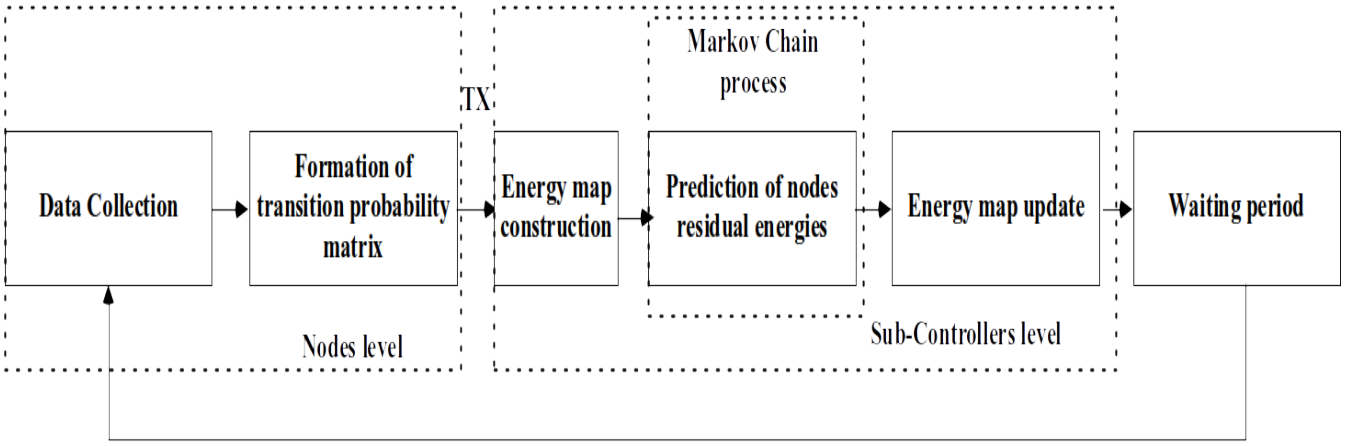

The figure above, is the diagram that describes the whole process.

Node level:

1. Each node collects information about the transitions between states (Sensing, sleeping, processing, transmission).
2. Formulate the transition probability matrix according to the steps in the document I sent to you earlier. (**note:** there will be some energy expended while doing this)
3. Send the transition probability matrix along with the consumption rate to their respective sub-controllers. (**note:** there will be some energy expended while doing this)

Sub-controller level:

1. Constructs energy map, showing the amount of energy of each node
2. Use the transition probability matrix to predict the future (depending on the waiting period e.g 10mins) energy that will be expended by each node (10ms time-step wise)
3. Use the prediction result to update the energy map at the end of each round
4. The cycle continues in that fashion.

Some Clarifications:

- Data collection at node level (transition information)
- Prediction of future energy spent using the collected data at the sub-controller level
- The energy spent doing each task is subtracted from remaining energy of each node….it is termed energy model inside your code, check under each state in the node.py directory.
- In the node.py, I can see four states (aggregating, transmitting, receiving and sensing), however, aggregating is only for CHs, and the fifth state is sleeping with all circuitries off (no energy cost).
- The prediction process happens after every 10mins (waiting period), during which, sensing is skipped.