COMMITTEE AGENDA TOPICS

I. Subject: ReVenture
Action: Status report on discussions/negotiations on the ReVenture Project, including review of business terms outline.

II. Subject: Approve 2011 Meeting Schedule

COMMITTEE INFORMATION

Present: James Mitchell, Patrick Cannon, Andy Dulin, Jason Burgess and Patsy Kinsey
Time: 3:30p.m.

ATTACHMENTS

1. PowerPoint Presentation: ReVenture Park

DISCUSSION HIGHLIGHTS

I. Subject: ReVenture Project

James Mitchell, Chair:
Thank you all for coming, we have only one agenda item today and that is ReVenture. Mr. Kimble I will turn it over to you to introduce our first agenda item.

Kimble: We are here today to give you overview and some more insight. I know that you have many questions because you have voiced those to me over the last weeks and months. Today what we are going to do is go through several of the elements of this particular ReVenture Project. We are not asking for any action today; we know that you have lots of questions and we want to try to share as much as we can. We are going to try in a two-stage presentation process with Tom McKittrick from ReVenture giving you the overview of all of the elements of ReVenture. Whether it is the Waste to Energy company technology that has recently been announced or the site of the Refuse Derived Fuel facility, we are also in the project with ReVenture from a land purchase standpoint. The land purchase will be for a new waste water treatment plant on the banks of the Catawba River. I think what we would like to do is present to you and walk you through the elements of the ReVenture Park and allow you ample time to ask the questions that are on your mind. Then I will come forward, if we get that time today and to talk about some of the negotiations on the land deal and the waste water treatment plant that is currently active on the Claritin site and our desires to

take over the permit ultimately for our waste water treatment plant just south of the current site. So that is what we have in mind, there will be an item again on your agenda on Monday night; it's the Solid Waste Plant Amendment for Mecklenburg County. What that does is to allow if you were to approve that on Monday night or consider it favorably, then it would allow an option of this particular Refuse Derived Fuel facility to be chosen in the future. This was presented as an option for Mecklenburg County Government to open up and consider for disposal of waste in this community. Currently we are all disposing of waste at the Speedway Landfill for the most part. This would present this as a third option to choose from for Mecklenburg County. That is an action that is scheduled for consideration on Monday night. It is only a small component of the overall ReVenture Park Project and we will talk about that today as it relates to the rest of the ReVenture opportunity. I just wanted to make that clarification up front and again this is an information only meeting today; no action is required.

Mitchell: Tom welcome again to the E.D. Committee.

McKittrick: Thank you again for the opportunity to be here today, as Ron said, to give you an overall view of where we are with ReVenture. There is a lot going on with ReVenture. We have announced the technology for the Waste to Energy facility. It's important to remember that there are two key projects actually three when you consider Charlotte-Mecklenburg Utilities. The first is the recycled fuel facility, and as many of you have heard, we have selected FCR Casella to design and operate that facility. In that building where garbage will go we will create a recycled fuel that will be used in the Waste To Energy plant. The solid waste permit is going in by the end of this calendar year. What we are doing is creating a fuel out of garbage. Instead of garbage going into the landfill which it currently does, we are creating a fuel. One of the interesting things that has happened out of this whole process is that FCR Casella's vision for this whole thing is that they can take this fluff or confetti and actually add lime and other absorbents to densify that for fuel. This slide on the PowerPoint shows what that will look like. That fuel densified with lime is patented as an emissions scrubbing fuel in coal powered power plants. In the coal fired stage, there is a significant reduction in GHG emissions. This has opened up many opportunities; basically one of the things needed is time to complete this facility, to get the permits. This started to materialize when we met with one of the coal workers in the Southeastern United States. There was a very good reaction to that long before we started negotiations with a major utility. This emission scrubbing fuel is solving the maximum recycling and diversion of land filling. It's a bigger future use and we are proud that ReVenture is helping that process along. This is the facility that we talked about; it's a highly automated process. It is pulling out recyclables we think that could easily be another 20% of recyclable material removed from the waste stream. It's also pulling out PBC's, batteries, electronics and things that typically cause air pollution.

Dulin: Give us some scope of that building. It is 180 feet by 250 feet?

McKittrick: That building is 160,000 square feet, 30 foot clear facility.

Dulin: So that facility is three and a half acres under roof?

McKittrick: Yes, this is considered to be a mid-size industrial building. It is in this facility process that we will create a fuel; that is the most important thing we have to remember. We are engineering a fuel for reducing emissions.

Kinsey: What process do you use to turn the garbage into those little pellets?

McKittrick: There is a highly pollinated process both handling systems in this equipment are off the shelf and have been around for many many years; there is no new technology here.

Kinsey: That still doesn't tell me the process.

McKittrick: We have a video on the process to give you an idea of what happens inside that building.

Kinsey: Is that later in the program?

McKittrick: We can get into that today if we have time. A lot of what is happening in here is happening inside Mecklenburg County's single stream recycling center and that is separating recyclables from a giant pile, all kinds of different plastics and recyclables. That is more sophisticated technology than what is going on in here; this is very off the shelf proven technology. The site that we are focused on and talked about is the Statesville Avenue Landfill. At the Landfill, there are a lot of issues that will have to happen there with where we are in the schedule. We made a decision to go to an easier site without those issues; this other site is literally around the corner. This is at Graham Street and I-85 on Amble Drive. The County Recycling Center is nearby so we are literally right down the street from the County Recycling Center.

Mitchell: Is this new site zoned I-2?

McKittrick: Yes, it is zoned I-2; there is a truck terminal nearby. This was set up for a massive amount of trucks coming in and out of that facility. This whole area is heavy industrial; one of the things that is important to know is we are impacting less residential areas here off of Graham than at the Statesville Avenue site. We will be coming right off of Graham Street onto Amble Drive; we have two access points and back out. There is no neighborhood traffic affected here. The closest neighborhood is over a quarter of a mile away and about 1.3 miles from a traffic perspective from the closest neighborhood. There is a huge buffer wetland area so nothing will be built any closer, with this significant buffer around the facility. This is even more than Statesville Avenue. To give you an idea of the scope of that project, it is 160,000 square feet with two access points in and out. The technology is a two-step process so the recycled fuel facility is an important piece of the project. Starting with a clean fuel is very important to this low emission project. The other is the technology selection; a lot of folks have been asking about that. Van Morris is here as a consultant and a full time Forsite Development team member. Van and I reviewed 16 or 17 technologies from traditional stoker boilers to multiple gasification systems. For a whole lot of reasons we ended up with ICM Technology which is out of Coolage, Kansas. Their presentation to ReVenture Advisory Committee as part of the Solid Waste Advisory Committee the members attended that presentation. Dr. Albert Bennett is the lead scientist behind the technology and Patrick Ralston is another engineer with ICM. Howard Hohl is with the EISENMANN Corporation that provides the emission control component. We are buying a complete package, the gas fired and the emission control. The reason we went with ICM is that they are a very substantial company. They have developed the engineering process and trained 102 facilities around the country and have provided general contracting services for 27 plants. ICM is one of the largest ethanol designing industries in the U.S. Performance guarantee is important so who's behind that technology and can they guarantee its performance

and do they have the financial backing to make that meaningful. ICM is a very sensitive company.

Dulin: What does ICM stand for?

McKittrick: Good question. It's Industrial Controlled Maintenance (ICM) or some generic acronym that was created back when they started the company and has stuck. I had asked that same question. So what drew us to ICM? Proven performance guarantee and that means something. This is a very straight forward simple line. Gas fired systems are like a Swiss watch with a lot of moving parts; there are a lot of challenges there. A lot of these are companies that are small startup companies. They have great technology but there is nothing behind them. Proven company, proven technology company simple design and low emissions. We are focusing on the air permit, gas fired and emission control. We are working on a better visual but this is what is happening in the gas fired process. RDF goes in and creates a simple gas; the oxidizer, the boiler, the WESP (Wet Electrostatic Precipator); that emission control talked about are all natural gas fired. All of this is off the shelf old school proven technology that has been around for years and years. The only new piece, if you will, is happening right here because no emission can come off of this gasifier. The emissions come out after it has gone through this process and that is where we are focused on for the air permit. One of the other reasons we went with ICM is they have a very large demonstration plant in Newton, Kansas. This is a 200 ton per day capacity facility. It has been operating for the last two years testing a variety of feed stock including RDF. This is a very robust design. I am not going to get into a lot of technical details, the simplicity is horizontal. This is a 10 foot tube with an auger. The RDF is fed into the tube via the auger where limited amounts of air are injected. You can speed up or slow down the auger and air mix to create that gas. A lot of the gas fired units we looked at had many more moving parts. This thing is a blunt instrument, not a lot can go wrong.

Dulin: Not a lot can go wrong? This rotating auger, how long is this piece of equipment?

McKittrick: Approximately 32 feet long.

Dulin: So you have got one guy there monitoring that piece of equipment?

McKittrick: There are really two monitoring; it's all computerized.

Dulin: If that is 30 feet then that is 12 feet high?

McKittrick: its ten feet high. This is arguably the most important piece of the project; the mission control piece. If you are going to get focused on low emissions, chances are you are talking about Wet Electrostatic Precipator (WESP) it is the Cadillac of emissions controls. EISENMANN is a German company that has been around a long time with 2500 employees; very well known in the industry. ReVenture is a whole bunch of things from a solid waste management for Mecklenburg County. For the City of Charlotte there is an 85% diversion from the landfill of the material that we throw away; 85% is going to be recycled or used for electricity production. A 40% recycling rate so Mecklenburg County single stream recycling thinks that they can get to a 20% recycling rate which is a drastic improvement over where we are today. If we can get another 20% out of the stuff we throw away, we are on a legitimate 40% recycling. That is arguably the highest of the major cities in the southeast. We are adding a component to the recycling to commercial corrupted waste that goes through that facility. That doesn't happen at all today, that goes through cardboard that is recycled hardly anything else. The other thing that it provides is structure for future recycling

policies. So if the City says we want to get strict with recycling, that is o.k. because the agreement that we have with Mecklenburg County doesn't guarantee any flow. It's just the stuff that we throw away is what we get access to. So if you want to increase the recycling policy drastically all that will still happen. There is still a lot of flexibility with future recycling policies. The renewable energy will power 20,000 homes. There is a locked in low tipping fees we are negotiating a twenty-year agreement starting at $25.00 per ton. You are paying $26.50 today per ton to go to the Speedway Landfill. That $25.00 is capped at three CPI annual increases capped at 3%, so if CPI goes to 10%, it goes up only 3%. There is a giant savings associated with this project. One of the things I want to look at is truck mile savings. The City of Charlotte is driving all over picking up trash and driving all the way to the Speedway Landfill. There is a potential savings of $100,000,000 over twenty years on tipping fees.

Dulin: I have gone over this extensively and there are a lot of things I would like to bring up. I can wait until the end of the presentation if you would like me to. I have questions about the County and the Speedway Landfill so I can wait if you don't mind me going back.

Kinsey: The landfill tipping fees, who pays that?

Mitchell: Who pays the tipping fees?

McKittrick: The City pays those fees.

Kimble: We pay now and we will continue to pay but what Mr. McKittrick is talking about is a lower rate locked in than what we are paying now.

McKittrick: One of the ReVenture advisors did an analysis on tip fees. Average tip fees are $38.00 per ton right now in the southeastern part of the United States. We are paying $26.50 today, so look ahead to 2012; we are saying $25.00 per ton if you increase at the Speedway Landfill to $28.90 per ton that increases over time. The increase over the last twenty years in the southeast has been 4.57% in per ton tip fees. This information is from the National Solid Waste Management Association in 2005 & 2008, so Charlotte pays a relatively low tip fee today. We are saying to keep that locked in. If you take the savings over time from Speedway and it's annual increases and take our ReVenture at $25.00 and put 3% in there going up over twenty years, the savings per year added up over twenty years is almost $100,000,000 in tip fee savings. That's making some assumptions, but those assumptions are based on hard data that was generated by the National Solid Waste Management Association. Tip Fees are going up not down. We know that for a fact. There is no more landfill space. We are very confident that we are putting the City and the County in a good position.

Mitchell: Tom, I would like to make sure we are clear. In the year 2013 our savings would be $4.65. Is that the City's portion or County portion?

McKittrick: The County negotiates on behalf of the City of Charlotte and the seven municipalities that are part of the inter-local agreement, so the County has control of where that waste goes. Right now it's going to the Speedway Landfill, and it has for many years. I know there are a lot of questions that people have. One of the things that is important is to understand the risk for Charlotte. There is no debt guarantee or repayments of any kind that are part of this entire project. If anything that we are doing out here fails, the City of Charlotte is not in a position where it has to pick up

some payments and start covering shortfalls. If the amount of trash goes down, there is no minimum; there is only the trash that is thrown away.

Dulin: If it doesn't work, if it blew up or something like a catastrophe, the prevailing wind that blows from west to east and that stuff comes to Charlotte, what do we do?

McKittrick: One of the things about this is the chances of this thing blowing up is very minimal. This is a natural gas power plant and so this is actually a lower BTU value than natural gas. So the chances of it blowing up, I don't know, but I have never heard of anything like that. So let's say what if the gas part stops working not blows up, we have recycled fuel cells. We have a major utility that will take all of the fuel that we can produce; we have that to fall back on. What if the gasifier goes down and recycled fuel sales go away? We have a landfill agreement where we would take that material that has gone through this process, pull out recyclables and try to reduce as much land filling as we could, but we would go to a landfill. There is going to be a Plan A, Plan B and Plan C. Plan C is there is a landfill we can go to and take that material. There would probably be a three-year minimum contract. So it goes down in a catastrophic failure we have a landfill contract after that. What if the landfill drastically increases the price of tip fees then you have the Foxhole Landfill to fall back on. If you go to the Speedway, the tip fees are low. The County has done a great job of keeping those tip fees low because they have options. You are not losing any of those options.

Kinsey: Let me ask Cary, at one point Foxhole was only taking construction. Are we now taking garbage?

Saul: My name is Cary Saul, Director of Mecklenburg County Landfill Services. The Foxhole is permitted to take municipal waste solids. We have an agreement with the neighborhood that we will only take C&D waste there as long as we have an economically viable alternative; right now that is the Speedway Landfill. If this facility is constructed, it would be this facility but we are permitted to take solid waste there. It has kept our prices down to do that and it does provide a backup if needed. If twenty years from now it is still empty, that would be great because we would have leverage against public disposal options.

Kinsey: Do they have to have commissions on that or could you just make a decision to take it there? What would be the political ramifications on that?

Saul: I don't know, someone has to determine that. I assume the elected officials determine what is economically viable. If they want to take the waste buildup there, they will determine at $45.00 per ton for the transfer station is still economically viable even though the landfill is cheaper. Ultimately, someone would have to decide that.

Kinsey: O.K.

Kimble: Also is there not a lead time for getting the product ready to be received as solid waste at the landfill?

McKittrick: The footprint is small right now and because we did not want to expand it and keep taking it to Speedway. I think the lead time is a year to 18 months, but at some point, we are going to bid on this footprint and there may not need a lead time. Right now, we need a decision pretty soon because we still have an option to use that landfill when the Speedway contract expires in June of 2012. So the County needs to make a decision. Are they going to consider this as an option? They have this option, the

Speedway and the Foxhole. The County is in a pinch there because that Solid Waste Management Plan has to be amended so we can even apply for a permit.

Kimble: That is why the Solid Waste Plan Amendment to consider this as an option needs to be acted on quickly to allow the evaluation and for the County to decide which way it wants go and to seek a permit if this is the direction that they choose.

Kinsey: Does this decision Monday night allow for Foxhole to go ahead and be permitted for solid waste? It seems to me it's a good idea to go ahead and make sure that the Foxhole is ready to receive garbage.

Saul: The Foxhole is already permitted. All we have to do is to contract for it. That's not the case. They can't submit an application for a facility in Mecklenburg County if not addressed in the Solid Waste Management Plan. That is the reason for the Amendment. They could not even submit a permit to the State to get it permitted without there being a plan.

Kinsey: But this decision on Monday night on our part, how does that affect your going forward with opening that other cell? You have to have that decision to go forward and open the other cell.

Saul: If you don't make that decision then our assumption is that this project is not a viable alternative and then our options come down to whether we open our other landfill or go to the Speedway.

Mitchell: So that only gives you two options instead of three?

Kimble: Yes, and both of them are landfills.

Kinsey: I guess what I am saying is you better get that cell open in case you have to have it.

Saul: We will make that decision whether it is based upon the agreement with ReVenture or with an agreement with Speedway or whether we are going to start using our capacity up. We will have to make that in July, but we would like to know if they can get a permit or not, that is the main thing.

Burgess: The reason why our tipping fees are so low is because we have this alternative?

Saul: Yes, we worked 17 years to get that facility permitted. We opened it in 2000 and in 1999 the fee was $34.50 per ton. The contract with BFI at the time was $18.00 per ton because we had a landfill.

Mitchell: Anymore questions? Thank you, sir.

Dulin: The fees for commercial waste haulers are significantly higher, probably two times the amount that the County pays at $26.00 per ton. So if the residential waste that goes to the facility is down a similar waste facility for commercial is going to increase and I can assure you it will be in higher tipping fees. So our interests are aligned there so you can continue and expand your present recycle program. None of that commercial waste is controlled under the inter-local agreement. That is all different waste haulers going out picking that up. The County doesn't control any of that. That is all free marketing. What if Charlotte-Mecklenburg Utilities doesn't get their permit, is there is going to be a buy back agreement provision? Those commitments are important as this project continues to evolve. The Minor Source Air Permit is a commitment and with the clean fuel going into the gasification. There are more stringent air regulations that the EPA is working on. We anticipate them and we are designing this facility to be even more stringent in the yet to be determined air permit schedule. That is not a marketing point that is a commitment we are making. The 20 megawatt facility, if you maintain that Minor Source Air Permit and to make sure that we have plenty of head

room and that we would not go over that, we settled on the 20 watt facility. The yet to be unnamed utility that we are negotiating with made it clear that is the size that they wanted. The maximum RFF (Recycled Fuel Facility) volume that would go to this facility is 575,000 tons; 1,300,000 tons of garbage that is collected in Mecklenburg County in residential and commercial trash. Air monitoring; one of the challenges with the Matthews Medical Waste Incinerator is that they are tested one time per year and you are penalized or not. We are committed to continuous air monitoring, so if there is an air problem, it's not going to be a year from now when it is discovered. From a public prospective and insuring public health and well being, we think that is important. Ron Leeper is here. We have a program with Leeper Construction and he is going to be involved. He is meeting with Hendrick Construction who has done several projects with this facility. We have a fairly robust participation program that we are going to talk about. We are also going to enact a Minority Participation Program for this facility, so if there is a geographic regional facility, we are going to make those jobs available to people that live in that area first. We will make sure that we are advertizing those jobs and making concentrated effort to engage to the public. With Ron's help, this will be a full blown program that we are ensuring that we are getting the participation that we need.

Cannon: That is pre what about post? Are the opportunities going to be posted?

McKittrick: There are 100 net new jobs that will be created with this recycling fuel facility so the program that we are talking about is a participation program. The construction side will have a percentage that we will force ourselves to meet and exceed. Ron will be in charge of that. Post, are you talking about jobs that will be created?

Cannon: Jobs will be out there for everybody. I don't know if you can actually streamline that down to pre or post per se.

Leeper: Our plan, Mayor Pro Tem, is to make sure that we identify the geographical area that in close proximate to the site. The priority will be to identify those people who live in that area and give them priority and consideration for any job opportunities.

Cannon: In terms of the construction, I hope you will find those folks some major opportunity rather than a typical type of construction.

Leeper: What we are going to do prior to construction is to have conversations with you and share with you how we are going to approach this. We are going to break this project down into scopes of work and identify where there are opportunities. Having been in construction here for a while we know the people that have capacity and so we are going to be breaking the project down in a way that gets maximum participation in every aspect of the construction.

Cannon: I commend both teams, I have full confidence in what I know of Mr. Leeper's company and the other entity that has been mentioned. From the information, I have gathered back and researched. Tom thank you for your ability to reach out to, I believe, a very good team.

McKittrick: Inclusion is an important part, trying to include the entire community. Mentoring is an important part of this project getting the smaller companies under the wing of a larger company; that is a real concrete piece of the project. I am very happy to have Ron on board. We are in complete sink on that process.

Cannon: Please keep that level of communication in the community. That area over there would certainly appreciate that. There has been some level of calls and e-mails

between district representatives about that area. As much as you can engage the community over there it would be appreciated.

McKittrick: Absolutely we have community meetings that are scheduled.

Audience: One is January 8th from 8:30am to Noon at Sugaw Creek Presbyterian Church. The other one is January 13th at Cook's Presbyterian Church from 7:30pm to 9:00pm.

Mitchell: If I could make a suggestion that we get that in writing and distributed to the Council so we can facilitate it to the neighborhoods.

McKittrick: What is the net overall impact of the air in the region; comparing coal offset 22 Mega Watts and landfill facilities with the ReVenture process shows a reduction in net emissions of 429,322 tons. Land filling is a greenhouse gas emitter. This schedule shows a 20-year average on what we call 370 tons we would emit over 210 years. Transportation to get out there and back produces 525 tons per year. Our gasification process at 22 Mega Watts that is 22 gross which is 20 net Mega Watt so it takes power to generate the facility. 80,000 tons of greenhouse gas, transportation we factored in some additional miles for trucking fuel that would be used, net emission reduction is 429,322 tons of gas emissions as a result of offsetting coal and not land filling the material.

Dulin: Is that a year?

McKittrick: Yes, per year averaged out over 20 years. 370,000 tons of garbage buried in year one and that goes up over 20 years. What is in it for Charlotte? There is the potential for 1,000 new jobs including project creation and research, laboratory studies this is a very obtainable goal to create 1,000 new jobs. Between the gasifier and the recyclable fuel, we are at 145 new jobs already. At 20 Mega Watts, I believe this will be the largest renewable energy project in the State of North Carolina. We will be recycling a superfund site; the largest unused section of R2 real estate in the City. Charlotte will be an energy capital in our opinion. This is a huge step in the right direction. Eco Industrial Park, creating a renewable product on a contaminated industrial sites; we don't think we know that this is an emerging trend. I did a presentation for the Charlotte Chamber. One of the executives for Arriba tracked me down to set up a meeting. We met for 10 1/2 hours talking about the concept of energy parks. They are looking at sites all over the country. They are in tune with the whole clean energy park concept. They get it; it's not just me thinking this is a good idea.

Dulin: How many of those parks are on a major water source like the Catawba River?

McKittrick: Contaminated industrial? I don't know.

Dulin: Like your energy parks like the one we are planning here.

McKittrick: This is a new trend. There is nothing of this magnitude that we know of in the country.

Dulin: We have to protect that water source?

McKittrick: Absolutely.

Dulin: If I had to tell one thing Mr. Chairman that would keep me up at night. It would be the relationship between ReVenture and the water.

Burgess: I absolutely agree this is a precious resource that has to be protected at every level.

McKittrick: Absolutely and we will be addressing that at what I am sure will be another meeting. The Greenway, we currently have an 85-acre conservation easement we have talked to Mount Holly about. They are trying to put together an eight-mile greenway trail. We are working with them on a connection across Highway 27 through this site to connect down to this future connection. When that happens, we will have 18 miles of

greenway that are connected; this is a significant goal. I hope I have addressed your questions and concerns. This is where we are with ReVenture.

Mitchell: Tom, thank you for having the visionary idea to what I think is going to separate our City and make us the new energy capital. Committee is there any more questions or any more information that you think we need?

Cannon: We know that we are going to get more of the data back on the emissions side. Tom is there a timetable as to when that will be completed?

McKittrick: We will have that report on Monday. I just talked to Jim Lofton who is preparing that report. That will go out to the Council when we receive it.

Kimble: A follow up to Mayor Pro-Tem's question, does that data and that study then go the ReVenture Advisory Committee for conversation?

McKittrick: Yes.

Kimble: There is a ReVenture Advisory Committee that is a sub-group. Is that correct Mr. Saul of the Solid Waste Advisory Board of Mecklenburg County?

Saul: Yes, Advisory Board.

Kimble: This is where a lot of this is being discussed and we need to let you know when these meetings are in case you all would like to be in attendance to hear the dialog and the conversation that is going on.

Cannon: Yes one was when and the other was who? I would like to see the makeup of the Committee to get a better feel as to who the players are.

Kimble: We will send that to you.

Kinsey: I still want to know what the process is when the garbage is delivered. What is the process?

McKittrick: We have a tour scheduled tomorrow at 10:00am at the site. The closest example of this that we can drive to easily is the recycling center that FRD operates. It is very similar. It is a source separated recyclables; it's a very similar process and it will give you an idea of what is going to be going on inside the facility. So if you can make that tomorrow at 10:00am.

Kinsey: We are not talking about recyclables; we are talking about the garbage. Those little pellets, what is the process that makes those little pellets? I really don't have time right now for an explanation but I would like to have one. The other thing is, I am under the impression that none of this has ever been done in this country before and yet I am hearing now is that ICM has a system here. It may be interesting to see what that system looks like.

Kimble: The ICM plant is a demonstration plant where they are testing all kinds of materials that go into that process and testing the emissions that are produced. So it's not an active plant that is serving that community; it's a demonstration and testing plant.

Dulin: So where is there one like the one proposed for Charlotte?

McKittrick: The gasification process is more prevalent in Europe. There are quite a few gas plants in Japan that we could look at. Most coal fired power plants are gasifiers actually, so in the United States, there are 89 waste to energy plants. Most of those are mass burning incinerators, so exactly this gasifier with exactly that process. No, we can't point to that specific one. I think we are going to be able to point to a whole bunch of them right around the corner. There is a lot of activity in this.

Cannon: Mr. Chairman, have you begun to line up the trip to take the Committee to Europe?

Dulin: Tom, I apologize last night was the first time that I had taken time to read through this material. There is clearly some profit in these tipping fees for you at these lower numbers?

McKittrick: Yes.

Dulin: We are accustomed to folks coming here with low ball contract fees and then coming back for change orders etcetera and overestimating and underestimating lots of things. There are so many things here that are being estimated. I have my red flags up a little bit. The prevailing winds are west to east. Are you going to be burning plastics in the recyclables?

McKittrick: Gasifier not burning; there will be a small amount we are trying to pull out most of those plastics that recyclable are coming out.

Dulin: Are you segregating them?

McKittrick: Yes, pulling them out.

Dulin: O.K. good. I have a note here about taking it to the Speedway; that is in Cabarrus County and it's their problem once we cross the line. Humpy has been turning those dumps into a campground. We have been going out there and creating real estate for that guy with our garbage. The scrubbers and the filler systems; those things all have back up power I suspect in case something breaks?

McKittrick: Absolutely, if that breaks the plant is going to be shut down. All of that is covered in the air permit.

Dulin: Are you thinking that you will be bringing garbage out during the day but burning 24/7?

McKittrick: Gasifying 24/7.

Dulin: Will you be making contracts with surrounding counties to take their garbage also?

McKittrick: No, you will provide more than enough.

Dulin: Regarding the greenway, I don't know if we need to fence that area?

McKittrick: It's already fenced.

Dulin: We are already protecting that area?

McKittrick: Yes.

Dulin: Will Duke Energy be buying any of this produced energy?

McKittrick: This is yet to be discussed with them.

Dulin: That's good because I put a big question mark on that subject. What is going to happen to the waste above the 570? It's still going to go?

McKittrick: Yes, to the landfill.

Dulin: The landfill, o.k. Has any local person seen the European site? Have you been there?

McKittrick: I have not had a spare moment to spend, but we are working on getting a trip together to go over and tour a multitude of waste to energy facilities. They are very prevalent in Europe.

Dulin: At one point the Minor Source keeps popping up but they are in the business of selling this equipment anyway, so they will be all over it won't they?

McKittrick: This is going to be one of the most heavily reviewed air permits arguably in the history of North Carolina. So the Minor Source is a highly regulated very detailed process to get that permit.

Dulin: O.K. The last thing I want to know is what road will we take back to the water and Catawba River? In the last summary, "our project will" part here on page six, the last

bullet point on page seven. The proposed new CMUWWTF will drastically improve both the water quality and flow in the Catawba River?

Kimble: We are going to get to that today if you wish or another day with Barry Gullet.

Mitchell: That is an important area of discussion. Can we save that for the next meeting?

Kimble: You can schedule that for the next meeting but there a desire to share with you the business terms that we are negotiating on the purchase of the land for the waste water treatment plant. You don't have to do that in advance of Monday night.

Mitchell: O.K., thank you.

Burgess: It looks like we have about half of the capacity of what Mecklenburg needs so if this thing works, is there room to grow at this facility or would you go to a separate facility?

McKittrick: 575 is about mathematically, physically and financially is where it peaks. If you go anymore than that you would build another facility at a separate location.

Burgess: What is special about separate locations? How many acres does this use of the total acreage?

McKittrick: This is a 70-acre site. There currently is 12-acre of asphalt pavement there and we are not building beyond that 12-acre footprint.

Dulin: While you are out there can you build another one to expand into?

McKittrick: We are done on the expansion; that is part of directing the community concern. With the increasing truck traffic and noise at the 575 level we are comfortable.

Dulin: Mr. Kimble, what are they asking for us on Monday night?

Kimble: They are asking to amend the Mecklenburg County Solid Waste Plan to add the ReVenture concept as another alternative for choosing how we will dispose of municipal solid waste in Mecklenburg County.

Mitchell: Tom and the team thank you so much for being here. We will now go to agenda item number two.

Subject: Approve 2011 Meeting Schedule

Kimble: Mr. Mitchell on our portion which is the land purchase these are business terms that we are in negotiation with ReVenture. I know that our schedule for Economic Development Committee meetings; I believe the next one is in January. If we wait that long to get business terms, we feel that this is a two-step process with Council on the land purchase. It's to get the business terms in front of you and have you say that you are comfortable with those terms and get those to City Council. Then instruct us to write a full agreement which documents and incorporates the business terms. I want you to know that if we wait until January 13th then I think we need to proceed as fast as you are comfortable proceeding. We are going to throw a lot at you on January 13th as it relates to these business terms. We may be spending a long time at that meeting going through these business terms because these are important as well.

Mitchell: So is it your option to have another meeting before the end of the year Ron?

Kimble: The holidays make it tough on you as well as us. I think if you did it before the end of the year you would have to do it before Christmas and not the week between Christmas and New Years, but that is tough on you and tough on us if we wait until January 13th. There is a desire to want to move quickly into drafting an agreement. I just wanted you to know that and hear that. That is another element of this because

you have the waste to energy, you have the refuse derived fuel facility and then you have the City's desire to want to have a land transaction that puts certain ability for us to get land from the Waste Water Treatment Plant.

Mitchell: Let me ask the Committee, what about December 20th? Does anyone have a calendar of Committee meetings?

Cannon: I am out beginning the 17th.

Dulin: I can meet with you sir, there is a Zoning Meeting that night.

Mitchell: Burgess and Pro-Tem are out, so if we don't have January 20th then we will have to do January 13th.

Burgess: What about December 17th?

Mitchell: 17th on Friday? Can you get it going that quickly? O.K. December 17th going once going twice; December 17th at 12 Noon?

Kimble: There is another event for staff at Noon, we could miss that it's related to the holiday.

Mitchell: What time is the staff event?

Kimble: From 12 Noon until 2:00pm that day.

Mitchell: Let's do it at 2:30pm. On the agenda item look at our meeting schedule; we don't have to make the decision today I love the dates. Another issue with this is the times and dates. Is Noon time bad for you but if 3:30pm works I want to make sure that we get everybody here? Committee December 16th that is Thursday, we could have the full Committee here including Pro-Tem. 3:30pm on Thursday December 16th gets a full Committee here, O.K.

Kimble: Mr. Chairman thank you for working with us.

Mitchell: Thank you everyone that concludes our E.D. Committee meeting.

Adjourned: 5:00pm

Economic Development Council Committee
Thursday, December 9, 2010 at 3:30pm
Charlotte-Mecklenburg Government Center
Room 280

Committee Members:	James Mitchell, Chair Patrick Cannon, Vice Chair Jason Burgess Andy Dulin Patsy Kinsey
Staff Resource:	Ron Kimble, Deputy City Manager

AGENDA

I. <u>REVENTURE -- 60 minutes</u>
Staff: Ron Kimble, Deputy City Manager
Action: Status report on discussions/negotiations on the ReVenture Project, including review of business terms outline.

II. <u>APPROVE 2011 MEETING SCHEDULE (Attachment)</u>

III. <u>NEXT MEETING: Thursday, January 13, 2011 at 3:30pm, Room 280</u>
Possible Topic: 2011-2012 ED Focus Area Plan

Distribution: Mayor/City Council Curt Walton, City Manager Leadership Team Executive Team

ReVenture Park

Charlotte's First Eco-Industrial Park

Presentation to
City of Charlotte
Economic Development Council

December 9, 2010

ReVenture Status Update
ReVenture is Actually 2 Projects

ReVenture Park

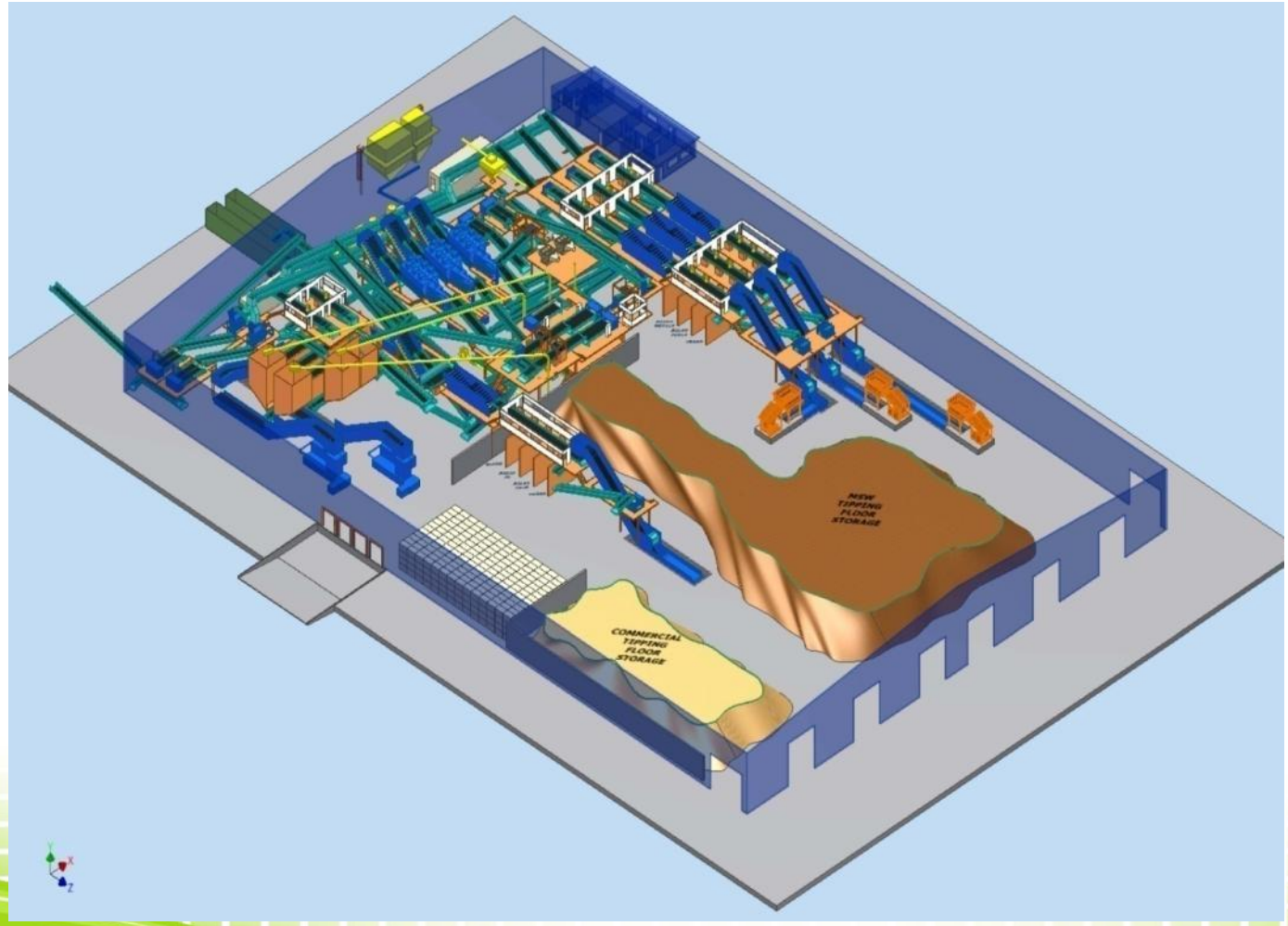
#1 RECYCLED FUEL FACILITY

- FCR Casella is preparing permit for Recycled Fuel Facility
- Engineered Fuel offtake agreements being worked on
- Permit to go in by the end of this year
- Recycled Fuel has emerged as true potential paradigm shift
- Turning garbage into an engineered fuel that solves for:
  - Maximum recycling
  - 85% +/- diversion from the landfill
  - Offsets coal
  - Scrubs emissions in coal fired power plants
  - Significant overall reduction in GHG emissions

➡ **NO WASTED RESOURCES**

Recycled Fuel Facility

ReVenture Park



Recycled Fuel

ReVenture Park

Amble Drive Property Access

ReVenture Park

Property Access

Recycled Fuel Facility

ReVenture Park

WTE Technology Announcement

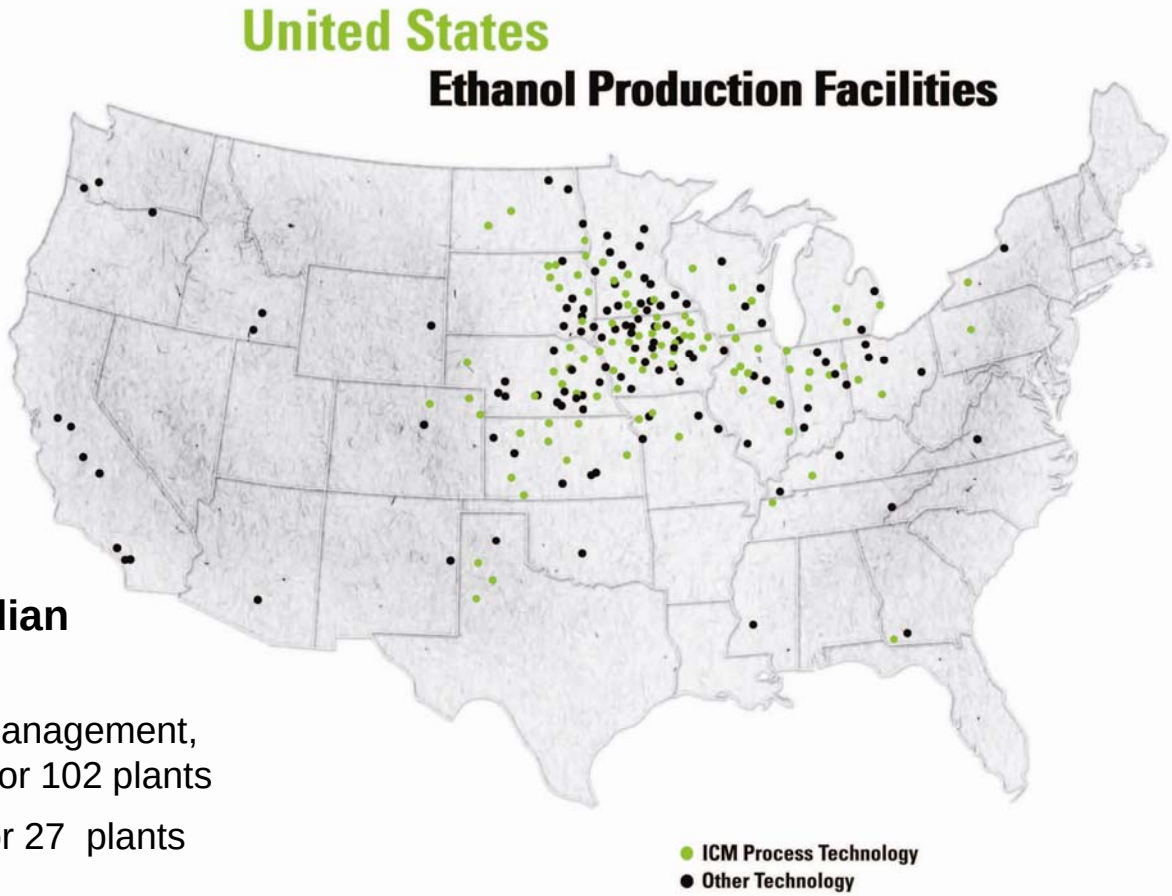
ReVenture Park

#2 Tom; What is the technology, when are you going to announce it?????

- Dr. Albert Bennett – ICM
- Patrick Ralston – ICM
- Howard Hohl – EISENMANN Corporation
- Van Morris – Forsite Development
- Sean Duffy - FCR Casella
- Jim Laughlin – RTP Environmental

ICM | EISENMANN

ICM Technology



Serving the U.S. and Canadian Ethanol Industries

- Process engineering, project management, training, and start-up services for 102 plants
- General contracting services for 27 plants

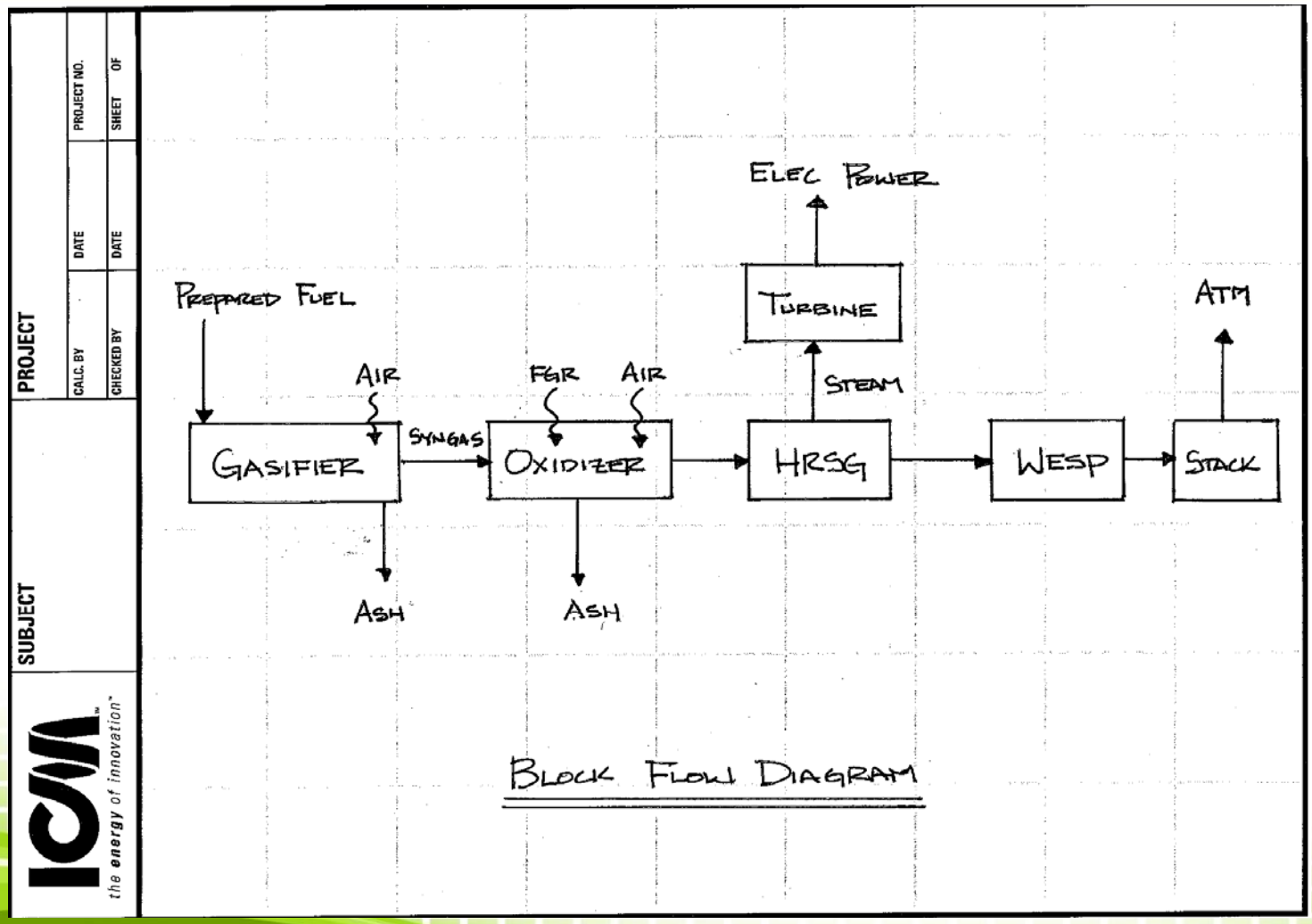
ReVenture Status Update

ReVenture Park

- Technology validation complete
- ICM was selected because:
  - Proven Technology
  - Straight forward design
  - Performance guarantee
  - Low Emissions

ICM | EISENMANN

Flow Diagram



ICM's Commercial Demonstration Gasifier

ReVenture Park

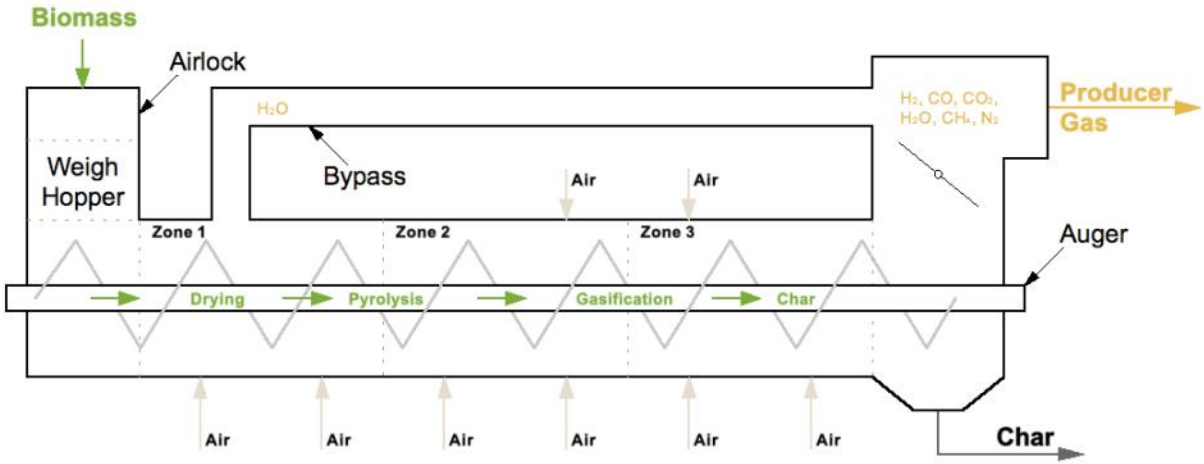
- Located in Newton, Kansas
- 150 - 200 ton/day capacity

ICM | EISENMANN

ICM Gasifier

ReVenture Park

- **Better Control**
  - Mass input
  - Low rpm auger
    - Retention time
  - Wet gas bypass
    - 10% - 50% mc
  - Zoned air input



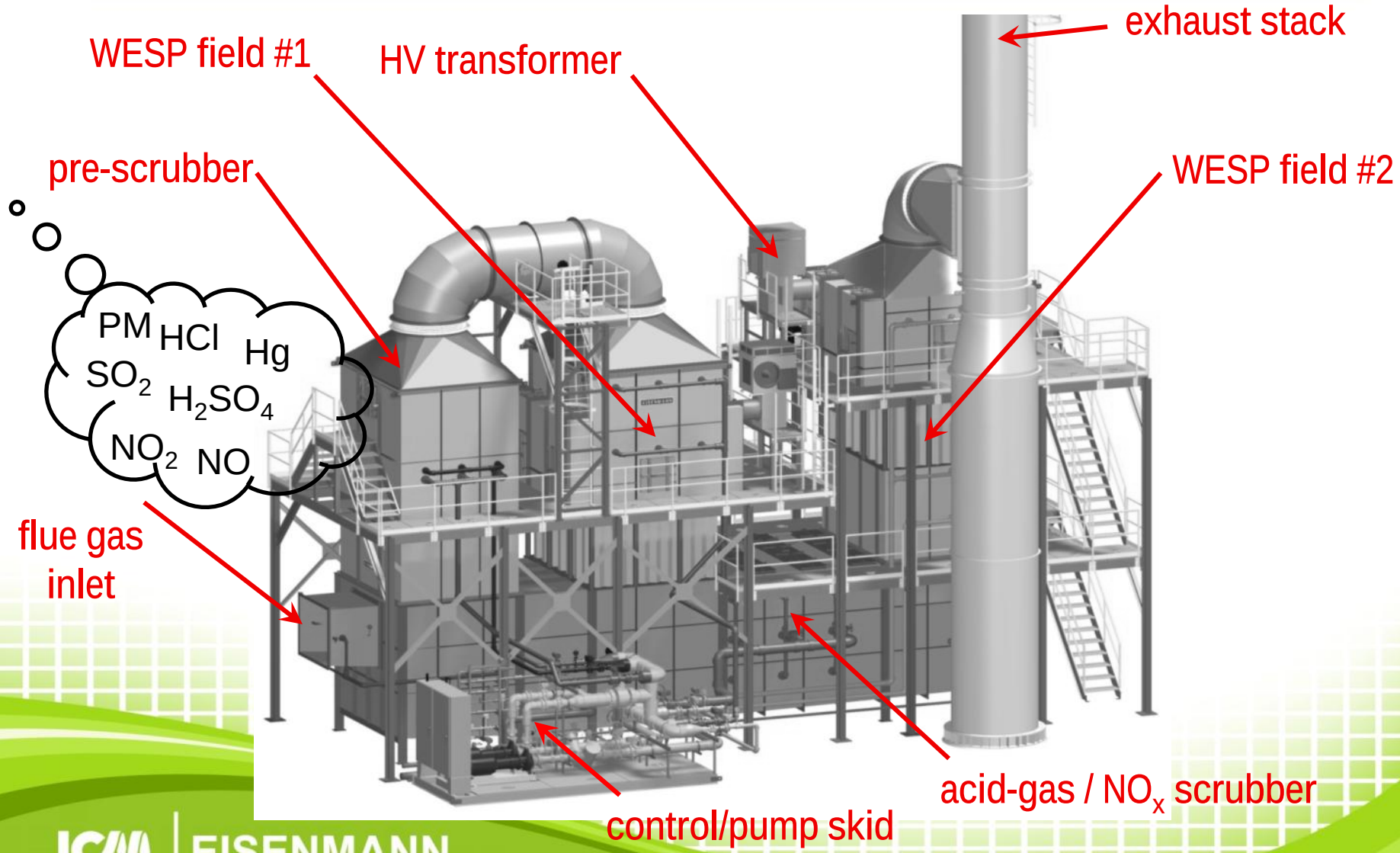
- **Robust Design**

- **Small footprint**
  - 8 ft x40 ft = 150 T/day
- **Low energy**
  - Minimal size reduction
  - < 5 hp for auger
  - < 15 hp air fan

ICM | EISENMANN

WESP-2F Overview

ReVenture Park



ICM | EISENMANN

WESP-2F

ReVenture Park

ICM | EISENMANN

If (when) ReVenture Happens, Does Charlotte Win???

ReVenture Park

Solid Waste Management

- 85% Diversion from landfill
- 40% Recycling Rate
- Add Recycling to Commercial Waste
- Flexibility/with Future Recycling Policies
- Renewable Energy for 20,000 homes
- Locked in low tipping fees (<u>$100 mm savings over 20 years</u>)
- Truck mile savings over Speedway $____?

<u>NO WASTED RESOURCES!!</u>

Landfill Tip Fees

ReVenture Park

Landfill Tip Fees ($/ton) 2009 through 2032

	2009	2010	2011	2012
South	$39.75	$41.56	$43.46	$45.45
Landfill		$26.50	$27.71	$28.98
ReVenture				$25.00

	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	2025	2026	2027	2028	2029	2030	2031	2032
South	$45.45	$47.53	$49.70	$51.97	$54.34	$56.83	$59.42	$62.14	$64.98	$67.95	$71.06	$74.30	$77.70	$81.25	$84.96	$88.84	$92.91	$97.15	$101.59	$106.23	$111.09
Landfill	$28.98	$30.30	$31.69	$33.13	$34.65	$36.23	$37.89	$39.62	$41.43	$43.32	$45.30	$47.37	$49.54	$51.80	$54.17	$56.65	$59.23	$61.94	$64.77	$67.73	$70.83
ReVenture	$25.00	$25.75	$26.52	$27.32	$28.14	$28.98	$29.85	$30.75	$31.67	$32.62	$33.60	$34.61	$35.64	$36.71	$37.81	$38.95	$40.12	$41.32	$42.56	$43.84	$45.15
Diff (L-R)	$3.98	$4.55	$5.16	$5.82	$6.51	$7.25	$8.04	$8.87	$9.76	$10.70	$11.71	$12.77	$13.89	$15.09	$16.36	$17.70	$19.12	$20.62	$22.21	$23.89	$25.67
Savings in $000's	$1,472	$1,684	$1,911	$2,152	$2,409	$2,683	$2,974	$3,283	$3,612	$3,961	$4,331	$4,724	$5,141	$5,583	$6,051	$6,548	$7,073	$7,629	$8,218	$8,841	$9,500

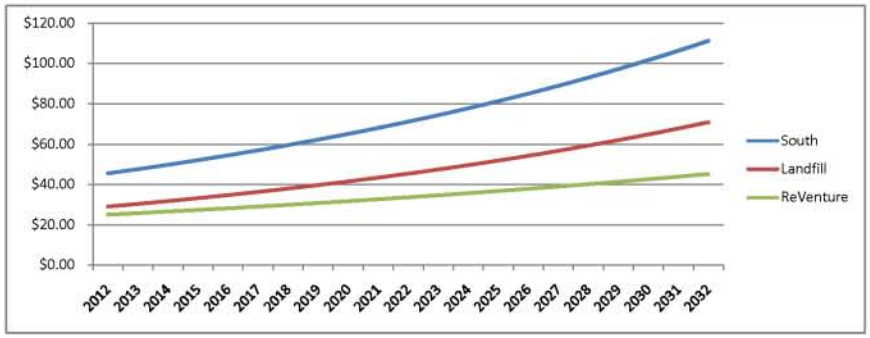
TOTAL SAVINGS = $99,778,915 or $100 Million

South growth rate	4.57%
ReVenture growth rate	3.00%

Starting point 2008 =

South	$38.01
Landfill	$26.50
ReVenture	$25.00

Savings equals 370,000 tons times Diff(L-R)



- Landfill tip fees in the South have escalated 4.57% annually for last 20 years
- Trend is expected to continue or increase, as landfill moratoriums take effect, landfill space fills up
- ReVenture escalation is set at 3% annually
- Chart compares difference in South, Current landfill extention, ReVenture option
- Projected savings is nearly $100 million over 20 years, 2012-2032

Sources:
NSWMA (National Solid Waste Management Association) "2005 Tip Fee Survey", Edward W. Repa, PhD
NSWMA "Municipal Solid Waste Pocket Facts" 2008

What is the risk for Charlotte?

ReVenture Park

NONE

Charlotte will have No Debt Guarantees / Repayments of any kind

What if's:

What if the gasifier stops working?
A: Recycled Fuel Sales

What if the gasifier goes down "and" Recycled fuel sales go away?
A: 3rd party landfill (3 year minimum contract)

What if 3rd party landfill jacks our tipping fees?
A: Foxhole

What if Charlotte enacts a more stringent recycling policy?
A: Please Do! (No Volume Guarantees)

What if CMU doesn't get their permit?
A: ReVenture Park buys the land back

ReVenture Commitments

- Minor Source Air Permit
- 20 megawatt initial facility – 40MW CAP
- 575 tons max volume for RFF
- Continuous air monitoring
- Minority Participation Program
- Continue to engage to public

ReVenture Net Air Improvement Summary

ReVenture Park

REVENTURE NET AIR IMPROVEMENT SUMMARY

COAL OFFSET 22MW	GHG	NO_x	SO_2	PM_{10}	CO	VOC
Combustion	238,096	1,844	1,025	64	20	2

LANDFILLING	GHG	NO_x	SO_2	PM_{10}	CO	VOC
Landfilling MSW	*276,085	---	---	---	---	*418.50
Transportation Associated with Landfilling	11,786	26	---	0.5	3.5	0.9
TOTAL	**525,967**	**1,870**	**1,025**	**64.5**	**23.5**	**421.40**

REVENTURE	GHG	NO_x	SO_2	PM_{10}	CO	VOC
Gasification	80,614	75	50	15	15	2
Transportation including Engineered Fuel Sales	16,031	36	---	0.8	4.9	1.2
TOTAL	96,645	111	50	15.8	19.9	3.2
NET EMISSIONS REDUCTION	**(429,322)**	**(1,759)**	**(975)**	**(48.7)**	**(3.6)**	**(418.20)**

*average annual emissions over 20-year period

What is in it for Charlotte?

ReVenture Park

- Potential for 1000 new jobs (145 already)
- Largest Renewable Energy Project in NC
- Recycling a Superfund site
- New Energy Capital
- Eco Industrial Park Largest of its kind in the US ⟶ Emerging Trend
- 18 Mile Greenway Connection
- Net reduction in GHG emissions (429,322 tons)

Who is ReVenture?

ReVenture Park

ReVenture Park, LLC

100% - Tom McKittrick

Assets

- 667 acres I-2 land
- 4 MGD WWTP
- Lease income
- 40 – 60% interest in ReVenture Power, LLC

$O DEBT GUARANTEE

Clariant Corp.

New Company

New Company

New Company

New Company

ReVenture Power, LLC

40 – 60% Profits Interest in WTE & RFF ($0 DEBT)

Majority owner Institutional Equity / $1 Billion net worth

Assets

- 20 MW Power Plant w/ 20 year PPA
- 20 year waste contract
- Recycling revenues
- Engineered fuel sales

ReVenture Park

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