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NICK PROCAILO/PNG

Creative Energy's plant (the old Central Heat Distribution) on Beatty Street in Vancouver has six boilers and provides steam heat to about 210 office buildings. However, the company, owned by Ian Gillespie, is expanding and modernizing to create a new biofuel plant that will supply heat to all new developments in a variety of neighbourhoods.

# Age of Steam returns to Vancouver

The city has given Creative Energy 18 months to prove its business case.

Gillespie says the as-yet unveiled new facility, called "the Greenhouse," will cost between \$50 million and \$100 million and will include other green energy and food-producing systems to become a model for other cities. It will reduce, by 90 per cent, Creative Energy's estimated 70,000 tonnes of annual greenhouse gas emissions from the Beatty Street plant. The company is expected to file an application for the plant to the BCUC in 2017, and

have it running by 2020.

Meanwhile, Gillespie intends to build a new office tower over top of the old Beatty Street plant, which will be retained to supply power during peak winter demands.

"We are working on a concept to put an office building on the corner of Georgia and Beatty. What would happen is the plant would stay in the basement of that building and we would literally build around the plant. The

stacks would literally come up through the middle of the building and you would never even know that any of that is there," he said.

The project is subject to rezoning and Gillespie's Westbank Group, the developer, hasn't made an application to the city.

Creative is already designing separate low-carbon district energy systems for two massive redevelopments Westbank Group is involved in: the multi-tower joint project at Oakridge with Ivanhoe Cambridge and the 40-building Honest Ed's project in Toronto.

Both will be supplied from local

heat sources, and will be capable of supplying surrounding neighbourhoods.

Gillespie, who is behind such developments as Telus Gardens, Woodward's, the Shangri-La and the yet-to-be-built twisty Bjarke Ingels-designed Vancouver House, said he wasn't motivated by profit when he decided to buy and convert Central Heat.

"As a regulated utility, the return on capital is six per cent, which is obviously less than I would make in my core business. There were a lot of people within my company who were saying, 'why would you want to take out \$50 million or \$100 million or whatever it will take to make this all happen?'" he said.

"I kind of thought, well, the reality is we never went into this with economics being the primary motivator. We went into it with a lot of things we wanted to achieve. You do it because you

think it is the right thing to do and you think that over the long term people will value if you are doing the right things."

Most people would not even know where Central Heat/Creative Energy is. The only giveaway is the six polished steel stacks that stick out of the roof of a two-storey plant at the corner of Georgia and Beatty streets. Many people think the plant is part of BC Place, says Stacey Bernier, the president of Creative Energy.

However, the building — once a printing plant for Pacific Press' Vancouver Sun and The Province newspapers — was converted to the steam plant in the 1960s. That predates even the construction of the Georgia and Dunsmuir viaducts.

Stepping into the bowels of the old plant is like stepping back in time. The old boilers, all of which



but one were converted from oil to natural gas, are rebuilt annually on a rotating cycle. But the scene is wholly vintage industrial, with thickets of pipes and valves and manifolds running throughout. The original Bailey Canada controls that govern the plant are still serviceable, but the company has long since gone out of business, and Bernier says his plant staff of 14 are adept at manufacturing new pieces to fit into the old system.

And yet the plant, which produces 1.8 billion pounds of steam annually, has an enviable record of 99 per cent efficiency, he said.

Bernier credited the founders of Central Heat with having the foresight to create a single collective source of heat for the downtown. Running a single steam line along Georgia Street to Burrard, the early builders connected St. Paul's Hospital long before there was the economic mass between the two points to justify the expense, he said.

Decades later, the system connects major buildings along the route, and is continually expanding as new buildings are built. Had Central Heat not developed the way it did, the downtown would be a forest of individual boilers and heat stacks sticking out of office buildings.

Bernier said that kind of forethought for the future is what Creative Energy also must do as it switches to a low-carbon fuel and converts other neighbourhoods to hot-water heat.

"We are trying to be those city-builders and plan for the future when we are not here. Have we been wise and responsible what the future city-building looks like?" he asked.

"We can't think of today, we have to think of tomorrow. Central Heat really thought of tomorrow in so many ways."

Gillespie believes developers have a moral imperative now to consider the use of neighbourhood energy utilities (NEU) as a course of their business.

"Right now the City of Vancouver has a LEED Gold (building) requirement. I assume that over the long term that will go to LEED Platinum or they will come up with some other new criteria. We should be continually raising that bar," he said.

Vancouver is helping in that regard, preparing bylaws to require all new major developments in the densest parts of the city to either hook into, or build, connections for future neighbourhood energy systems.

Creative Energy isn't the only NEU being built in Vancouver. Fortis Alternative Energy Services Ltd. is looking into converting the natural gas plant at BC Women's and BC Children's hospitals to a low-carbon source as well, and Park Lane Homes is building a system at its River District development. Those areas also will benefit from



PHOTOS: NICK PROCAYLO/PNG

The former Central Heat Distribution plant still boasts original Bailey Canada controls (above) and necessary tools of a bygone age (below).

### Creative Energy

**Creative Energy's downtown steam heat plant, by the numbers.**

**Number of buildings served:** 210

**Number of boilers:** 6

**Number of kilometres of steam pipe:** 14.5

**Tonnes of greenhouse gases produced annually:** 70,000

**Peak winter day use:** 680,000 pounds of steam

**Peak summer day use:** 100,000 pounds of steam

**Annual amount of steam produced:** 1.8 billion pounds

**Average annual consumption of natural gas:** 1.8 gigajoules

**Some major buildings serviced:** St. Paul's Hospital, Fairmont Hotel Vancouver, Vancouver Trade & Convention Centre, Shangri-La, Shaw Tower, BC Place, Rogers Arena

the city's mandatory hookup bylaws.

Gillespie dismissed the suggestion the bylaws create a monopoly for local energy providers

like himself. Both Fortis and BC Hydro are also monopolies, he pointed out.

"If we are going to affect the fuel switch, there needs to be a critical mass to it. The larger the network becomes, financially the underpinnings of it are better," he said. "What it is, is that it is good for the city. That's why they're doing it. If we are going to get a district utility that is running on biomass, then we need everybody to be part of the solution."

Brian Crowe, the city's manager of district energy, said Creative Energy has been given the franchise for a neighbourhood utility for Northeast False Creek. Negotiations are underway for a franchise agreement for Downtown South, where Gillespie's striking Vancouver House tower will be located.

Negotiations will finish next year for new systems in the West End, Downtown Eastside and Chinatown areas.

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