

# A Report on Cohesion and Coherence in the English-Chinese Translation in Energy English

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DOI: 10.32629/jher.v5i6.3411

**Abstract:** This report analyzes the concepts of cohesion and coherence and their application in the English-Chinese translation of energy English. The first introduction provides a brief introduction to the relationship and differences between cohesion and coherence. The second part discusses cohesion of classification, including reference, substitution, ellipsis, conjunction, and lexical cohesion, and the third part presents several translation techniques for these cohesive devices. The fourth part introduces coherence and its translation techniques, such as sentence order adjustment, and context-based information addition. Through detailed analysis and examples, the report demonstrates how these techniques can enhance the translation of energy English texts, maintaining their clarity, precision, and reader engagement.

**Keywords:** energy English; cohesion; coherence; translation techniques

## 1. Introduction

Discourse refers to a coherent whole constituted by a series of linguistic units (such as sentences, paragraphs, etc.) in a specific context. It is not just a set of isolated sentences; it has internal logical relationships and cohesive forms of language expression. Some people believe that coherence and cohesion are the same thing. Beaugrande and Dressler[1] propose seven standards of discourse in their book *Introduction to Text Linguistics*: cohesion, coherence, intentionality, acceptability, situationality, informativity, and intertextuality. Cohesion refers to the use of lexical or grammatical means to connect the elements of a discourse, forming its tangible network. Coherence, on the other hand, refers to the logical relationship that achieves semantic continuity, based on a shared understanding of the context between the sender and the receiver of the information. It constitutes the intangible network of discourse[4]. Therefore, the relationship between cohesion and coherence in the construction of discourse is very close. The two are interdependent and work together to ensure the fluency and comprehensibility of the text, but they are distinct concepts.

Cohesion and coherence are two important concepts in discourse analysis. So this report aims to study the ways in which they are manifested and transformed in English-Chinese translation of Energy English.

## 2. The Classification of Cohesion

Cohesion refers to the process of linking linguistic units such as sentences and paragraphs through language means, creating an organic whole.

The concept of cohesion was first introduced by Halliday in 1962. He distinguishes cohesion into two main categories: grammatical cohesion and lexical cohesion. The former is further divided into structural cohesion and non-structural cohesion, while the latter is divided into lexical repetition and lexical sets. In 1976, Halliday, along with Hasan, co-authored the book *Cohesion in English*, which can be regarded as a milestone in the establishment of cohesion theory. They divided cohesion into five major categories: reference, substitution, ellipsis, conjunction, and lexical cohesion. Among these, reference, substitution, and ellipsis are considered grammatical cohesive devices, while lexical cohesion falls under lexical cohesive devices. Conjunction, which exhibits characteristics of both grammatical and lexical cohesion, is primarily categorized as a grammatical cohesive device[3]. In this part, a detailed discussion of these five cohesive devices will be provided.

### 2.1 Reference

In a discourse, certain words do not convey meaning directly but derive their interpretation by referring to something else, forming what is known as reference. Reference refers to the cohesion achieved in a text through the mutual referential relationship between words. Essentially, a reference relationship is the connection between a reference item and its referent. Halliday and Hasan[3] categorize reference into three types: personal reference, demonstrative reference, and comparative reference. Li Changzhong[8] points out that personal reference primarily includes personal pronouns in the subjective and objective cases, as well as possessive adjectives and pronouns; Demonstrative reference mainly includes definite articles,

demonstrative pronouns (this, that, these, those), and demonstrative adverbs (here, there, now, then, etc.); Comparative reference involves expressions of identity (same, identical, etc.), similarity (similar, such, etc.), and difference (different, else, etc.).

## 2.2 Substitution

Substitution refers to the use of shorter linguistic forms to replace certain words in the context, aiming to make the text concise and fluent[12]. Guo Liqiu et al.[5]point out that in a reference relationship, the reference item and its referent are semantically identical, referring to the same entity. And in contrast, substitution involves a substitution form and the substituted element, which are different objects within the same category. According to the classification by Halliday and Hasan[3], substitution is typically divided into nominal substitution, verbal substitution, and clausal substitution.

## 2.3 Ellipsis

Guo Liqiu et al.[5]define that ellipsis refers to the omission of certain elements in a text to avoid repetition, thereby conveying more information with fewer linguistic units. This reduces the encoding and decoding difficulties for both sides in communication. When information is obvious or has already been mentioned in the preceding text, ellipsis can avoid repetition, preventing the text or dialogue from becoming verbose. According to Halliday and Hasan's book *Cohesion in English*[3], ellipsis in English can be categorized into nominal ellipsis, verbal ellipsis, and clausal ellipsis.

## 2.4 Conjunction

Conjunction is words used to link words, phrases, clauses, or sentences, serving to indicate the logical relationships between them and thereby enhancing the coherence and cohesion of the text. Through the use of conjunction words, people can understand the semantic relationships between sentences and may even logically anticipate the meaning of subsequent sentences based on the preceding ones[7]. In English, transitions between sentences primarily rely on hypotactic methods. Particularly in more formal writings, transitional words are often used to connect sentences or groups of sentences[10]. According to Halliday and Hasan[3], conjunction can be categorized into additive, adversative, causal, and temporal types. Later, they group these four logical-semantic relationships into three broader categories: elaboration, extension, and enhancement.

## 2.5 Lexical cohesion

Lexical cohesion refers to the way words and phrases in a text create connections and establish coherence through their meanings. Liu Qingyuan[10]points that this semantic connection can be reflected in the complete or partial repetition of meaning between words, such as the recurrence of the same term, the use of synonyms, near-synonyms, hyponyms, hypernyms, or general words. It can also be demonstrated through the frequent co-occurrence of words in collocational relationships, such as the use of antonyms or words from the same semantic field.

# 3. The Translation Techniques for Cohesion

Discourse is not simply a random accumulation of unrelated sentences, but rather an organic combination of sentences that are meaningfully connected, achieved through various cohesive devices to serve a specific communicative purpose[5]. The following will introduce the translation methods for the five cohesive devices (including reference, substitution, ellipsis, conjunction, and lexical cohesion) in the English-Chinese translation of energy English.

## 3.1 Omitting the reference item for reference

In terms of sentence cohesion, modern English predominantly uses hypotaxis, which involves connecting sentences with conjunctions. In contrast, Chinese employs both hypotaxis and parataxis but places greater emphasis on parataxis[6]. In English, various pronouns are frequently used to avoid repetition of nouns or noun phrases. As a result, pronouns are used far more frequently in English than in Chinese. However, when translating into Chinese, some pronouns may not need to be explicitly translated, as their meanings can be conveyed through the words. In such cases, it is necessary to consider omitting these pronouns that serve as references. Particularly in energy English, which falls under the category of English of science and technology, the language is required to be concise and precise.

【 Example 1 】

【 Source Text 】 International costs comparisons are difficult because of country-specific factors and a lack of common method for its calculation.

【 Target Text 】因为需要考虑到国家具体情况，并且缺乏通用的计算方法，所以国际成本很难进行比较。

【 Analysis 】 In the source text, “its” serves as a modifier for “calculation,” referring to the earlier mention of

“International costs,” meaning “国际成本的计算。” In the target text, “its” is omitted because readers can already infer that the calculation pertains to international costs. Repeating “国际成本” in the translation will be redundant and verbose. Therefore, omitting it makes the translation more concise and clear.

### 3.2 Supplementing the substituted parts for substitution

Sometimes, omitting a part can lead to semantic incoherence. When translating substituted parts, it is important to consider the context and supplement the substituted objects accordingly.

【 Example 2 】

【 Source Text 】 Because of these properties, hydrogen needs to be created from existing molecules. Doing so requires energy, and that energy can come from various sources including renewables (wind, solar, hydropower, biomass, and geothermal energy), nuclear power, and fossil fuels (such as natural gas and coal — with carbon capture and sequestration).

【 Target Text 】 这种活泼特性使得我们需要从现存分子中制造氢气。制氢过程所需能源来源广泛，有可再生能源，比如风能、太阳能、水能、生物能和地热能等，还有核能和化石燃料能源，比如天然气和煤炭（可以经过捕捉并收集碳排放技术的处理）。

【 Analysis 】 Clausal substitution refers to the use of substitute forms to replace an entire clause or most part of it. In English, the word “so” is commonly used as a clausal substitute to indicate affirmation. In the example provided, “so” substitutes for the second clause in the previous sentence, “hydrogen needs to be created from existing molecules.” Therefore, in translation, it is important to consider supplementing the substituted part. However, instead of repeating the entire clause, a concise summary of it can be provided. So, when translating here, we simplify “从现存分子中制造氢气” to “制氢过程”. This way, the sentence becomes clearer and more accurate, without being overly wordy, thus making it concise and to the point.

### 3.3 “Reappearing” the omitted parts for ellipsis

To some extent, elliptical structures are syntactically incomplete, but this does not mean they are unintelligible, as readers can infer the omitted parts from the context[13]. On occasion, readers may struggle to grasp the meaning of the omitted parts based on the context, or they may misinterpret the intended message of the ellipsis, leading to confusion or misunderstanding. Therefore, when translating elliptical parts, we must pay special attention to the contextual information and “reappear” the omitted parts.

【 Example 3 】

【 Source Text 】 Yet we must ensure that the path out of the current energy security crisis and the race to net zero emissions do not simply replace one set of concerns with another.

【 Target Text 】 要想解决当前能源安全危机，实现净零排放，不能顾此失彼。

【 Analysis 】 We can see that at the end of the example, there is an ellipsis; after “another,” there should have been “set of concerns.” This ellipsis belongs to nominal ellipsis, and the corresponding Chinese translation involves the “reappearance” of the omitted parts. Here, the target text adopted the approach of “顾此失彼”. “彼” refers to “one set of concerns”, and “此” refers to “another set of concerns”. This is a reappearance of the omitted part. Appropriate supplementation can make the structure of the translation more complete and the meaning clearer.

### 3.4 Adjusting conjunctive elements for conjunction

When translating conjunctive elements, we need to pay attention to the context, understand the logical relationships, and then decide whether to adjust the translation of the conjunctive elements.

【 Example 4 】

【 Source Text 】 The ability of an electricity source to be available during times of highest system needs, for example, helps to raise its energy value, measured by the average wholesale price obtained for its output in a competitive market. At the same time, an abundance of output when it is not needed reduces the energy value.

【 Target Text 】 例如，在用电高峰期，一种电力能源仍能供电，可以提升它的能源价值（由竞争激烈的市场上能源产出的平均批发价来衡量）。反之，发电量供过于求时，它的能源价值就会降低。

【 Analysis 】 In this example, “At the same time” is a conjunctive element used to connect two situations: generating electricity during times of highest system needs and when there is an abundance of output when it is not needed. However, by analyzing the logical relationship, we can see that these two situations are being contrasted. Therefore, the original meaning of “At the same time” as “同时” is adjusted and translated as “反之” to better present the inner logical relationship.

### 3.5 Retaining the general words for lexical cohesion

When translating such lexical cohesion, we can retain the general words instead of translating again the parts they

summarize. This approach ensures the sentences remain coherent and clear.

【 Example 5 】

【 Source Text 】 What's more, geothermal energy can be harnessed during 72% of a year, much longer than the time for water, wind and solar energy, with the utilization time percentage of 42%, 21% and 14% respectively. This advantage reduces the cost of geothermal energy.

【 Target Text 】 此外，地热能一年可利用时间达72%，这比水能（42%）、风能（21%）和太阳能（14%）要长得多，这项优势降低了地热能的成本。

【 Analysis 】 In this example, “This advantage” is the general word which refers to “geothermal energy can be harnessed during 72% of a year”. The use of general words can enrich vocabulary, streamline language, and connect the text, making it smooth and concise. At the same time, it summarizes the referenced part, making it easier for readers to understand. Repeating the latter will make the text verbose and redundant.

## 4. The Translation Techniques for Coherence

Givón[2]proposes that: “The coherence we are really after is not the coherence of the external text but rather the coherence of the mind that produce, store and retrieve the mental text.” Coherence in discourse refers to the logical flow and semantic consistency of a text, making it easy for readers or listeners to understand and follow. The translator's task is to capture the coherence of the source text and reproduce the original author's line of thought, allowing the target language readers to have a similar understanding and reading experience as the source language readers[9].

Therefore, to achieve discourse coherence in translation, translators need to focus on the overall structure and logical relationships of the text, ensuring smooth transmission of ideas and information between the source and target languages.

### 4.1 Adjusting the sentence order

Qin Hongwu[11]demonstrates that the order reflected in language corresponds to humans' understanding of the occurrence and development of natural and cultural phenomena. He also points that the two are interconnected, forming the iconicity of sequence in language. In Chinese, facts are typically stated first, followed by opinions, whereas in English, judgmental content is usually presented as the main clause, with factual background relegated to subordinate clauses or other dependent components.

Consequently, based on the principle of iconicity, when translating from English to Chinese, the sentence order should be rearranged according to the logical sequence of events. This approach makes the translation more aligned with Chinese norms.

【 Example 6 】

【 Source Text 】 Ocean thermal gradient energy has not showed its operation potential for its high capital cost, almost \$10,000/kWh.

【 Target Text 】 由于需要高额资本成本，约一万美元每千瓦时，故使用海洋温差发电不现实。

【 Analysis 】 In this sentence, the source text begins with an evaluative statement and then uses a preposition to connect the facts as the cause. However, in Chinese, we typically present the facts first and then provide an evaluation. Therefore, the target text rearranged the sentence order of the source text, placing “Ocean thermal gradient energy has not showed its operation potential” at the end as the evaluation, translating it as “故使用海洋温差发电不现实” in Chinese. In this way, the preceding and following parts form a cause-and-effect relationship, makes it easier for readers to understand.

### 4.2 Adding information based on the context

Source texts often rely on cultural or contextual knowledge that might not be familiar to the target readers. Supplementing information helps bridge these gaps, making the translation accessible and understandable. In translation, adding information based on the context is necessary to ensure the target text is clear, coherent, and culturally appropriate for the target readers.

【 Example 7 】

【 Source Text 】 In the Net Zero Emissions by 2050 Scenario, low-emissions production takes off quickly, reaching around 150 Mt in 2030 and 520 Mt by 2050.

【 Target Text 】 在“2050年净零排放情景”中，国际能源署设定了低碳氢产量的高速增长目标：2030年时达到约150公吨，2050年前达到520公吨。

【 Analysis 】 The source text merely mentions that a production target is stated in “the Net Zero Emissions”, but readers may not be familiar with the content and background of the document. Additionally, a production target requires an agent to propose it. Therefore, the target text adds a subject, “国际能源署” in Chinese, which helps bridge the information gap between the readers and the source text. Supplementing missing or unclear details ensures that the target audience can fully

understand the text without needing to infer or guess the meaning.

## 5. Conclusion

In the English-Chinese translation of energy English, achieving cohesion and coherence is crucial for clear and accurate target texts. Cohesion ensures structural connections within the text, while coherence provides logical flow and meaning. Translators must adapt the text to align with the target readers' linguistic and cultural norms, using strategies such as omitting the reference words, supplementing the substituted parts and adjusting conjunctive elements. By mastering these techniques, translators can bridge the gap between the source and target texts, delivering translations that faithfully convey the original content while ensuring readability and comprehensibility.

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