



To: Brad Meister, CEC  
From: Rich Brown, LBNL  
Date: 9 February 2010  
Re: EEDN Subtask 2.4.1: Energy-Efficient Set-top Box Market Assessment Plan

The scope of work for the EEDN project includes the requirement to deliver to the CEC:

Prepare a Set-top Box Market Assessment Plan, to include but not be limited to the following:

- Categorization of the types and functions provided by digital set-top boxes (STBs), both in currently-shipped products as well as those planned in the near future. Identification of the most common combination of functions in current digital STBs.
- Estimation of the energy savings potential of the different categories of STBs.
- Identification of barriers to the deployment of energy saving features in STBs, focusing particularly on economic disincentives that STB manufacturers and service providers have to change the status quo. Selection of a common category of STB for a more detailed analysis in the subsequent phases on this task, based on energy saving potential and the presence of key market barriers that are likely to be removed through policy or other efforts.

The following discussion reviews each of the important topic areas of the assessment. The analysis will cover each of these issues in detail and draw conclusions.

The market assessment report will include an assessment of the scope of the market including definitions of terms relevant to types, functionalities and energy states of STBs. It will include definitions of closely related products. Classification based on the transmission signal source will encompass cable, satellite, terrestrial and internet protocol digital STBs. Each type will further be categorized based on their unique end function(s). Functionality ranges from the STB being a digital-to-analog tuner to personal video recording (PVR), high definition (HD) display, to integration of the functions of several STBs into a single multi-function device. However, increased functionality results in more complex power modes, and corresponding increase in energy use.

The next segment of the report will evaluate the energy consumption for each of the STB functional categories identified in the previous segment of the analysis. This will involve gathering information from key manufacturers and service providers in each STB category.

Energy related decision-making is a function of the transactions among the STB manufacturers, firmware and chip producers, service providers, installers, retailers, and finally the consumer. This topic is one which requires extensive study, and it will be covered in more depth in future portions of the STB task. An initial discussion will be included in the Market Assessment.

The report will also include a section that details our plans for the remainder of the set top box task. We believe that the market assessment will show that market conditions have changed since this work was proposed, and our research plans may change with the market.