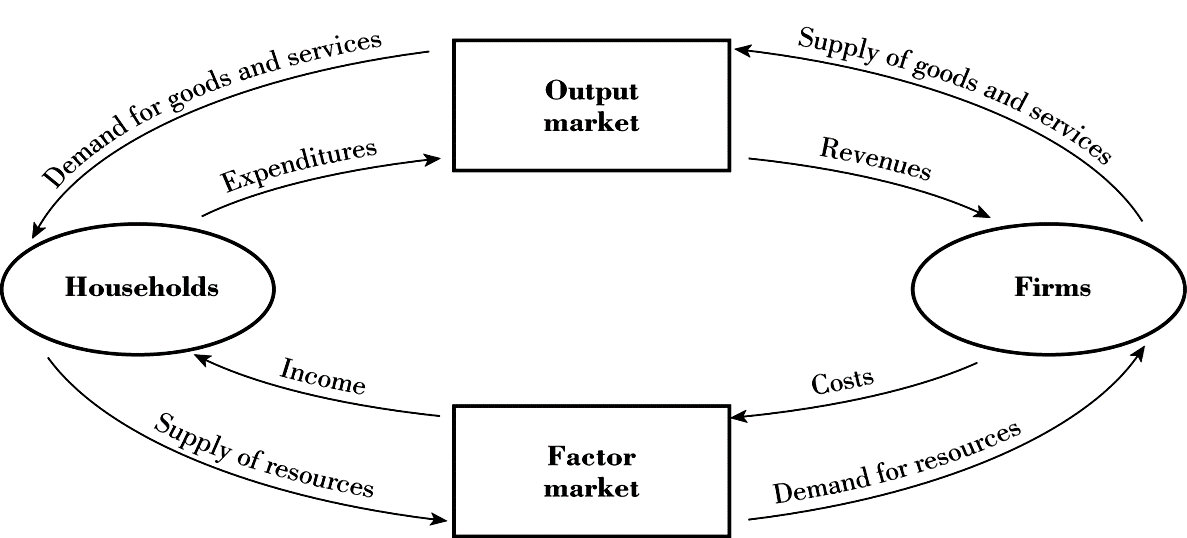
**UNIT: 1**

**Economics and the Environment**

* Economic theory explains what we observe in reality, including environmental problems
* Recognize the link between economic activity and the environment using models
  + Circular Flow Model
  + Materials Balance Model

1. **Circular Flow Model**

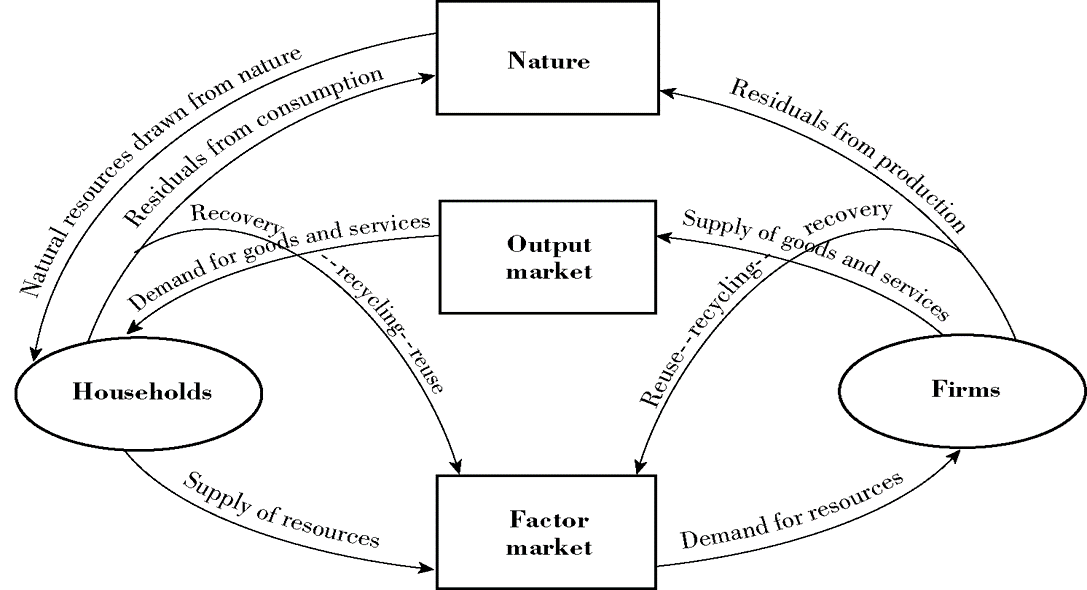
* Shows the real and monetary flows of economic activity through the output and factor markets.
* Forms the basis for modeling the relationship between economic activity and the environment
* But does not explicitly show the linkage between economic activity and the environment



1. **Materials Balance Model**

* Places the circular flow within a larger schematic to show links between economic activity and the natural environment via two sets of flows:
  1. Flow of resources *from* the environment *to* the economy
     1. The focus of Natural Resource Economics
  2. Flow of residuals *from* the economy *to* the environment
     1. The focus of Environmental Economics
* Residuals are pollution remaining in the environment after some process has occurred
* Residuals can be delayed, but not prevented, through recovery, recycling, and reuse. Shown as inner flows in the model

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**Science and the Materials Balance Model**

* The flow of resources and residuals are balanced according to laws of science.
* First Law of Thermodynamics
  + Matter and energy can neither be created nor destroyed
* Second Law of Thermodynamics
  + Nature’s capacity to convert matter and energy is not without bound

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