a variety of ways. For example, solid manure decomposing aerobically in grazing systems release 90% less methane than anaerobic open-pit manure lagoons.<sup>113</sup> The transition would reduce pollution both locally and globally by spreading the animals (and their emissions) out across greater areas and allowing more natural cycles to process the compounds accordingly. It is unclear what percentage of CAFO operations would elect to convert to a non-CAFO system, largely due to the fact that pasture grazing-based systems would require more land than CAFO systems. However, studies have shown that smaller scale alternative livestock farms (such as pasture-based and hoop barn operations) can be just as economically viable as large CAFOs, and it therefore remains a potential path forward.<sup>114</sup>

Lastly, due to the reality that compliance with air emissions regulations (as through each of the options previously discussed) could increase the cost of production and logistics, some

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<sup>112</sup> Gurian-Sherman, *supra* note 111.

<sup>113</sup> Tomas, *supra* note 21 at 563.

<sup>114</sup> Gurian-Sherman, *supra* note 111.

number of CAFO operations would likely go out of business. This could involve selling their operation to another owner or possibly converting their operation to a different agricultural enterprise. The potential reduction in the presence of CAFO facilities overall would have a straightforward and significant impact for EJ communities, removing the CAFO EJ hazards at their source.

Whether CAFOs simply add new technologies that bring them into compliance with air emissions regulation, decrease in size, shift to grazing-based systems, or go out of business altogether, depends both on consumer demand for animal products and on taxpayer subsidies, which currently incentivize production.<sup>115</sup> If consumers and the government are willing to pay more to these industries to help them cope with new air emissions regulations, fewer CAFOs would go out of business or convert to a different enterprise. Regardless, any response that CAFO operators take in response to air emissions regulation would benefit EJ communities.

## **CONCLUSION**

The expansion of the CAFO animal agriculture model can be attributed to the fact that the industry alone is not bearing its burdens of production. Instead, the environment and environmental justice communities continue to absorb a significant portion of its costs. This paper set out an argument that air emissions are the epicenter of both the environmental justice issues and regulatory solutions, which can be addressed through a variety of legal pathways at both federal and state levels. Regardless of which approach lawmakers ultimately adopt, one thing is clear: CAFOs pose serious risks to environmental justice communities and addressing their air emissions is a necessary battle in contemporary environmental justice work.

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<sup>115</sup> Tomas, *supra* note 21 at 565.