22-12-1 Climate Plan Implementation Funding

Attendees – Shane Stennes (U of Minnesota), Jim Walker (UT Austin), Meghan Hoskins (PSU), Andrew Neil (OSU)

1. Introductions
    a. Meghan Hoskins – Penn State
    b. Jim Walker – Pres resigning, CFO leaving in May – 12 yrs Dir of Sustainability at UT Austin. Have a CHP, came in under Obama, getting into an emissions reduction plan now dancing b/w energy/gas and renewables
    c. Andrew Neil – Pres resigning – The OSU – Assist Dir in Facilities – have sustainability people in different departments (med center, athletics, operations). Don't directly oversee, but influencing existing stuff. Goal on carbon neutrality. Leaving pres had pushed carbon, she is now resigning, figuring out next steps. Goal carbon neutrality by 2050. Deal w/NG and OSEP – managing energy systems. Still need a clear path, how to fund.
    d. Shane Stennes – U of Minnesota, CSO of system (4 other campuses in the system)
    e. Stratis Giannakouros – Univ of Iowa - also signed a contract w/NG – have goals not stated specifically – 50% by 2030 right now. Benefit from Scope 2 being wiped out. RECs are retired for utilities due to coal plants in the inventory – all the wind RECs retired for Univ of Iowa. Had coal/nat gas, 10 yrs ago coal boiler went to biomass – not designed for that, but use miscanthus gas – planted over 2500 acres – burn it in coal boilers – about 20 % mix waste stream (chewing gum wrappers, paper, etc that's compressed) – coal down 96%, will get rid of the rest soon. Pellets at the stack better than traditional biomass. Burn oat hulls – those are cleaner than biomass. Constraint run into now – capex agreement – assumption on capital improvements on 8.5% interest rate. Can't bond it anymore, it's at the 8.5% rate. Financials are tougher now.
        1. IRA – some pretty amazing stuff in there. Haven't heard ruling yet on if we are state government or if we'll be able to use the direct pay.
        2. Jim – we are assuming that.
2. goals/focus on carbon emissions reduction (or other operational goals that might need significant funding)
    a.
3. Ideas on funding sources, including IRA
    a. Advanced energy tax credit
    b. Close to a retiring coal plant?
    c. Creative ways of building a supply? Create an LLC, supply own fuel – put that back into other things.
    d. Silos is one of the challenges. OSU thinking about a committee – trying to get the administration engaged
        1. Stratis – have office outside the bathrooms of the Provost/Pres!

e. Jim – fuel switching strategy has worked. Working on IP from researchers, commercializing research. Always some licensed research.
    1. Funding – corporate partners want to license things, they will pay for some things. Then building a minor or certificate around something
    2. Ex – small footprint carbon capture technology – might work for our dense campus/plant – Scope 1 huge reduction w/o vilifying fossil fuels. Corp partners, leaning in on the transitioning language.
    3. Right now no target for carbon neutrality. Been tracking footprint for 20 yrs. Several units looking at how to get on fed money.
    4. Could we have diff strategies of universities collated that are working? Second Nature strategy list matrix is an idea
f. Stratis – all new bldgs. On campus starting w/hospital sys will be built w/low temp hot water, heat exchange outside bldg. At some point the elec will work with that.
    1. Also looking at elec boilers. Switch it when can. Use redundancy when can.
g. Shane – in process of developing new CAP for all campuses over next 2.5 yrs. Originally did in 2011, 10 yr plans. For main campus, footpring 50% by 2021 – due in large part due to grid getting cleaner plus voluntary renewables, energy efficiency. How do you tackle the rest? Scope 1 is now the giant in the room… just starting now intending to have a plan by May. Hiring Energy Consultant w/Scope 1 and 2 emissions for macro level strategies. Then work on the utility plans. In meantime, looking at IRA – what can we leverage on that? Interested in direct pay for state entities? Or transfer credit route – complicates things. If direct pay is an option, we are preparing for that. How would you move forward – every bldg get solar in construction, transitioning fuel sources, solar/thermal – silver buckshot not bullet approach.
    1. Tech platforms – aquifer thermal energy storage, pilot ultra low-temp heating – cut steam load by using water system
    2. Institutionally, we can directly issue our own bonds, have debt capacity. Question is the magnitude of the number for deployment. We get paralysed by the number. Annual impacts are what we want to look at – buy energy anyway, so what's the diff b/w annual business as usual case (1% over 20 yrs?). More work to do to get there.
    3. Tech coming out of the university. Like a geothermal doing a startup company
    4. Philanthropy has limited legs to general significant money. Some but not infinite and not at needed scale (for us)
    5. Avoided energy service model – but using private partnership tools (on-site PPA for solar, service agreements managing plants, but haven't gone route Iowa and OSU doing.
h. Service agreements – 100s of pages in an agreement – devil in details. They will overwhelm you with legal firepower. There's a lot of money at stake. Talk to OSU and Iowa – the energy companies are learning, the universities are learning. The

notion of a big payday and it pencils out over 50 yrs. They do capex for 50 yrs – it can really harm your ability to maneuver around goals.
    1. Shane – read the agreements, legal firepower and horsepower is bigger than universities. Terms/conditions can't do a good review of them.

i. Shane – did a 30 yr bond issuance for a big chunk – creating an internal bank that will spin the money at least 2 -3 cycles before have to repay it (can share slides). Gave a chunk to endowment – please cover the interest. 500mil to have a more innovative financing mechanism – there is so much appetite for that, so it went fast.
j. Andrew – Engie deal – new to it, there are contentious moments, but OSU has been happy – energy conservation for bunch of bldgs., fund a lot of student initiatives/grants. Devil in details, have to get a good deal. Has been a success for OSU. 50 yr deal, so will find out more over time.
    1. Shane – OSU got a good deal, they are learning.
k. Andrew – CHP plant being built now. Looking at hydrogen and RNG. Reported 30% decrease in inventory since 2015-ish. Large part due to pandemic. Consultant firm through the summer, re-looked at goals – did a deep dive into Scope 3 – in total it's huge. We are looking to do better supplier engagement.
l. Jim – started Scope 3 a few years ago. Using spend based method – line up codes w/evaluator categories – free tool – come out with spend-based method (not really accurate) – 600k metric tons was supply chain analysis, rest of everything is 220k.
m. Boston Consulting Group (BCG) worked with OSU on their climate action plan. Also recommended Sci Based Targets

4. Potential action steps:
    a. Can we work together to figure this out?
        1. Hard time breaking through to administration that there is money out there. Useful to see if we could get a mtg of CFO + CSO?
            1. VP of Research? Provost? Govt Affairs?
            2. Talk to head of debt issuance instead of CFO is working at Minn – go a level down to CFO
        2. Meet again – this is helpful – crowdsourcing is useful
        3. Shane – come across resources – create a central place
            1. IRS came out with the apprenticeship and prevailing wage – got guidance out this week
        4. By summer time maybe bring together the next level down from CFO people
            1. How does the ITC work now? Does it change PPAs, do we own it? Battery storage? What's the pencil out do right now?
        5. Shane – meeting w/tax office soon
        6. Jim – staff looking at IRA as well, ITC, PTC, etc. we are teeing ourselves.
    b. other ideas?
5. other?
6. Meet again in January.