Energy Harvesting Communications with System Costs

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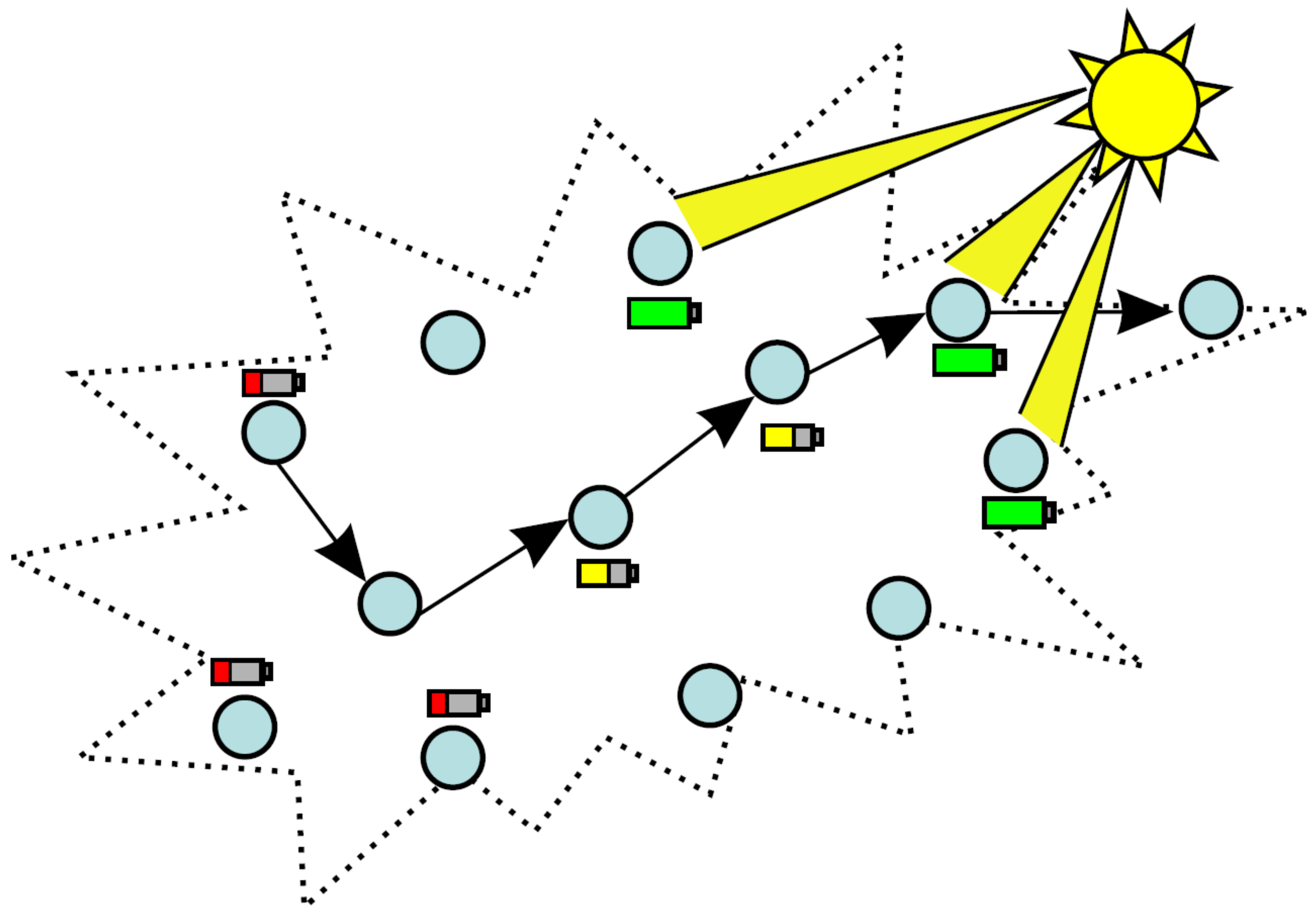
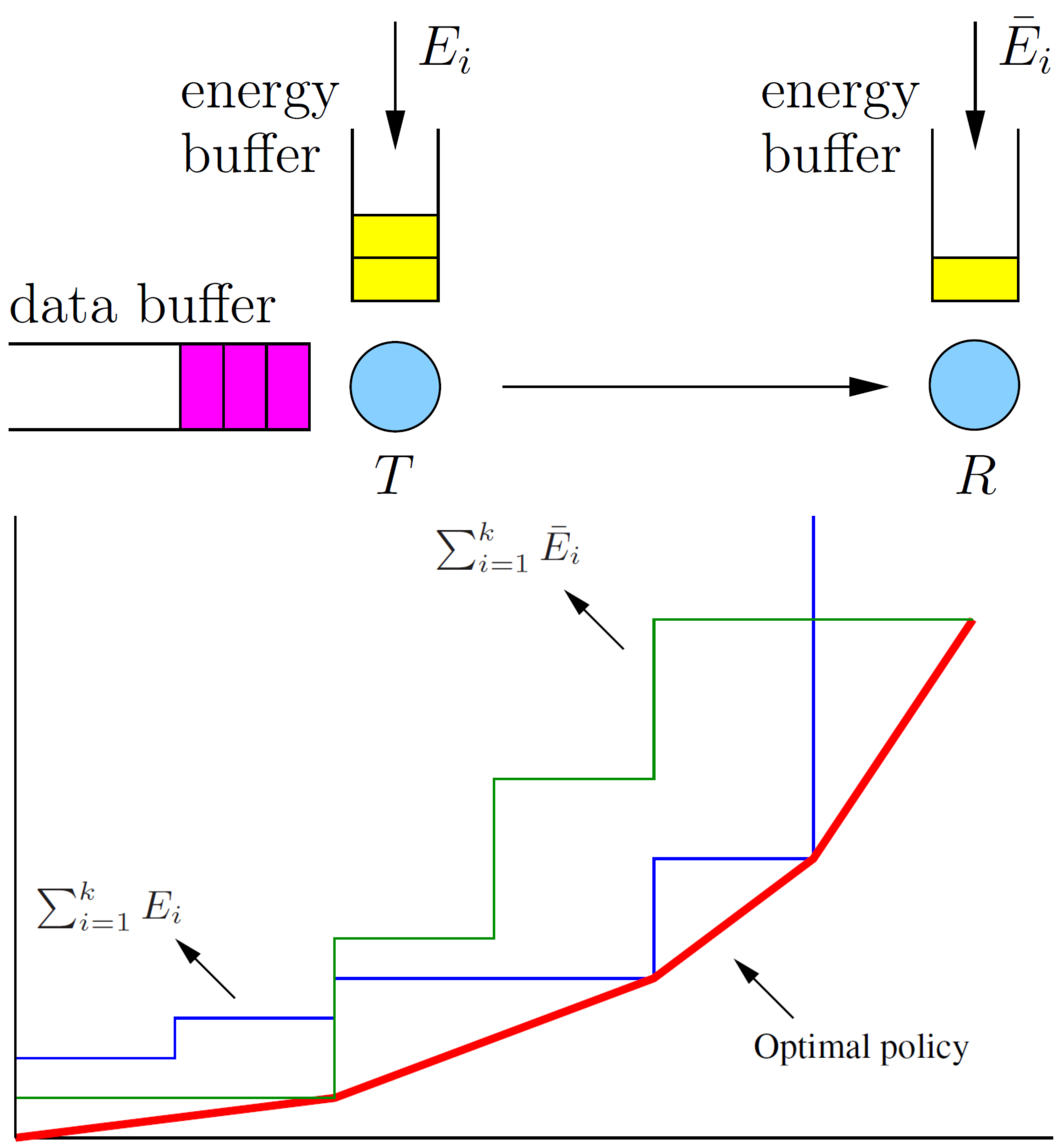


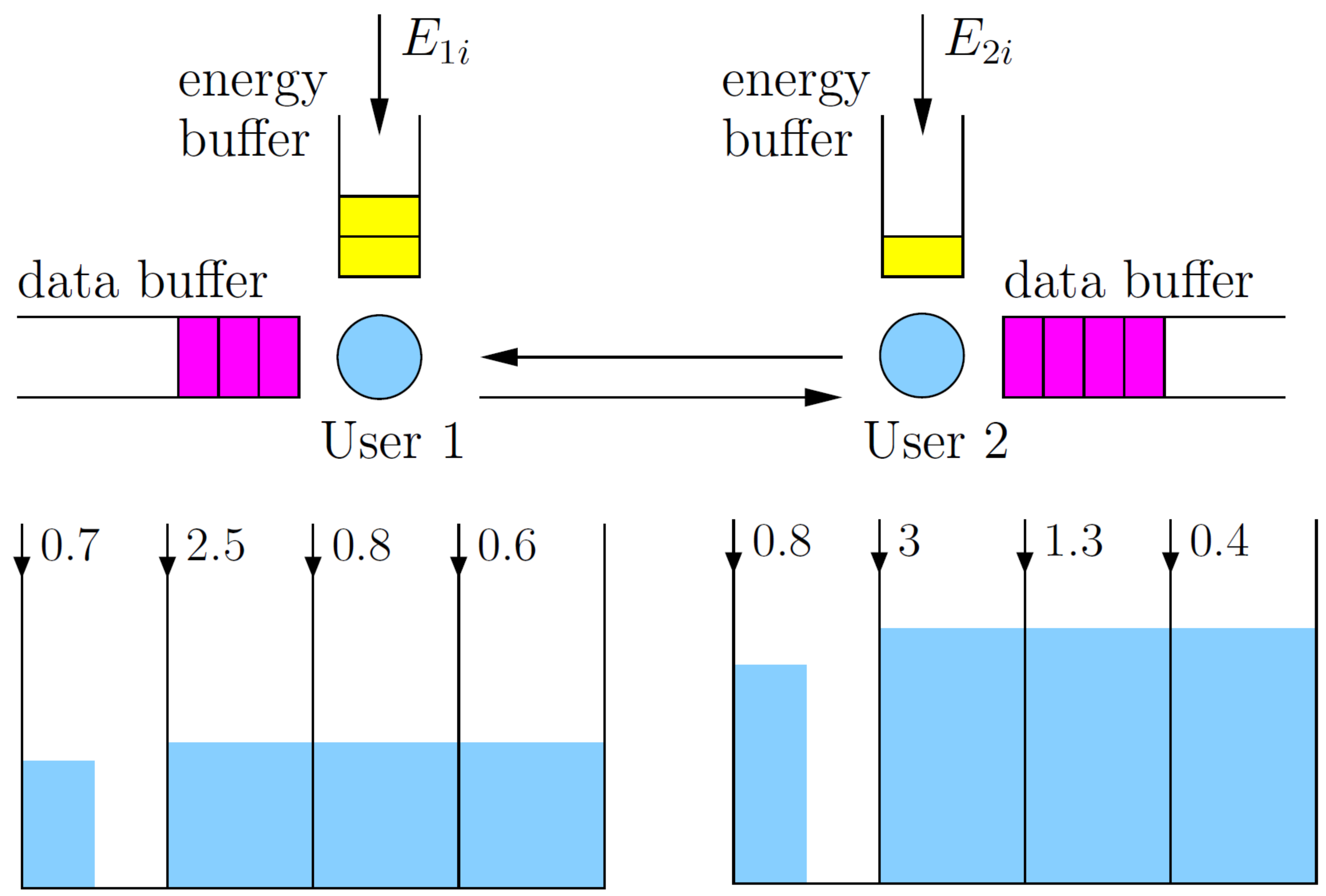
Nodes can replenish their batteries through external sources: solar power, wind, or thermal energy.

Receiver-side energy harvesting: *decoding costs*



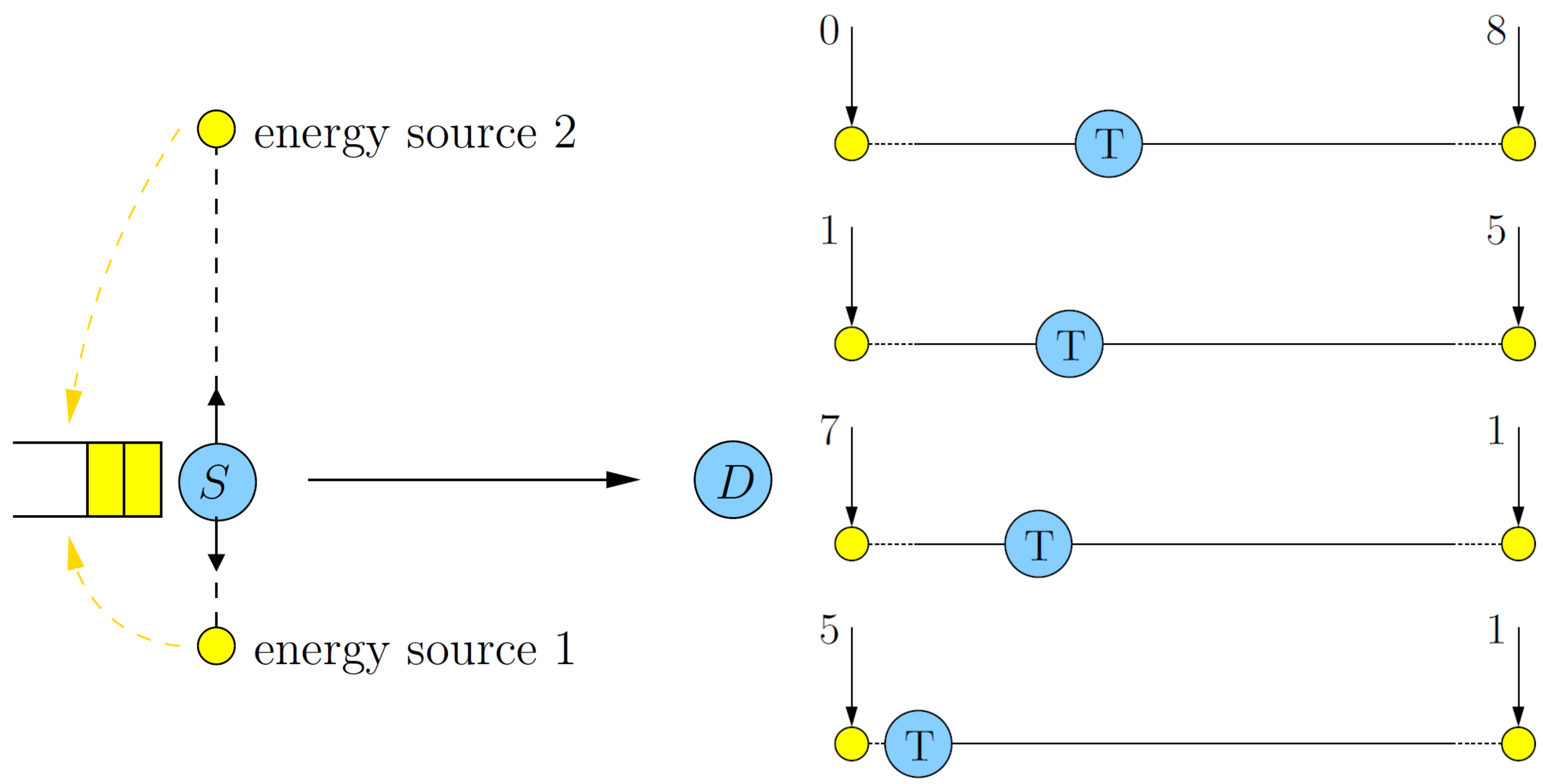
Sum-throughput optimal policy: tightest curve underneath both transmitter's and receiver's energy arrivals' curves.

Circuitry operational energy: *processing costs*



Deferred policy: fill up later slots first; earlier slots have bursty transmission.

Mobile energy harvesting nodes: *moving costs*



Moving trade off: spend moving costs to move to a better energy location, or stay in same location and spend all energy in transmission.

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