

# OpenStrom - Additional Feature Considerations

The basic OpenStrom solution should be able to measure energy consumption, switch circuits and have wifi capabilities. However

In order to decide if it makes sense to include these additional features, we need to understand the impact on complexity of the solution and cost.

Options considered:

Feature	Notes	Price (@1000)
ZigBee transceiver this would allow us to switch individual devices with smart plugs and integrate other ZigBee devices	AT86RF233-ZU ?	\$3.00
LAN (wired) several people were concerned about stability of wifi connection, especially when mounting the device in the fusebox/basement	LAN8720A ? To use this option we have to change the main micros with ones that has a ethernet bus - RMII. Such micros is Microchip PIC32MX764F128H. In this case we have to use some WiFi module - such as ESP8366. The price of these ICs is \$4+\$3 The PIC32MXxxxxx meets entirely the performance requirements - 80Mhz and 105MIPS with a rich set of peripherals 512K flash and 126K RAM. I've already calculated the main components and the cost went below than the TI cc3200 selection. I will prepare the BOM to make the comparison. Personally I have ICD 3 and a full IDE development environment (MPLAB X, XC32, Harmony, and a good hands on experience with PIC microcontrollers. In this case we will go to change the conception and I think that the Smart meter can be offering to the clients in several versions including the Network's capabilities (WiFi, Ethernet, ZigBee) as an options.	\$0.80 + connector (\$1?)  \$7
Higher loads (65A) for industrial applications, we would need higher loads	At this stage of the project is difficult to estimate the potential interest to higher loads, but I think we can be ready to meet this type of interest. Then designing relays circuits as separated relay's module will be essential and necessary.  DS902D 60A, 250VAC, Max.Switching current 80A Size: 39x31.7.18.4, SPSO	1.75 - 2.2\$

Additional RAM (128MB) to implement more powerful firmware features and to store/puffer data when connectivity is lost	We can use Bootload FlashRAM-MX25L12835FMI-10G	\$1.6