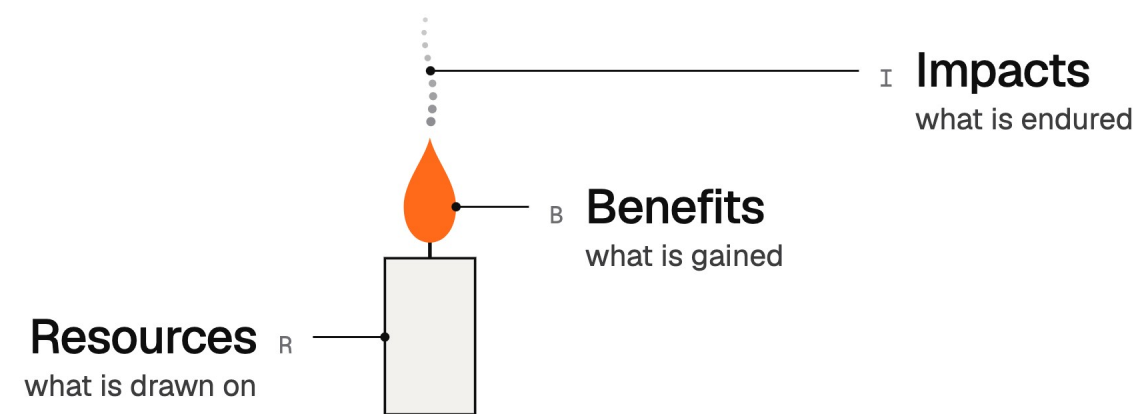


The limits of AI: the candle theory

For every benefit, AI draws on resources and produces negative impacts. Limits are reached when resources run out or when impacts become intolerable.

HOW TO READ EACH CANDLE



Our planet

extracted resources

01 Materials

- R critical metals, silicon
- B chips, servers, data centers
- I chemical pollution, habitat destruction, electronic waste

02 Energy

- R fossil, nuclear or renewable electricity
- B model training and use (inference)
- I greenhouse gases, air pollution, strain on power grids

03 Water

- R freshwater
- B server cooling, chip manufacturing, power generation
- I local water stress, conflicts over use

Our output

captured resources

04 Content

- R knowledge, information, creative works
- B access to knowledge, scientific discoveries, content generated on demand
- I errors, stereotypes, cultural homogenization, copyright violations

05 Data

- R personal and business data
- B personalization, predictions
- I privacy violations, surveillance, discrimination

06 Invisible labor

- R data labeling and moderation by click workers
- B filtered, polite models
- I job insecurity, trauma

The individual

eroded resources

07 Cognition

- R thinking to frame, check and correct
- B help to learn, solve and create
- I dependence, weaker critical thinking, undermined education

08 Relationships

- R confidences, time and attention
- B comfort and advice around the clock
- I isolation, emotional dependence, declining mental health

09 Know-how

- R professional expertise
- B accessible skills, support for medical diagnosis, translation, programming
- I jobs at risk, vulnerable beginners, loss of skills or meaning

Our commons

undermined resources

10 Trust

- R our trust
- B decision support, time savings
- I disinformation, deepfakes, fraud, cyberattacks, weakened social cohesion

11 Economy

- R private and public investment
- B innovation, growth
- I monopolies, financial bubble, unequal access

12 Government

- R laws, permits
- B better public services, stronger defense
- I loss of sovereignty, military uses, loss of control