

ASSIGNMENT 05

Renewable Energy Sources

Solar, wind, hydro and beyond

SUBMITTED BY

Riya Singh · Roll No. 23

SUBJECT

Science

SUBMITTED TO

Mrs. A. Kapoor

Contents

1. Introduction.....	2
2. Types of Renewable Energy.....	2
3. Advantages and Limitations.....	2
4. Renewable Energy in India.....	3
5. Conclusion.....	3
6. Bibliography.....	3

1. Introduction

Energy powers homes, farms and industries. Because fossil fuels are limited and polluting, countries are shifting to renewable sources that are clean and naturally replenished.

2. Types of Renewable Energy

Each source has its own strengths and is suited to particular places.

- Solar energy from sunlight using photovoltaic panels
- Wind energy from turbines on windy coasts and plains
- Hydropower from flowing water in dams
- Biomass and biogas from organic waste
- Geothermal energy from the Earth's heat

Source	Works best in	Main limitation
Solar	Sunny regions	No output at night
Wind	Coasts, open plains	Variable wind speed
Hydro	Hilly rivers	Affects ecosystems
Biogas	Villages, farms	Needs steady waste supply

3. Advantages and Limitations

Renewables reduce pollution and import bills, but some depend on weather and need storage or backup.

- Clean and abundant
- Low running cost
- Intermittent supply (solar, wind)
- High initial investment

Remember

Renewable sources are replenished naturally; non-renewable sources like coal take millions of years to form.

4. Renewable Energy in India

India has large solar and wind potential and has set ambitious targets for clean energy. Rooftop solar and solar pumps are spreading in villages and cities.

5. Conclusion

A mix of renewable sources, supported by storage and efficient use, can meet our energy needs while protecting the environment.

6. Bibliography

- NCERT textbook, relevant chapter (latest edition).
- Reference book on the subject, standard edition.
- Class notes provided by the teacher.