

Biopower Working Group Meeting
November 17, 2011
9:30 – 11:30 a.m.

Introductions

Janja Lupse: We haven't had a meeting since 2008; time to re-start meetings and discuss mission for those meetings.

Introductions

JL: Email sent out highlighting the agenda items to discuss. Before we go into the agenda, Scott will provide feedback or have a few words on content for the meeting.

Scott Hunter: Thank you all for coming, can't remember the last time we had this meeting. Typically in the Clean Energy program, ideally meeting would have been back in June and in the lifecycle of the Clean Energy program and developing programs and budgets for the next year we start approximately in June by looking at the state of the markets and their needs and working through RE process to develop changes or uses of the clean energy funding, to further develop the market development goals we have established. This year has been a little different because we deferred to the work of the EMP working group for biomass and that group presented their results last week. The public comment period will comment on the biomass division of the EMP and will close 2 weeks from the date of that meeting, I believe it is Nov. 21st. We're a little late in the lifecycle and development of the Clean Energy program and budgets for 2012, but that is the primary reason for being here today; to make recommendations and comments on the plan that has been presented by the Market Managers, typically for biopower projects that are behind the meter. The office of clean energy staff in our compliance filing has a proposal for grid supply projects that will offer through periodic solicitations I believe about 17 million dollars for 2012, so just keep that in the back of your mind. I anticipate the way this schedule will play out, we finalize the compliance filing, Honeywell will finalize it and submit it to the Board secretary, to make it official and make it part of the agenda for Board consideration in December. Typically in December, the Board considers the Clean Energy program and all the compliance filings that make up the Clean Energy program for the following year and approve the budget and plans scheduled for kickoff on Jan 1st. One other piece of the background or context is that we are currently in the middle of comprehensive resource assessment. That is the process developed by the legislature that directs the board to conduct every 4 years to develop funding levels for the following 4 years. We are right in the middle of the CRA process for the period 2013-2016. We've issued a board order that has a schedule for the proceeding as well as questions that we want to have asked by stakeholders about how the clean energy program and SBC in particular should be structured and what funding level should be to meet legislative goals for the period 2013-2016. Basically class 1 RE and when one day these technologies are not in need of public subsidies. While we are focused today on 2012 programs and budgets, particularly the Market Manager

compliance filing, I want you to be aware of the CRA order and that proceeding and typically comments we seek will be assembled into a straw proposal and staff will issue that straw proposal for that funding level for that period of 2013-2016 and then we will have some public meetings and culminate through a hearing a rate impact issue. Additionally, the EMP is scheduled to be revised for the end of this year, during the term of President Solomon.

Q (Audience Member): 17 million referenced, is that just hoped for, is it planned, budgeted, what is the status of that?

SH: It includes some funds that were not offered in 2011 and also includes proposed new funding for 2012. The proposed new funding would be contained in the compliance filing and contained in the budget for the entire Clean Energy program that will be presented on December 14th. It is proposed now and will be official when and if board approves it.

Sunil – Last time I remember there were comments to the CRA that were made, are we planning to make comments to the CRA or should we be making comments as a group, individually as companies, or individually as interested people.

SH: Recommend you offer them individually.

Lance Miller – The context of what you were presenting, given the desire to increase the use of biomass, there are a couple of overarching questions that come to mind.

1. Is it still necessary and appropriate to have the distinction between the grid solicitation, grid connected project and a rebated program for net metering projects? The reason I ask this question, is that there may be some projects, especially in the market segment that we're looking to get to, such as waste water treatment plants, getting sludge and possibly other materials, converting to energy. A lot of sludge is handled regionally today, so we want to continue with that existing framework, rather than have each waste water treatment plant do their own with economies of scale, they may develop a plant/ waste energy facility, that meets the needs of a waste water treatment plant but also exceed that and would like to be grid connected for the excess. Having to create 2 separate pots for that type of project starts to create barriers for a potentially good project and may deter projects from starting or have them go just the net metered route. I think you can see where I am going, possibly co-mingle these funds or have a program with more flexibility.

The other overall aspect is the generation of electricity, the best use of the biomass. With diesel going well north of \$4 a gallon next year, are conversion technologies that produce diesel fuel, a better use of waste energy fuels. Still generating renewable natural gas but using it for transportation as opposed to electricity generation. Is that something that will possibly happen? This is something that may prove to be cost effective and also a beneficial use.

SH: You've given me 2 questions. 1st Regarding net metering vs. grid supply, historically we consider those 2 separate projects, one because typically net metering projects are much smaller and the rebate program is descriptive, one size fits all. Basically you get a commitment if you meet the eligibility requirements and the commitment is for 1 year

with the possibility of extension and it's been pretty consistent rebate levels that treat every project the same. Grid supply projects tend to be heterogeneous, and are larger scale. We've treated the grid supply projects through a competitive solicitation so that we leverage the funding that is available to a greater extent through competition. By practice, we have allowed projects to use both streams of funds, 2 examples we have are Lance County Utility Authority with a 7.5 MW wind turbine and some portion of that capacity is on site and some portion of that project is utilized as a grid supply project and received a grant. We don't see separating the project as a significant barrier, as that is our most successful wind project, even though it may take some time to develop. Second project is the port authority of NY/NJ where they granted a grid supply grant through the solicitation process and we anticipate they will be coming to us for wind rebate also. 2 observations don't make a trend but we don't see that as a significant barrier. It could increase transaction costs but I haven't heard that as being a significant issue. Second – Is biopower the best use for biomass? We've taken great pain to call this committee the biopower working group, just for recognizing that reason and the source of the SBC is a surcharge for every KWH sold and every thermo-gas sold, so we have a very strict allegiance to the legislation that has enabled this program and the use of these funds are to conserve electricity and gas, or produce electricity.

LM: What about producing gas? Because if gas is used it would give the EMP emphasis on using natural gas for just about everything.

SH: If it is applied to the pipeline and reduces cost for the ratepayer of NJ, I can see the board allowing us to use the funds for that purpose. However, if it is for transportation fuel, I can see some members of this group that are aligned with biopower interests arguing that it is improper use of the ratepayer funds. Some of the economists in this group would say it is a bad practice because you want to tie the incentives and the sources to the benefits and when you stray from that you start to get a bad outcome, unintended consequences. We will talk about some of those consequences later on in the meeting today. That is my opinion, not necessarily that of the board.

Janja: There were 3 items we really wanted to discuss. First is the working group mission, how often the group should get together, really starting next year. Then we will dive into 2012 plans and compliance filing, what was proposed. Ron will discuss the compliance filing and we are looking for feedback in order to make proposed changes and consider edits. Then we will open it up to DEP to discuss sustainable determination and questions and issues with that. Nothing sent out via email, to those on the phone but will follow up after meeting. Mission of the working group is that we want to make sure we have the right people in the working group. Focus is on biopower and electricity, not really transportation, there is a specific target we want to focus on. We want to talk about next year; focus should be on outreach and focus on biopower to get more projects in NJ. We were thinking quarterly to start off and if more issues arise or needs, we could possibly have it more often to discuss topics at hand; we could have DEP, speakers, industry representatives, if necessary. Other question is location. Is this location appropriate, should we be at another place, maybe Ecocomplex or alternate here (CSG)? Alternating would be fair.

Q: Ecocomplex is at Rutgers?

A: It is in Bordentown.

Q: Is it near a train station?

A: No, you need a car.

JL: Are we missing any representatives that should be here?

LM: You might want to reach out to Association of Environmental Authorities. They have a new executive director that is very familiar with energy issues.

Ron Reisman: Yes, she officially took over yesterday, Peg Gallos, former colleague at the BPU. We are certainly looking at that industry, the water and waste water industry as a high potential target market, so their participation is indeed welcome. Also as an aside to AEA, there are 3 regional round tables that are being put together by that industry. Central Jersey round table is having their meeting on Nov. 30th somewhere in the shore area, South Monmouth. Dec 6th there is a South Jersey, hosted by Camden County Utility Authority. Still don't have a date for North Jersey, but trying to get all these authorities together on a regional basis to talk about energy related issues via EPA's plans for their energy efficiency tool or on the RE side looking at anaerobic digestion, electric production, solar if that is applicable; certainly moving ahead with that target market.

JL: Good to send information to everyone via email we have established with these round table groups.

RR: We'll loop them in. Right now going through trade organization, unfortunately their having annual conference in AC this week but we'll certainly loop them in.

JL: As a follow up we can propose some dates and locations to put them on a calendar. Ron can take us through the presentation and 2012 plans.

RR: Charlie, Scott, Tammy, David, Janja and Joanne also deserve credit for this presentation, all actively involved.

Scott briefly touched on timeline, as you can see this is a lengthy process that goes back to June to develop 2012 compliance filing. In Oct. we began to re-work the section on biopower to align it more closely to what EMP sub-committee has been proposing as well as other considerations that will be mentioned later, essentially these involved meetings with TRC and also some people in the room who gave feedback on projects they're working on. Distributed draft earlier this week to listserv. Deadline of next Wednesday, day before Thanksgiving for written comments. Despite of what is being said in the meeting today, comments will need to be officially submitted in writing for us to consider them. Biopowerworkgroup@njcleanenergy.com

Lance: Why is that necessary, you are taking notes?

RR: How long have you been in government?

Lance: 34 years, oral testimony should be allowed. Why can't something be heard today and considered. Am I wasting time being here today, and speaking? Oral report should be valid.

Comment: There were meetings last week down at the EcoComplex where they asked people to come up and give verbal comments, but that certainly was permissible.

RR: They had a court reporter taking transcript, we have someone who is taking notes. I just want to make sure if I incorporate something into a final version that I have the backup to support it. If someone asks where it comes from, I want to be able to have something in writing.

SH: Not mandatory, highly encouraged. We have 8 sets of ears here. But if you feel if a point isn't being heard, please submit a comment.

RR: The final step at the Dec. 14th agenda meeting, we hope the board considers and approves it. What we wanted to do is align it with goals of EMP, we have 5 overarching goals.

1. Drive down costs for energy users.
2. Promoting a diverse portfolio of new, clean in-state generation
3. Reward energy efficiency and conservation while reducing peak demand. You see it as well as the RPS goal, and in doing this we are also helping to stimulate the economy, create jobs and protect the environment. Those are also goals of the EMP.

The EMP recognizes biomass is an abundant natural homegrown energy. NJ is a state without any indigenous energy resources, we don't have coal mines, we don't have any natural gas wells, but we have plenty of biomass. It's a matter of solving 2 problems at 1 time which is our energy situation and our waste disposal.

When we speak about biomass in NJ, we are typically speaking about our waste, where other states talk about crops that are specifically grown, like corn for ethanol, timber for wood pellets. Here it is different.

EMP and subcommittee report indicate that REC market offers very small incentives to participate in this program, which is true looking at prices for class 1 RECs, around \$2.00. Standing alone, that is not a sufficient incentive to move forward with project, which is why we would like to have a rebate program that provides the necessary incentive to get projects off the ground. The final point in reading EMP, it supports energy recovery technologies over land-filling.

James Pfeifer: 4th sub-bullet (capitalizing on emerging technologies for transportation and power production) I thought Scott said we didn't want to mix transportation into this.

RR: Yes he did say that, but this is pulling from EMP, not referring specifically to our program.

SH: Doesn't mean we can't discuss it, just means we don't want to spend rebate money on it.

JP: I'm not saying you should or shouldn't, just looking for clarification.

RR: Just trying to outline 5 goals of EMP, not saying we are going to focus on each one with our program.

SH: I would caution on previous slide that you shouldn't consider EMP policy priority, I think current REC market is more an observation than a policy priority. The REC market is a result of the renewable portfolio standard and legislature gave board several tools to develop RE market and that includes the SBC and renewable portfolio standards and net metering and interconnection. It doesn't mean one size fits all, these are flexible tools.

Legislature delineated certain different tools in having different classifications.

RR: These are not my words, words of EMP.

SH: I don't think EMP used the language that this is a priority, rather an observation.

RR: One of the documents that was vital to us in developing this plan was the subcommittee report. If you attended meeting last week at Ecocomplex, you saw 5 primary goals they outlined, most important of which is developing biomass power and fuels initiative to move projects forward with private partnerships. They also spoke about incentivizing small scale projects rather than having a full blown program doing things on a demonstration or on a "pilot" level. Final which is one of our primary goals as well is conduct an active outreach campaign and to reach out to all stakeholders, whether they be potential customers or members of the community and educate public on biopower. We've been speaking with TRC, Market Manager that conducts the C&I EE side of the clean energy program, about their combined heat and power programs and trying to align ours with theirs, so we don't have dueling programs. We want our incentives to be slightly ahead of their incentives for natural gas fired CHP. The summit blue report that was released 3 years ago that assessed the market for RE, was something we also used as a guideline. Also used Rutgers 2007 study assessment of biomass energy potential in NJ.

Jorje Reyes: You are considering EMP subcommittee report on biomass. Do we assume these recommendations are already accepted by or apart of the EMP?

SH: No wouldn't assume they have been accepted, but considered. Results are valued.

RR: 2012 Program. We recognize greater emphasis that has to be placed on biopower. We have an aggressive goal that was originally outlined in the 2008 plan, reinforced in the 2011 update for 900 MW by the year 2021. Realizing that is only a decade away, we need to vamp up our efforts if we are to meet that goal. Aligning our efforts with existing state policies or proposed policies. Outreach and education are key here. We need awareness from all sectors of society. Identifying high potential industry, mentioned waste water industry also other high potential targets such as food processing, hotels, institutions, military bases, etc. All producers of high waste streams and also high energy users as well. We're looking to overcome the barriers to project development. Barriers may be financial, institutional, permit issues, site issues, etc.

Key changes that we're making to the 2012 or proposing for 2012 over prior years' program are incentive levels that will stimulate the market and compensate for low REC values. Also want to highlight and place a premium on combined heat and power over power only generation, a far more efficient technology. Talking about 30-40% efficiency in power only vs. 60-70% efficiency for CHP, and coordinating incentives for renewable fired CHP with those in the natural gas program administer by TRC. Major change here – the need to extend the timeline that we offer these projects, from the time they are approved to completed. Extending a 12 month period to an 18 month period, we recognized that with larger projects there is a need for a longer timeframe. We simplified the rebate structure. It was a 4 tiered structure; that is a declining block rate, simplifying to 2 tier structure. Keep feature of pass through. Goal is to not incentive a project for 500 MW greater than you would a project that is 600 MW and become a deterrence to going

up the ladder. We need to recognize the economies of scale for larger projects and that is why we have the lower rate for larger projects. 2 different charts for different types of incentives, power only (capped at 30% of project cost or \$1.5 M) vs. CHP incentives (capped at 40% of project cost of \$2.5M). Incentives are higher for CHP. These are mostly enhanced rebate levels comparing 2011 to 2012.

We have a feasibility study section, this applies both to wind as well as to biopower, focusing on biopower today. These studies are important to ensure the project is technically, legally and economically viable. These studies can be costly so we are offering an incentive for these studies. We are aligning the feasibility study incentive with what we're offering for the project itself. Again we go to a 2 tier structure. They will be paid in 2 installments, half on completion of the study, half on completion of project.

James Pfeifer: When you say 500,000 to 1M watts, theoretically if you had a project that was going to generate 1.5 MW, they would be restricted to \$50,000?

RR: Not saying they can't do the study but we only incentivize up to this point.

Sunil: These studies must be done by a licensed engineer? Do you require a legal analysis to be done as well, or part of feasibility study?

RR: That language was taken out of early compliance filing but I think it is certainly important to understand technical and economical issues but legal impact as well.

Charlie Garrison: Intent to have a licensed engineer in not to have someone do an internal study and hand it to us and ask to be reimbursed.

RR: Looking at budget, new funding for 2012. We are proposing \$6.6M, that is both for wind and biopower and that includes not only the project incentives but the feasibility studies as well. Before someone jumps in regarding administration costs, these are costs for entire RE program, not just biopower, and most administration costs are for solar. That concludes presentation.

Dave Specca: Few questions, first is in Regards to incentives for CHP program. What about a landfill that is generating electricity, if they wanted to add heat recovery, what type of incentives would come to play?

RR: So it wouldn't be classic CHP it would just be recovery?

DS: Well they are already generating electricity and now they want to utilize the wasted heat.

SH: Yes, so CHP. You are not asking for an incentive to produce electricity as you are already doing that, looking for an incentive to produce heat right, that would be a conservation EE rebate from TRC. How do you want to use the heat?

DS: A number of things, one could be a green house or digester located at the landfill or sludge drying process near by perhaps.

RR: We don't incentivize projects already producing electricity and already in place. You are talking about an add-on?

JB: They will come in under CHP with TRC.

RR: We will have to look into that.

SH: Not eligible for an incentive on any additional electricity productions, but heat o.k.

John Van Dorde: Has there been discussions with DEP specifically with regard to air permitting.

RR: We will hear from DEP later regarding this and how they relate to SOTA.

Ravi Patraju: We will only be talking about SOTA not the permitting portion. The permitting portion is really with Air permitting program with division of air quality, we are here to discuss SOTA.

JVD: With regard to air permitting, mostly waste water treatment plants are flaring off gas, together with the cleaning and the scrubbing of the gas and without certainty we don't want to get in a situation where DEP makes it more difficult that it already is.

RP: That is not our intention, that is why we are here. As far as turbines or engines that are less than 500 KW, if it is not considered a major source of emissions, you don't need a permit, you just need to follow some requirements. Right now you can go through a verification process. Again, there are accommodations to allow these technologies to move forward.

JVD: There are different opinions to that and a lack of consistency. We don't want to get into a situation where we have to go to a higher degree to take care of the emissions which then makes the project not feasible.

JP: Will there be a published list or a published emissions schedule associated with this, as opposed to having to go through an arbitrary process? Will there be an emissions limited set for these projects will they be in conjunction with the current state limits?

RP: The limits are already in the regulations. That's what you have to satisfy, we are not imposing any new limits. We are working closely with all programs within the DEP to advance the biomass and the innovative technology initiative.

LM: I think the way these projects are going to move forward are through public/private partnerships. Where a public entity pairs up with a private entity so the private entity can get the federal incentives. How does that work through this process? Hypothetically, Public entity A starts off with a feasibility study, now they can do this quickly and privately. Now they have to engage a private entity, now there is a timing issue. In order for project to be financially viable, they need to get a rebate. But need to go through bidding process, to determine that. Is there a way to structure this for Public Entity A, after a feasibility study is done, to secure a rebate, before bidding. That way they can go out and bid with this security, and entice companies as there is no risk. In this case 18 months is not enough. Maybe there needs to be a longer period for public projects or an ability to extend that if need be.

SH: The process is not serial and doesn't have to be done exactly in this order, actually they should be done parallel. Have to submit a pre-application for the project along with the application for the feasibility study. Because the project size you're proposing determines the amount of feasibility funding you can get. The application for a feasibility study is not a prerequisite for a rebate. The can be approached on parallel tracks.

LM: Or they can be done sequential.

SH: Or you can just apply for a rebate, you don't need a feasibility study.

LM: Can a public project that has not gone out to bid apply for a project?

SH: Yes, happens all the time.

RR: Weren't we talking about that for the folks down in Middletown?

Comment: Yes.

LM: Comment regarding the size limit of 1 MW. Why 1MW? I think its 1 MW to try and get several projects done because if you made it bigger, you might only get 2 projects and that may not be what you're looking to do.

Issue with this. Example - Public entity is the one applying and would want to apply fast before the rebate is gone, there's not a lot of money in this category. The public entity applies, most likely done through a public/private partnership. The actual entity that comes in and builds the system is a private entity. Could that be transferred easily from the public to the private entity?

JB: Traditional PPA situation. Site host cannot change, but system owner and rebate can always be changed and transferred.

JVD: There's other incentives that can be applied for, big tax incentives.

RR: Talking about federal incentives?

JVD: Yes. If you start doing this then the public entities are going to suffer in regards to this from those incentives.

LM: John, the project is going to be done at the public facility. What this does is eliminate the need for the public entity to put up any of their money. That's the beauty of the public/private partnership, plus it reduces the overall cost of the project by obtaining the federal incentives.

JVD: With someone coming in and building, they have not come to the authorities and said "We need this money". They're doing it without having to get that money because of that tax incentive. Maybe tax incentives are supposed to end, not sure of that yet.

RR: As a grant, it ends the end of this year, the federal tax credit extends through 2016.

JVD: If that's the case, the programs that we have researched, certain private entities want to come in and build a facility and then give the reduced credits/rates to the authorities. So they didn't need your incentives.

LM: Depending on what price. You can't procure that service without going out for an RFP. If you now bring a state rebate on top of that, that private entity with the state rebate and federal incentives, can push down your cost and give you a much better price. Beauty of public/private partnership is trying to maximize governmental incentives and provide best deal for public entities which is provided to ratepayers.

LM: Last comment back to goal of EMP – goal of 900 MW – compliance filing trying to jump start this, recommendations of biopower working group, we're on target as far as what's needed and I think rebates are good for 2012, question becomes, this is a failing in the EMP- it didn't provide many details on how things are going to be achieved? We have a 900 MW goal and I think this falls to the biopower working group as to how this will be achieved.

RR: Regarding the 2008 EMP, once the plan was adopted, there then was an implementation strategy that went with it.

LM: To my understanding, no such document is under works. If that changes, great. But I think we want to think about this.

Sometimes some people know about this and are ready to go, where others need to be educated and that takes time. Are we going to have a rebate for 2012 and what is in store for down the road? How much money will be available for rebates? We know through solar that a rebate is not what's going to get you there. So, what will it take to reach 900

MW in a rebate program or a carve out? The sooner we can get a sense of how biopower will be incentivized in the long term, it helps clients move forward.

SH: I think a lot of your comments are relevant to the CRA order. I don't necessarily agree with this bullet item myself. I think 2008 EMP missed the key word "or". 900 MW of biopower or 1,100,000 gallons of biopower fuel. The way the board takes this, will be developed outside of this meeting.

LM: I can tell you exactly what 2008 says.

SH: So you chose to go with electricity rather than fuel.

LM: Yes. That was the decision of that administration.

SH: That the highest and best use of biomass is to produce electricity and is more valuable than fuel?

LM: At that point remember transportation wasn't in the 2008 plan. It was in the DEP's plan.

SH: So if it wasn't an oversight and it was the policy of that state in 2008, I would definitely recommend we remove this bullet item because it is no longer relevant.

Comment: Rutgers University prepared report, I am not one of the authors, but 900 MW is no way achievable with the existing structure. I'd like to ask the BPU, are they going to keep this as biomass, or will they change the definition. 900 MW goal should be reduced to a reasonable goal. Does anyone in this room or on the phone, considering class 1 biomass, are there any ways to reach that? Either revisit this number, or change definition, don't call it biomass.

SG: Or eliminate class 1 or class 2 distinction.

Scott Anderson: I am not sure taking all these little projects will be enough to reach even a 100 MW goal. NJ is eliminating many other technologies that other states and countries are taking advantage of.

RR: Scott referred to large scale grid supply. What we are talking about here for our incentive program are for these small scale projects. But the \$17 million Scott referenced would be available for the larger scale grid projects like your waste energy facility. 2 separate programs.

JP: In opening remarks, Ron mentioned Pyrolysis or Gasification - we can do pyrolysis or gasification of things like plastic and make good clean energy, drive a generator, do combined heat and power, projects in size 1 – 3 MW not huge projects, meet all DEP requirements – is that in here or not?

JB: Depends how you would connect to that system?

JP: If it's a facility that can use the power.

Comment: He is talking about plastic, is that now going to be included in this definition?

SH: The eligibility requirements we have for the rebate program are described in the RPS in the biomass section, and the definition of a class 1 renewable. We have never provided any SBC charge funds for class 2 RECS.

JP: That is the comment I wanted to put into the EMP. Officially entering comment – we should include that type of stuff in the RPS. The biggest resource we have is trash. Trash should be included as long as it can be done in a manner that meets all the standards of the state, emissions, etc.

SH: Going to suggest that be taken up with the legislature.

JA: This is something that is not financially viable for NJ. If it is cheaper for a state to send their garbage to another state, as opposed to creating a sorting facility and biopower project to convert that, it is better for the state. This is not how other communities in the U.S. have done it.

SH: EMP comment period is open until Nov. 21st and that is the best place for these comments.

Bob Nebrowski: One area that can be an interesting feedstock Bio-plastics. In Western Europe it is 40% of the market there. They have anaerobic digestion, massive high level composting. That is a tremendous market that is developing and especially in the East it is becoming a trend. I think it is something to add to this.

SG: This group is really more about generating power than fuels. Is there a group we can go to who are interested in the trash type technologies and talk about what is state doing to incentivize other technologies that can convert trash to usage, to make it into a viable feedstock? Maybe Ravi's group at DEP is appropriate group to go to.

SH: Same suggestion I made to Scott, the correct forum is the EMP to make these suggestions.

SA: What is the feedstock for anaerobic digestion?

RR: It's up on the screen.

SA: Let me point out, that is such a small portion.

SH: That is without getting the sustainability determination. If you have a feedstock and you wanted to go through the sustainability determination, you get that from DEP and then you will be classified as a class 1 REC. There are other feed stocks that are eligible to go forward without permit and those are food and other yard waste. But if you have a different feedstock then you go through DEP for sustainability determination.

SA: If the state is going to exempt out certain measures, 900 MW is unattainable and unrealistic. That would be about 1800 projects. Where will 1800 MW in the state be?

SH: The 2007 Rutgers study identified the ability to produce 900 MW of electricity or gallons equivalent to fuel. It is a tall order but our solar goals were very aggressive and we exceeded those. So I am all in favor of shooting for the moon and hoping to get off the ground.

Dave Specca: The 900 MW includes class 2 energy also.

RR: Your colleague last week testified that there were 170 MW of waste energy in NJ of right now in addition to the biomass projects. We're over 200 MW right now towards that goal.

DS: The waste energy of that portion has been in existence for 20 years, and there's a lot of pushback on anything to encourage the attainability of the 900 MW goal.

Rocco D'Antonio: Under the incentive schedule, it says it only applies to projects that generate multi-power only. Is that to say you have to generate both biogas to CHP on sustain site to qualify or strictly a CHP fuel type.

RR: This comes under the heading of net metering and interconnection. Same issue with solar and multiple locations.

RD: Not multiple locations, but if you are generating biogas at site A, but generating power via CHP from that biogas on site B by running a gas line, do I qualify?

Interconnected, net metering.

SH: Where is the electricity being used?

RD: It will be used at a site with close proximity to where the biogas is being generated.

LM: In your example it would have to be contiguous with site B.

RD: Not for gas, that is for electricity.

RR: If you have a CHP system, you can sell the thermal energy and power to a contiguous property. It is defined as contiguous if as long as they can take the thermal energy, you can sell them the electricity.

LM: But then it is not net metering.

RD: If I'm connecting behind the meter on somebody's site, I drop the CHP and electricity behind the meter, I just have to be producing the gas at a different location.

SH: I don't see a problem there. That's net metering.

RD: Who would get the rebate?

RR: Incentive is linked to power generation, entity that is producing and using the power.

SH: Many different examples, sometimes vendor or site received incentive, either way it benefits the project as a whole. Formality of who is on the form gets the incentive.

RR: Let's move to next agenda item DEP.

RP (DEP): We are trying to get a handle on sustainability determination. BPU regulations call for SOTA analysis as part of that sustainability determination, however for the air permitting program, to conduct a SOT analysis, they have to trigger certain thresholds, defined in regulations documents. If project does not trigger these thresholds, then how can they get SOTA analysis done? They wouldn't be able to, so there has to be some changes to regulations to accommodate that. Something said if SOTA analysis is not required, the sustainability determination can be done by the DEP – we can tie that into a carbon intensity value, so we can do an analysis without the SOTA evaluation.

JB: What would be an example?

RP: Applicant submits information, then air program will ask what is the potential to emit these pollutants. If applicant says that they cannot surpass thresholds, air program cannot do a SOTA analysis. Only way they can do it is if thresholds are surpassed, but no guideline for SOTA analysis if thresholds are not met.

SH: Why don't you say that in 1 line with the sustainability determination?

RP: Your guidelines call for that. You need to make some changes to the regulations to State that if SOTA analysis is not required, then a statement from DEP will suffice.

Lance: This needs to be said, if applicable, on line item 1. Language from BPU rules is provided from DEP. So if it doesn't work anymore...

RP: If we have that agreement between BPU and DEP, we don't need you to go through a revision to your regulations, that is fine with me.

SH: We have had a requests for feed stocks, that have received a sustainability determination, to facilitate market development. Do you have a list/resources for who have received a sustainability determination.

RP: We don't have anything like that. That is why we are working to come up with a viable feedstock.

SH: Well historically we know certain resources have received sustainability determination from the DEP.

RP: That was done on a case by case basis.

Comment: I am not with DEP anymore, but I was person who handled this. Basically it is case by case, and should meet definition and source of biomass. We did look at food waste, which is part of class 1, chicken fat, much cleaner than wood chips. We use our own knowledge and decision.

SH: We had a developer looking for feedstock that had already been approved by the DEP, so it would be helpful to have that list, to help develop the market.

RD: Are you currently doing sustainability determinations?

DEP: We have not done any yet, we have to put together criteria. How to determine something is sustainable, processing of feedstock. Indirect land use effect has to be considered.

Rocco: If I were to put something together and submit an application today, can it be handled and evaluated?

DEP: Yes certainly to be looked into. We are trying to standardize the process for everyone.

JB: I was under impression, that everything needed a sustainability determination. But if it is already qualified as a class 1 REC, no prior approval is required. So we are not going to be asking for sustainability determinations for these typical methane gas, food waste, water waste projects. Unless they are untypical items do you need it. We recently put through a Landfill, Waste Water treatment, they don't need it.

DEP: It is up to the BPU to determine what needs proper determination and what is excluded from that.

RD: To be clear, food waste is considered sustainable and therefore doesn't need to go through determination to qualify for an incentive? With no ties to processing methods?

SH: No, does say here must be anaerobic digestion.

RD: Any ties to SOTA requirements or DEP, or strictly food waste with anaerobic digestion?

Comment: As far as REC generation, no, but permitting yes.

James Pfeifer: Here you say food waste, but this document here doesn't only say anaerobic digestion, but what about paralysis or gasification? Is it true, can it go through those other technologies too?

SH: If you go through sustainability determination. We're providing incentives to these technologies.

RR: Those are options, but must we're not saying you can do them without the sustainability determination.

James Pfeifer: What if we were to have a sewage treatment plan that wants to take food waste in and use different process instead of anaerobic and come out with a gas. That should be allowed. Are we ok? Why do you care about the process?

Comment: Emissions and what you are burning must meet their requirements. Food waste is a class 1 definition, but to gasify this it seems like it is class one, as long as once the DEP says that it is fine based on emissions.

RPDEP: We are good with that, we will work with BPU and provide necessary information.

George DEP: My issue is procedural. For sustainability determination we need a procedure, but will work with your group to sort out.

JB: We will need all the details sorted out by Jan 1, 2012 if there will be any changes based on what we're telling them they need, we will need that from you.

Janja Lupse: If we have a Jan or Feb meeting, we should have a sustainability determination process and the whole application process to help everyone sorted out, one of the topics for next meeting.

RR: For purposes of EMP and biopower and biomass issues, the deadline is Nov. 21st. For purposes of compliance filing, Nov. 23rd deadline. We have to get our final version of comments to the board by the 30th.

Rocco D'Antonio: The incentives and regulations are extremely important to create a foundation in biopower for NJ, but it isn't all that is necessary. To build a facility, feedstock and the ability to acquire feedstock will be key driver, and selling your power or whatever product at the highest and best value will be key. Sometimes grid projects don't work out.

SH: Summit Blue Report does say that feedstock is key.



2012 Renewable Energy Compliance Filing Biopower Programs and Budgets

Ron Reisman
Renewable Energy Market Manager Team

Biopower Working Group Meeting
November 17, 2011





Compliance Filing (CF) Timeline

June – October: Market Manager developed overall CF document with input from RE Committee

October: Biopower section re-worked based on EMP subcommittee report and other considerations

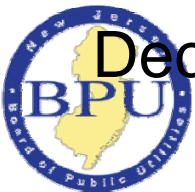
November 14: Draft distributed to Biopower Listserv

November 17: Discussion at Working Group meeting

November 23: Deadline for written comments

November 30: Submit final version to BPU

December 14: BPU agenda meeting



Reflecting EMP Policy Priorities



- Five overarching goals of the EMP:
 - Drive down energy costs for all consumers
 - Promote a diverse portfolio of new, clean in-state generation
 - Reward energy efficiency and conservation, and reduce peak demand
 - Capitalize on emerging technologies for transportation and power production
 - Maintain support for the RPS of 22.5% by 2021
- Energy policies that stimulate the economy, create jobs and protect the environment
- Utilizing New Jersey’s “abundant home-grown biomass potential”
- Current REC market “offers little incentive to utilize New Jersey’s indigenous biomass resources”



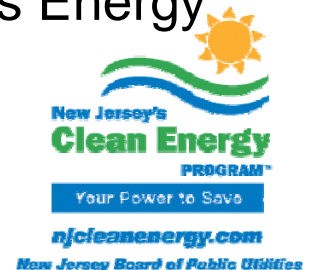
EMP supports energy recovery technologies over landfilling



Reflecting Other Considerations



- EMP subcommittee report on biomass resources and incentives
 - Create Biomass Power & Fuels Initiative to facilitate public-private partnerships
 - Collaboration among state agencies to coordinate resources
 - Incentivize small scale demonstration projects
 - Commission studies to fill data gaps for urban and industrial feedstocks
 - Conduct active outreach and community education program
- Meetings with potential customers and project developers
- Discussions with TRC on coordinating renewable vs. non-renewable combined heat and power (CHP) programs within the NJCEP
- 2008 Summit Blue Consulting RE market assessment
- 2007 Rutgers study for BPU on “The Assessment of Biomass Energy Potential in New Jersey”



2012 Program Description



- Recognition that greater emphasis must be placed on biopower
 - Lagging behind 2008 EMP goal of 900 MW by 2021
- Alignment of program efforts and incentives with recommendations in EMP and other aforementioned reports
- Greater resources directed toward outreach and education
- Identification of high-potential target markets and applicable technologies
- Overcoming barriers to project development



2012 Program Changes



- Provide incentives that will stimulate biopower market
 - Rebates must compensate for low REC values
- Place premium on CHP over power-only generation
 - Encourage higher efficiency technology to a greater degree
 - Coordinate incentives with non-renewable CHP program
- Extend time for project completion from 12 to 18 months
 - Recognizes need for longer horizon on large complex projects
- Simplify rebate structure
 - Transition from 4-tier scale to 2-tier
 - Maintain “pass-through” to avoid dead zones
 - Lower priced second tier recognizes economies of scale



Proposed 2012 Incentive Structure



	Power Only Incentives	
First 500,000 Watts		\$2.00 per Watt
Next 500,000 Watts		\$1.00 per Watt
Maximum incentive		\$1.5 M or 30%

	CHP Incentives	
First 500,000 Watts		\$3.00 per Watt
Next 500,000 Watts		\$2.00 per Watt
Maximum incentive		\$2.5 M or 40%



Comparison Examples



CHP Projects

Size of Project	2011 Rebate	2012 Rebate
250 kW	\$687,500	\$750,000
500 kW	\$1,187,500	\$1,500,000
1 MW	\$1,500,000	\$2,500,000

Power Only Projects

Size of Project	2011 Rebate	2012 Rebate
250 kW	\$535,000	\$500,000
500 kW	\$610,000	\$1,000,000
1 MW	\$685,000	\$1,500,000



Biopower Feasibility Studies



- Determines if a project is technically, economically and legally viable and allows customer to make an informed “Go” or “No Go” decision
- Incentive allows customer to perform a feasibility evaluation without having to bear the full economic burden of the study
- Eligible projects must be behind the meter and 100 to 1,000 kW
- All feasibility studies must be stamped by a licensed engineer



Feasibility Study Incentives



- FS incentive structure simplified for 2012 and made consistent with project incentive structure

2012 Feasibility Study Incentive Structure

Expected Project Size	Incentive Award Range
100,000 to 500,000 watts	Lesser of 50% of study costs or \$25,000
500,001 to 1,000,000 watts	Lesser of 50% of study costs or \$50,000

- Incentive payments will be made in two equal installments
 - 50% will be paid on completion of feasibility study
 - 50% will be paid on completion of project that was studied
 - Second payment will not be made if project is not completed





Preliminary 2012 RE New Funding

Market Manager Program	(\$Million)
REIP wind and biopower rebates and feasibility studies	\$6.6
Program Administration	\$ 3.4
Total	\$10.0

NOTE: These amounts are available for new projects and may also include uncommitted carryover that may be identified by the end of year true-up during Q1, 2012.



Bio Power Working Group Meeting**Attendees**

Thursday, November 17, 2011
 Conservation Services Group

9:30am - 11:30am

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