

Figure 22 Recomputing Utility Bill

Flat Rate Structures and Tariffs

$$(1) \text{Cost}_{\text{utility}} = \text{Rate}_{\text{flat}} \times \text{Total Energy}_{\text{utility}}$$

$$(2) \text{Value}_{\text{deg}} = \text{Rate}_{\text{flat}} \times \text{Total Energy}_{\text{deg}}$$

Time Of Use Rate Structures

$$(3) \text{Cost}_{\text{utility}} = \sum_{i=1}^{\# \text{ TOU Rates}} (\text{Rate}_{\text{TOU } i} \times \text{TOU } i \text{ Energy}_{\text{utility}})$$

$$(4) \text{Value}_{\text{deg}} = \sum_{i=1}^{\# \text{ TOU Rates}} (\text{Rate}_{\text{TOU } i} \times \text{TOU } i \text{ Energy}_{\text{deg}})$$

Block Rate Structures – Inclining or Declining

$$(5) \text{Cost}_{\text{utility}} = \sum_{i=1}^{\text{Block Level}} (\text{Rate}_{\text{block } i} \times \text{Block } i \text{ Energy}_{\text{utility}})$$

$$(6) \text{Value}_{\text{deg}} = \sum_{i=1}^{\text{Last Block}} (\text{Rate}_{\text{block } i} \times \text{Block } i \text{ Energy}_{\text{utility}})$$

#Block Filled by Energy_{deg}

Block Rate Structures – Total Usage Rate

$$(7) \text{Rate}_{\text{initial}} = F(\text{Total Energy}_{\text{utility}})$$

$$(8) \text{Cost}_{\text{utility}} = \text{Rate}_{\text{initial}} \times \text{Total Energy}_{\text{utility}}$$

$$(10) \text{Rate}_{\text{new}} = F(\text{Total Energy}_{\text{utility}} + \text{Total Energy}_{\text{deg}})$$

$$(11) \text{Value}_{\text{deg}} = (\text{Rate}_{\text{new}} \times (\text{Total Energy}_{\text{utility}} + \text{Total Energy}_{\text{deg}})) - \text{Cost}_{\text{utility}}$$

Computing hypothetical utility bill

$$(12) \text{Cost}_{\text{hypo}} = \text{Value}_{\text{deg}} + \text{Cost}_{\text{utility}}$$

$$(13) \text{Cost}_{\text{actual}} = ((\text{Value}_{\text{deg}}) \times \text{discount rate}) + \text{Cost}_{\text{utility}}$$