# C:\Users\DARTY\Dropbox\eolecole\communication\charte graphique\Eolecole\01_EolEcole_Logo\EolEcole_Logo\EolEcole_Logo.pngEtude et construction d’une éolienne

## Partie IV :

## Comprendre le mécanisme de stockage de l’énergie électrique : Les batteries

Comment conserver l’énergie électrique de l’éolienne, afin de l’utiliser en temps voulu ? L’utilisation de batteries est la solution. Mais comment fonctionnent-elles ? Comment une réaction chimique peut fournir de l’énergie ?

### Transformations chimiques

Effectuer l’expérience ci-dessous :

Décrire les modifications observées lorsque le zinc est au contact d’une solution de sulfate de cuivre.

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Quel sont les ions responsables de la couleur bleue du sulfate de cuivre ?

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Que sont devenus ces ions au cours de la transformation ?

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Par quels ions positifs ont-ils été remplacés dans la solution ?

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Parmi les espèces chimiques suivantes : Zn2+ ; Zn ; Cu ; Cu2+, quelles sont celles qui sont présentes à l’état initial ? Indiquer si elles sont dans le solide ou dans la solution.

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Même question pour les espèces chimiques présentes à l’état final.

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Choisir, parmi les équations proposées, celle qui convient pour la réaction chimique étudiée :

Zn2+ + Cu- => Zn + Cu2+ ; Zn2+ + Cu2+ => Zn + Cu ; Cu2+ + Zn => Cu + Zn2+

### La batterie



Indiquer la réaction qui a lieu au niveau de l’anode.

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Indiquer la réaction qui a lieu au niveau de la cathode.

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Indiquer le sens des électrons par une flèche verte sur le schéma. Quelle est la borne négative ? (la symboliser par un - sur le schéma) Quelle est la borne positive ? (la symboliser par un + sur le schéma)

Effectuer l’expérience et relever la tension de la batterie. (Ne pas oublier l’unité)

Tension = \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_ \_

### Electrolyse



Indiquer le sens des électrons par une flèche verte sur le schéma.

Indiquer la réaction qui a lieu au niveau de l’anode.

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Indiquer la réaction qui a lieu au niveau de la cathode.

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A quel moment la batterie ne pourra plus se recharger ?

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A quel moment la batterie sera complètement déchargée ?

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Avec quel type de courant la recharge de la batterie se fait-elle ?

□ Courant continu □ Courant alternatif