Université M^ed Boudiaf M'sila
Faculté des sciences
Département de Physique
Date : 10 Février 2022
Master 1/S1/ Physique énergétique et énergies renouvelables
Durée : 1h30

Nom: ..... Prénom: Corrigé-type Groupe:	20 /20

Examen : Anglais Scientifique I

What is green energy ? (2)

"Green" energy is clean energy that, unlike fossil fuels, is non-polluting that comes from 100% renewable sources, meaning it does not harm the environment and is more sustainable. We tend to confuse clean energies with renewable energies. The key difference is that all renewable energies are clean, but not all clean energies are renewable. For example, nuclear energy is clean because it is decarbonised and does not emit greenhouse gases into the atmosphere. However, this energy is not renewable because uranium, its fuel, is a limited resource.

There are several types of renewable energy:

- (0,5) Solar **energy** is a renewable energy produced from sunlight, so it is also an intermittent energy. It takes advantage of solar energy in two ways: with photovoltaic technology and with thermal technology. Photovoltaic solar energy converts the (0,5) sun's rays into (0,5) electricity through the use of photovoltaic plates or panels, while solar thermal energy is generally used to heat fluids, such as domestic water heaters.
- (1) Wind energy depends on the strength of the wind. It comes from turbines, called wind turbines or air turbines, which convert the kinetic energy of the wind into energy.
- (2) **Hydraulic or hydroelectric energy** transforms the Kinetic energy of water into electricity through hydroelectric plants. Like wind or solar power, hydropower is intermittent: it depends on the flow of water and on rainfall. In other words, the drier the year, the less hydroelectric energy will be produced and vice versa.
- (1) Geothermal energy is a process that takes advantage of the Earth's natural heat and converts it into energy. It is one of the only renewable energies that is not intermittent and therefore does not depend on atmospheric conditions.
- **Biomass** is used to produce electricity and fuel (for example, biogas) from the heat released by the combustion of organic plants or animal waste, or from their fermentation. The energy from plant waste has the advantage of being carbon neutral. In fact, burning plant waste produces as many CO2 emissions as it absorbs during photosynthesis. It is important to know that (0,5) biomass is only considered a renewable energy source when its consumption is less than its regeneration.

https://climate.selectra.com/en/environment/green-energy

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Read carefully the text above and answer the questions below.

1- **Comprehension of the text: (12pts)**

- Fill the gaps in the above text.
- What is the topic of the text?

(0,5) ..... Green energy .....

- Complete the title of the text.
- Select the right statement below:

☐ Nuclear energy is not renewable and not green energy.

☐ Nuclear energy is renewable and not green energy.

(1) ☑ Nuclear energy is green and not renewable energy.

☐ Nuclear energy is green and renewable energy.

- When we can consider the biomass as renewable energy?
- (2) ..... When its consumption is less than its regeneration .....

2- **Linguistic competency: (8pts)**

- Propose an antonym for each word below:
  - Unlike ≠ ..... Like ..... (0,5)
  - Decarbonised ≠ ..... Carbonised ..... (0,5)
  - Non-polluting ≠ ..... Polluting ..... (0,5)
  - Limited ≠ ..... unlimited ..... (0,5)
  - Intermittent ≠ ..... Continuous ..... (0,5)
- Give the equivalent in Arabic for each word below:
  - Clean = ... نظيف ..... (0,5)
  - Fossil = ... أحفوري ..... (0,5)
  - Non-polluting = ... غير ملوث ..... (0,5)
  - Resource = ... مصدر ..... (0,5)
  - Photosynthesis = ... التركيب الضوئي ..... (0,5)

- Translate in Arabic the below sentence from the text:

The key difference is that all renewable energies are clean, but not all clean energies are renewable.

(3) الفرق الرئيسي هو أن كل الطاقات المتجددة نظيفة
..... ولكن ليس كل الطاقات النظيفة متجددة .....

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique

Université Med Boudiaf de M'sila — جامعة محمد بوضياف – المسيلة

Faculté des sciences — كلية العلوم

Département de Physique — قسم الفيزياء

(السنة الدراسية 2022-2021)

السنة الأولى ماستر– فيزياء طاقوية – الفوج 01

Anglais Scientifique I

N°	Nom	Prenom	N d'inscruption	Control	TD	TP	Moy	Rattrapage	Moy R
1	ABDELDJABAR	Mohamed	1515351119878	4,50			0.00		0.00
2	AGGOUNI	Oussama	171735091404	Abs			0.00		0.00
3	AMROUNE	Manal	1818350772225	9,00			0.00		0.00
4	ATTALLAH	Radhia	171735094228	8,00			0.00		0.00
5	BRAHIMI	Nouha	1818350868840	19,50			0.00		0.00
6	CHABI	Yasmine	171735083505	15,25			0.00		0.00
7	DAFAF	Salim	1815350940083	2,75			0.00		0.00
8	DIF	Yassamine Oumel Kheyr	1818350855594	7,50			0.00		0.00
9	HADJI	Zekria	1718350977786	Abs			0.00		0.00
10	HANNA	Salah	161635102252	Abs			0.00		0.00
11	HEMMACHE	Mouchira	171735083475	15,25			0.00		0.00
12	HERABI	Siham	1818350817758	4,50			0.00		0.00
13	LAKEHAL	Rhima	1818350859118	15,25			0.00		0.00
14	LATTOUI	Kheir Eddine	1815351038864	Abs			0.00		0.00
15	LOUGHLAITI	Zeyneb	171735086265	8,00			0.00		0.00
16	REFICE	Abdelghafar	1515351040411	4,75			0.00		0.00
17	SAYHI	Aicha	171735091529	7,50			0.00		0.00
18	THARAFI	Messaouda	171735104053	7,50			0.00		0.00

إسم ولقب مسؤول القياس

صيشام بولشفار

Ministère de l'Enseignement Supérieur et de la Recherche Scientifique

Université Med Boudiaf de M'sila — جامعة محمد بوضياف – المسيلة

Faculté des sciences — كلية العلوم

Département de Physique — قسم الفيزياء

(السنة الدراسية 2021-2022)

السنة الأولى ماستر – فيزياء طاقوية – الفوج 02

Anglais Scientifique I

N°	Nom	Prenom	N d'inscruption	Control	TD	TP	Moy	Rattrapage	Moy R
1	ABDELKBIR	Ibticem	211435106000	Abs			0.00		0.00
2	BAKHTI	Djouadi	218796700	7,50			0.00		0.00
3	BENAISSI	Messaoud	171535097119	Abs			0.00		0.00
4	BENRAYA	Soumia	171735094798	9,50			0.00		0.00
5	BESSA	Mohamed Menaouar	211733068341	6,75			0.00		0.00
6	BOURAS	Soumia	181835087244	9,75			0.00		0.00
7	CHEBICHEB	Majda	161635098328	15,00			0.00		0.00
8	CHOUIA	Rabeh	21105085063	20,50			0.00		0.00
9	HEDJOULI	Fatna	171735103668	8,50			0.00		0.00
10	HELITIM	Amal	161635088149	9,75			0.00		0.00
11	LOGRADA	Saida	171735094796	Abs			0.00		0.00
12	OUCIF	Omar	161635112971	9,25			0.00		0.00
13	SAIDI	Feriel	211635031922	9,75			0.00		0.00
14	SAYHI	Saddam Hocine	151535120660	Abs			0.00		0.00
15	TOUAMA	Toufik Mohamed	171735086059	7,75			0.00		0.00
16	ZEMMIRI	Khadidja	171735086148	10,00			0.00		0.00
17	ZITA	Dalila	171735091488	12,50			0.00		0.00
18	ZITOUNI	Sihem	211833051290	15,25			0.00		0.00

إسم ولقب مسؤول القياس

هيشام لوشف