

State legislation could create opportunities for advanced BMPs like anaerobic digestion to predictably sell forward large volumes of “long-term verified nutrient credits.”



Photo by Doug Pinkerton at Alliance Dairies

DIGESTER MARKET STIMULANT?

Nutrient Credit Procurement Update

VISIONS of anaerobic digestion (AD) projects selling lucrative renewable energy credits to electric utilities struggling to comply with the federal Clean Power Plan (CPP) (see “Biogas and the CPP,” Jan. 2016; “Is Nutrient Trading Poised for a Surge?” June 2016) now seem like pipe dreams, given the new Administration’s vow to dismember the CPP before the courts can.

Nevertheless, visions endure. *First*, numerous states have continued to develop their own CPPs, which would have independent state level legal authority if finally adopted. Under the Clean Air Act, states generally may go beyond federal requirements, and have primacy freely to allocate emission reductions “not inconsistent with” that Act. Thus a new EPA Administrator would have difficulty trying to roll back such rules.

Second, many state constitutions treat clean water as a “public trust,” making those jurisdictions liable for significant failures to preserve or enhance it. Failure can include not diligently addressing flows of nitrogen, phosphorus and sediments that create toxic algae blooms or otherwise impair the benefits clean water confers.

Third, key states faced with stagger-

State proposals to procure nutrient reductions like commodities may offer anaerobic digestion projects new revenue streams.

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ing total costs of reducing farm, septic and especially urban storm water contamination to “safe” levels have begun moving towards new nutrient credit incentive models. These models would prioritize more cost-effective verified reductions from anywhere in a water basin over additional sector-by-sector load allocations. They also aim to supercharge *ad hoc* nutrient trades with a credit procurement regime that could jump-start developers’ ability to finance AD projects by selling long-term streams of verified nutrient credits.

These approaches may be templates for other states that still must address nutrient pollution — whether or not under federal oversight — to avoid seeing their waters permanently fouled. Though the jury is out, nutrient credit procurement could further that goal by offering AD projects more bankable long-term revenue streams from direct reduction of runoff from manure or similar nutrient sources.

STATE EXAMPLES

In Maryland, a major report, *Bay Restoration Financing Strategy* (EFC, 2015), urged the state to: Stop chasing additional nutrients from tightly controlled publicly owned sewage-treatment works (POTWs) or from urban storm water

reductions costing an *average* of over \$500/pound/year; Abandon the “false equity” of allocating proportionate nutrient reductions to each contributing sector; and Concentrate instead on incentivizing more cost-effective reductions across the board. It recommended a broad market in “performance-based nutrient-reduction credits” that could leverage private sector investment to “transition to a credit-based financing system.”

Maryland promptly floated the idea of a pilot auction to acquire such credits. It then announced legislation that “would allow up to \$10 million . . . to be used to purchase nutrient reduction credits, enabling the state to meet its Chesapeake Bay goals through innovation and public-private partnerships” (BNA Env. Repr, 2017).

In Pennsylvania, bills introduced last fall proposed to create full-blown procurement programs rather than a pilot. A 2013 legislative analysis already had recommended “a competitive [RFP] bidding program for nutrient credits rather than [proportional] sector allocation targets,” estimating this could reduce by 80 percent the future costs of state subsidized Best Management Practices (BMPs).

The follow-on bills variously invoked the public trust doctrine that “the people have a right to pure water”; sought to “shift [Commonwealth] financing away from practice-based metrics of success [installation of BMPs] to actual performance-based metrics” [BMP outputs]; directed the Pennsylvania Infrastructure Investment Authority (PENNvest) to establish “a water quality trading market that includes credits for reductions in nutrient, sediment and storm water pollution”; would establish a special state Conservation Commission fund to purchase “commission-verified Total Maximum Daily Load (TMDL) parameter credits through a competitive [RFP] process,” then resell them to dischargers for compliance; and would direct the Commission to procure such credits *on a centralized basis* from “projects or practices” for terms of at least 10 years, using published bid factors. They alternatively instructed PENNvest to establish a *decentralized* RFP process by which anyone subject to a reduction requirement *would directly solicit bids* for such credits, under PENNvest RFP rules, “to implement all of their required nutrient and sediment reductions.”

OPPORTUNITIES FOR AD?

These Pennsylvania bills died with the 2015-16 legislative session but apparently will see new life in 2017. Like the Maryland legislation, they could create opportunities for advanced BMPs like AD predictably to “sell forward” large volumes of long-term verified nutrient credits. So it’s worth examining some of the issues they raise.

- *Who should procure credits?* Flexible centralized government procurement with downstream resale to permittees can reduce illiquidity and creditworthiness concerns by making price information available and by standing behind resales to intermediaries or compliance buyers. It also could reduce past credit approval fragmentation, case-by-case second guessing, and delays.

- *How will water quality be assured?* Nutrient trade ratios typically help assure water quality by mitigating BMP reduction uncertainties that arise from varying precipitation, soil, load delivery and other conditions. They also can protect TMDL growth margins meant to accommodate future development. In addition, oft-maligned BMP removal values have improved substantially, and agricultural BMPs can yield co-benefits (e.g., new habitats) not associated with urban best practices. These principles offer established starting points for whatever verification and quantification criteria may be adopted. They should be referenced in verified credit” legislation so regulators easily can build on them.

- *Will procurement help project financing?* AD or other credit sellers who must await final credit verification before being paid will front significant costs that investors see as risks. Thus developers who rely on credit revenues from procuring

entities for project financing may be disadvantaged. Such disconnects could be mitigated by (for example) defining verification the way Pennsylvania currently seems to do — as *early initial approval of a verification plan* rather than post-reduction certification. Mitigation steps also could include authorizing staged payments for credits, and providing short-term credit enhancement to help nutrient credit sellers (or buyers) bridge such gaps.

• *Will a “credit-purchase” fund have sufficient dollars?* Doubts that dollars will be available for prompt credit procurement could undercut the central goal. If jurisdictions adopt centralized procurement of nutrient credits by a state fund, credit procurement approaches should consider making that fund a self-sustaining revolving entity, initially funded by (say) low interest tax-exempt government bonds.

This could enhance program cost-effectiveness while giving potential credit producers assurance that all their qualified credits will be purchased. It also could give credit buyers assurance that sufficient credits will be available for compliance. Such predictability has been lacking in programs that rely largely on annual appropriations.

• *Is centrally managed procurement the only route?* The Pennsylvania bills are unclear whether all — or only some — credit transactions must take place through a central RFP exchange or through agency-issued RFP rules. If credit sellers choose to verify through existing nutrient trade protocols, then to sell resulting credits bilaterally outside an RFP structure, they should be able to do so. This could avoid bottlenecks and other disincentives to participate often created by traditional RFP processes.

• *Will small credit sellers be disadvantaged?* Potential credit sellers can be discouraged by complex government RFP procedures — one reason it makes sense to encourage parallel markets (procurement and bilateral) that give sellers a choice. This may be especially important for family farms and other small credit sellers that are widely expected to provide the most cost-effective nutrient reductions, whose BMPs often are heavily discounted through trade ratios, and whose participation may be critical.

To help level the playing field, credit procurement approaches should consider set-asides in which only small sellers may choose to compete. More generally, mechanisms that encourage floor prices for credits should be considered. This can mitigate market distortion due to optimistically low-priced credit offers from projects that may never get built. Massachusetts’ solar

renewable energy certificate (SREC) programs in place since 2010 are one example. They feature a repeating auction process that supports minimal SREC credit values.

• *Who will oppose nutrient credit procurement?* In the short term, almost everyone with a stake in the current load allocation system. BMP “stream-fencers” (to keep livestock out of streams) or “low-tillers” (to reduce surface run-off from fields) who now receive front-end

having to buy credits from agricultural sources that previously had a regulatory pass. Citizen groups will see cost-effectiveness as a fig-leaf for hotspots, questionable credits, backsliding, and avoided pollution control.

There are few easy answers to these questions — except that for nutrients, little else has worked or likely will work well. The political thicket likely is why Maryland chose to start with a pilot program, and why Pennsylvania ultimately may adopt a similar approach.

There’s something to say for such caution. Among other things, pilots can identify early, and more swiftly resolve, disconnects or roadblocks that might be difficult to fix where programs with thousands of invested stakeholders are involved.

But pilot programs also can provide short-term opportunities. And there’s a long history of market-based environmental pilots becoming statewide programs that other states soon copy. Examples include New Jersey’s 1980 development of “generic SIP rules” that avoided lengthy EPA approvals of cost-effective “air emissions bubbles,” and an informal 1986 EPA policy statement that became a foundation of the 1990 Clean Air Act’s national allowance-trading programs. ■

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REFERENCES

- Environmental Finance Center, Univ. of MD, College Park, *Maryland’s Chesapeake Bay Restoration, Final Report* (Feb. 2015), https://efc.umd.edu/assets/financing_strategy_final_6_5.pdf
- Maryland Bill to Jumpstart Nonpoint Nutrient Trading Pilot,” BNA Env. Repr., 4 Jan. 2017
- Pennsylvania General Assembly, Legislative Budget and Finance Committee, “A Cost-Effective Alternative to Meeting Pennsylvania’s Chesapeake Bay Nutrient Reduction Targets” (Staff Report, Jan. 2013), <http://lbfc.legis.state.pa.us/Resources/Documents/Reports/453.pdf>
- Chesapeake Bay Foundation, “Closing Pennsylvania’s Pollution-Reduction Gap: Investing for Performance” (Sept. 2016), <http://www.cbf.org/document.doc?id=2501>

Glossary

BMP: Best [nutrient discharge-reduction] Management Practice

Growth Margin: “Extra” reductions built into TMDLs to accommodate expected future growth in population, development and associated discharges, in the hope of avoiding future TMDL revisions.

RFP: Request for Proposals, also an acronym for the entire government procurement process from RFP through bid receipts, scoring reviews, initial award, and negotiation of a binding purchase contract.

SIP: State Implementation Plan(s) under the Clean Air Act that allocate emission-reduction requirements, generally required to be developed by states to assure that concentration-based national ambient air quality standards are “attained and maintained” for designated airborne pollutants like particulates, sulfur dioxide, or precursors of ground-level ozone (smog).

TMDL: Total Maximum Daily Load [Limits], generally developed by states and required to be met by point and nonpoint sources of pertinent pollution affecting the Chesapeake Bay and numerous other U.S. water bodies.

Trade Ratios: Reduced reduction credits (e.g., 1 pound of credit for each two pounds of nitrogen removed) granted to installed BMPs to compensate for various factors creating uncertainty in how much pollution actually is removed.

lump sum payments based on BMP *installation* may not take kindly to performance-based payments that track *how much pollution a BMP removes* and may be adjusted downward over time. Heavily regulated POTWs that have installed advanced nutrient treatment may fear being tagged for further reductions which “can easily be met” by purchasing credits, and will resent