国际人才行业英语考试（石油石化）

考试大纲

国际人才行业英语考试（石油石化）考试委员会

目 录

1. 考试简介

1.1 考试目的

国际人才行业英语考试（石油石化）（English Test for International Communication—Petroleum & Petrochemical Industry），简称“国才（石油石化）考试”（ETIC—PPI），是一项专门用途英语水平测试，考查考生在石油石化领域使用英语开展对外交流、进行国际合作、展现中国智慧、讲好中国能源故事的能力。本考试旨在服务国家重大能源战略需求及国际传播能力建设；深化石油石化类高校外语教育教学改革，提高外语教学质量，满足行业国际化人才培养和评价需求；助力石油石化类企业“外语+行业”国际化复合型人才的招聘和选拔，加快企业国际化发展。

1.2 考试对象

国际人才行业英语考试（石油石化）主要面向普通高等学校石油石化类专业在校生，以及希望进入石油石化行业工作的其他专业在校生及社会人员。

1.3 考试用途

国际人才行业英语考试（石油石化）可用于能力评价、教学反馈及人才选拔等。考试委员会负责解释考试水平和成绩，但考生成绩的使用权属于考生所在院校或用人单位。考试委员会尊重各单位对其人员英语能力要求的自主权。

2. 能力要求

国际人才行业英语考试（石油石化）以石油石化行业人才需求调研为基础，参照《普通高等学校本科专业类教学质量国家标准》、《大学英语教学指南（2020版）》及石油石化类高校人才培养目标和专业教学要求设计而成。考试充分借鉴语言测试等相关学科的发展与研究成果，考查语言使用者在石油石化行业工作所需的英语综合运用能力。

2.1 通用英语能力

2.1.1 词汇

要求考生掌握行业核心词汇及一般词汇在行业语境中的用法。考生应能：

- 理解行业核心词汇的含义、常见用法和搭配；
- 理解一般词汇在行业语境中的特殊含义；
- 运用行业核心词汇进行书面表达和中英互译。

2.1.2 听力

要求考生能听懂发音清晰、语速正常的对话和独白。考生应能：

- 理解主旨大意；
- 获取细节信息；
- 推断说话者的话语意图、观点和态度。

2.1.3 阅读

要求考生能读懂语言较复杂、相关专业领域、不同类型的材料。考生应能：

- 理解主旨大意；
- 获取细节信息；
- 理解篇章的基本结构和逻辑关系；
- 推断作者的写作意图、观点和态度。

2.1.4 写作

要求考生能围绕较熟悉的话题进行书面表达。考生应能做到：

- 中心思想明确，语义通顺连贯；
- 用词恰当，语法准确；
- 使用有效的写作方法与策略。

2.1.5 翻译

要求考生能运用目的语传达源语意义。考生应能做到：

- 准确表达原文意思；
- 译文自然流畅，结构清晰；
- 用词贴切，无语言错误；
- 运用基本的翻译技巧。

2.2 行业英语能力

要求考生能运用英语完成行业内相关工作任务，实现跨文化沟通。考生应能：

- 理解和运用行业核心词汇；

- 理解一般词汇在行业语境中的特殊含义；
- 听懂与业务工作相关的对话，如工作安排、项目进展等，理解大意，获取关键信息，推断说话者话语意图、观点及态度；
- 听懂与业务工作相关的发言，如学术讲座、钻井平台介绍等，理解并记录关键信息；
- 浏览有关产油国文化的文章及行业新闻，提取主旨大意及重要细节；
- 读懂能源人文和能源科技话题的文章，如石油与经济、人工智能在石油石化领域的应用等，获取行业相关信息，并做出基本的分析和推断；
- 看懂行业图表，如石油进出口、存储量数据等，撰写数据报告；
- 在特定情境下与特定对象进行商函往来；
- 将中文专题文件翻译成英文。

3. 考试内容和形式

3.1 概述

国际人才行业英语考试（石油石化）综合考查考生在石油石化行业使用英语开展对外交流、实现跨文化沟通所需的英语综合运用能力。考查形式为机考。考试时间为 120 分钟。

3.2 试卷构成

国际人才行业英语考试（石油石化）包含词汇、听力、阅读、写作、翻译共 5 个模块，8 项任务，依次为行业术语、理解对话、记录发言、浏览材料、分析材料、撰写报告、撰写邮件和翻译文件。其中，浏览材料、分析材料、翻译文件设置油气工程、炼油化工、综合服务三个自选方向，考生可自选任一方向作答。

各任务信息如下表所示：

模块	任务	材料	要求	题型	题量	分值
词汇	行业术语	4 组核心术语	根据所给词或词组，匹配释义	匹配	20	10
听力	理解对话	5 则工作场景下的短对话	听对话及对应表述，判断表述正误	判断	5	5
		2 则工作场景下的长对话	听对话，选择问题答案	多项选择	5	5
听力	记录发言	1 则学术讲座或	听独白，完成笔记	填空	5	10

模块	任务	材料	要求	题型	题量	分值
		会议发言				
阅读	浏览材料	1 篇产油国文化介绍	读文章，匹配段落标题，补全句子	匹配 填空	10	10
		5 则行业新闻	读新闻片段，匹配片段大意，判断信息正误	匹配 判断	10	10
	分析材料	2 篇能源话题阅读材料	读文章，选择问题答案	多项选择	10	20
写作	撰写报告	1 份能源数据图表	看图表，补全基于图表的报告	多项选择	5	5
	撰写邮件	1 个工作场景及 3 个要点	根据背景和要点撰写邮件	书面表达	1	10
翻译	翻译文件	1 则中文专题文件选段	将中文选段译为英文	翻译	1	15
总 计					72	100

3.2.1 行业术语

本任务要求考生根据所给词或词组，匹配中（英）文释义，共 4 组词或词组，每组 5 个词或词组，共 20 小题。任务考查考生理解和互译行业核心词汇的能力。

3.2.2 理解对话

本任务分为两部分。第一部分要求考生听 5 则各 15-30 词的短对话，判断所听表述是否正确。第二部分要求考生听 2 则各 120-160 词的长对话，从所给的 3 个选项中选择问题答案。每则短对话和表述播放一遍，每则长对话播放两遍，语速为每分钟 100-120 词。每部分 5 道题，共 10 道题。任务考查考生理解主旨要义、获取细节信息和推断说话者意图、观点及态度的能力。

3.2.3 记录发言

本任务要求考生听一则 200 词左右的独白，完成笔记。共 5 小题。独白播放两遍，语速为每分钟 100-120 词。任务考查考生理解主旨大意和记录关键信息的能力。

3.2.4 浏览材料

本任务分为两部分。第一部分要求考生阅读一篇产油国文化相关的 300-400 词的文章，匹配段落标题，并根据文章信息补全句子。第二部分设置油气工程、炼油化工、综合服务三个自选方向，考生可自选任一方向作答。本部分要求考生阅读 5 则各 80 词左右的新闻片段，匹配片段大意，并判断所给信息正误。每部

分 10 小题，共 20 小题。任务考查考生理解主旨大意和提取细节信息的能力。

3.2.5 分析材料

本任务分为两部分。第一部分要求考生阅读一篇能源人文相关的 400-500 词的文章，根据文章内容，选择问题的正确答案。第二部分设置油气工程、炼油化工、综合服务三个自选方向，考生可自选任一方向作答。本部分要求考生阅读一篇 400-500 词的文章，根据文章内容，选择问题的正确答案。每部分 5 小题，共 10 小题。任务考查考生概括主旨大意、理解隐含信息和推断意图态度的能力。

3.2.6 撰写报告

本任务要求考生阅读图表，补全报告信息。报告 200 词左右，共 5 小题，7 个选项。任务考查考生描述数据信息的能力。

3.2.7 撰写邮件

本任务要求考生根据给定情境和内容要点完成邮件写作，写作字数要求为 120 词左右。任务考查考生在既定情境下，以特定身份向指定对象介绍或说明情况的能力。

3.2.8 翻译文件

本任务设置油气工程、炼油化工、综合服务三个自选方向，考生可自选任一方向作答。本任务要求考生将中文文件选段翻译为英文，选段为 120 词左右。任务考查考生将行业类中文文本翻译为英语的能力。

4. 评分方式和标准

4.1 评分方式

4.1.1 客观题

客观题采用计算机自动评分方式进行评卷。

4.1.2 主观题

主观题采用人工评分方式进行评卷。评卷基本流程如下：

- 制定统一的评分原则和标准，作为每次评卷工作的纲领性文件，确保各次评分的一致性；
- 每次考试结束后，抽取一定数量的答卷，由专家团队进行评析，结合评分原则、标准和试题要求制定具体的评分细则，确保评分的科学性；
- 正式评卷时，由受过培训的评卷员进行评分，并采用计算机系统追踪、人

工抽检、仲裁等多种手段对评卷质量进行监控，确保评分的公平性。

4.2 评分标准

4.2.1 选择题

选择题均为单选题，错选、不选或多选均不得分。

4.2.2 填空题

从信息提取的正误、单词拼写及形式是否准确等方面对考生的作答进行综合评分。

4.2.3 判断题

判断题答案唯一，判断错误不得分。

4.2.4 书面表达

从内容、结构和语言三个维度对考生的作答进行评分：

- 在内容方面，重点评判考生的作答内容是否扣题，是否完成了任务要求，是否有细节支撑，信息是否准确；
- 在结构方面，重点评判考生的作答条理是否清晰，行文是否连贯，衔接是否得当，格式是否规范；
- 在语言方面，重点评判考生的作答用词是否准确，句式是否灵活，语法是否正确，表述是否得体。

4.2.5 翻译

从内容和形式两个维度对考生的译文进行评分：

- 在内容方面，重点评判考生的译文是否忠实于原文，是否完整译出原文内容，以及是否充分传递原文意图；
- 在形式方面，重点评判考生的译文是否自然流畅，语言是否规范，用词是否准确，以及译文是否符合原文风格。

5. 成绩报告

国际人才行业英语考试（石油石化）满分为 100 分。60-69 分为合格；70-79 分为良好；80 分以上为优秀。考试成绩合格及以上者获颁“国际人才行业英语考试（石油石化）”证书。

附：国际人才行业英语考试（石油石化）样题

I. Terms

Match each of the following words or expressions with its equivalent.

1. _____ shale	A. 断电
2. _____ outage	B. 油层
3. _____ refinery	C. 页岩
4. _____ peak oil	D. 炼油厂
5. _____ pay zone	E. 石油峰值
6. _____ bit	A. 油轮
7. _____ tanker	B. 油气比
8. _____ paraffin	C. 蒸馏塔
9. _____ gas/oil ratio	D. 石蜡
10. _____ distillation column	E. 钻头
11. _____ 桶	A. crude oil
12. _____ 吊车	B. proved reserve
13. _____ 勘探	C. crane
14. _____ 原油	D. barrel
15. _____ 探明的油气储量	E. explore
16. _____ 油田	A. recoverable petroleum
17. _____ 钻井	B. oilfield
18. _____ 催化剂	C. offshore platform
19. _____ 海上平台	D. catalyst
20. _____ 可开采石油	E. drill

II. Listening

Part One

Section One

Listen to five short conversations. Each conversation is followed by a statement. Decide whether the statements are **True** or **False**. You will hear the conversations and statements only **ONCE**.

1. True ☐ False ☐
2. True ☐ False ☐
3. True ☐ False ☐
4. True ☐ False ☐
5. True ☐ False ☐

Section Two

Listen to two conversations and answer the questions by choosing A, B, or C. You will hear each conversation **TWICE**.

Questions 6 to 7 are based on Conversation 1.

6. When will the man start work the next day?
   A. 8:00 a.m.
   B. 4:00 p.m.
   C. 8:00 p.m.

7. How does the man feel about his first day in the crew?
   A. Glad.
   B. Nervous.
   C. Confident.

Questions 8 to 10 are based on Conversation 2.

8. What is the design depth of this well?
   A. 400m.
   B. 4,000m.
   C. 4,800m.

9. What is the main factor that slows down the rate of penetration?
   A. The high pressure.
   B. The poor drillability.
   C. The large number of faults.

10. Where should the cement bases be placed?
    A. Parallel to the well.
    B. Beside the control system.
    C. 1.5m away from the water tanks.

Part Two

Listen to a speech about oil spills. Complete the notes below. Write only **ONE WORD** for each blank. You will hear the speech **TWICE**.

Oil Spill	
Definition	The release of oil into the ocean or coastal waters
Causes	• Careless mistakes • Equipment breaking down • Natural [11] _____
Results	Oil spreading out over the [12] _____ of the water, until becoming • first an oil slick — a thin layer of oil • then a sheen — a super thin layer of oil
Impacts	For mammals covered in oil • Dying from [13] _____ body temperature For adult fish exposed to oil • Fin erosion • Reduced [14] _____ rates • Enlarged livers • Hindered [15] _____ • Reduced chance of egg survival

III. Reading

Part One

Section One

Read the following passage and answer Questions 1-10.

Moscow's Russian Winter Festival

Paragraph 1

Moscow's Russian Winter Festival is an annual attraction, running from mid-December to mid-January. During the festival, there are various ice sculptures, entertainment, and events. You will find Russians traveling to Moscow from across the country to enjoy the celebration. Joining in the fun is a great way to enjoy the Russian winter and get a good understanding of Russian culture.

Paragraph 2

There are lots of big events during the festival. For example, events at Izmailovo Park and Revolution Square not only feature performances of traditional Russian song and dance, but also provide people with games, crafts, food, and more. What's more, the Christmas Village at Revolution Square is an excellent place to shop for Russian Christmas gifts including traditional crafts like nesting dolls（套娃）and wooden toys. It is also a great place to find unique Christmas decorations and traditional winter-weather wear.

Paragraph 3

Displays of large, culturally significant ice sculptures are an important feature of the Russian Winter Festival. Over the years, ice sculptures have included animals, cathedrals and an enormous

ruble coin. There is also a large-scale ice chess game that takes place between Moscow and London, which also hosts a Russian Winter Festival. The huge chess pieces, carved from ice, are a traditional feature of this game.

Paragraph 4

Some activities at the festival can be traced back to Russian days of old but are still present in today's culture. Sledding, with or without snow, is a favorite game at the Moscow Winter Festival. Swings, replicas of those used in 16th-century Russia, are also put to use. A troika ride (三驾马车) may be one of the most exciting old-fashioned activities. Three horses are attached to a sled, and at full speed it can reach 50 kilometers per hour.

Paragraph 5

Winter in Russia can be dark but the Moscow Winter Festival lights up the city and creates an exciting, happy time in the middle of a cold season. Who says the Russian winter has to be bleak?

Questions 1-5

Read the passage and choose the best heading for each paragraph from the list in the box. There is one heading you do **NOT** need.

1. Paragraph 1 _____
2. Paragraph 2 _____
3. Paragraph 3 _____
4. Paragraph 4 _____
5. Paragraph 5 _____

A.	History of the festival
B.	Why the festival is important
C.	Typical events during the festival
D.	An overall introduction to the festival
E.	An important feature of the festival
F.	Old-fashioned activities in the festival

Questions 6-10

Complete the sentences with the **EXACT** words, phrases, or numbers from the passage. You must use **NO MORE THAN THREE** words for each blank.

6. Moscow's Russian Winter Festival is held from mid-December to _____.
7. People can buy nesting dolls in _____ at Revolution Square during Moscow's Russian Winter Festival.
8. A(n) _____ is held between Moscow and London during Moscow's Russian Winter Festival.
9. Swings can be dated back to the _____ century of Russia.
10. The speed of a troika ride can be as high as _____ an hour.

Section Two

Choose one from the following three tasks marked **Option One**, **Option Two** and **Option Three** and answer Questions 11-20.

Option One

Read the following five news items and answer Questions 11-20.

News item A

US energy firms added oil and natural gas rigs, as more offshore units in the Gulf of Mexico returned to service. These were shut down when Hurricane Ida slammed into the coast in late August. This week, 3 offshore rigs returned, energy services firm Baker Hughes Co. said in its closely followed report on Friday. The oil and gas rig count, an early indicator of future output, rose 9 to 521 in the week ending September 24th, its highest since April 2020, Baker Hughes added.

News item B

An Australian oil and gas company expects to drill the Buffalo-10 well in the Timor Sea in early November. "The previous field proved the existence of a very high deliverability reservoir, containing high-quality light oil that is expected to sell at a premium to Brent in today's market," said Carnarvon, the operator of the project. The company further said it was working with its project partner, Advance Energy Plc, on plans to compress the timeline to first production once the Buffalo-10 well confirms the expected recoverable oil resource.

News item C

China has discovered a new oil and gas area in the Tarim Basin in Northwest China's Xinjiang Uygur Autonomous Region. It reportedly contains a billion tonnes of super-deep oil and gas. With a drilling depth of nearly 27,900 feet (8,500 meters) and a test oil column reaching 1,640 feet, the reservoir sets new records for the basin's deepest oil production and highest oil column, and marks the largest discovery of oil in the area in a decade.

News item D

Offshore drilling firm Japan Drilling Company said last week that its jack-up drilling rig Hakuryu-11 had reached a safety milestone. Namely, the rig has managed to achieve a three-year milestone of No Recordable Incident Record from September 14th, 2018 to September 13th, 2021. On July 4th, 2021, the Hakuryu-11 started the drilling operation, based on the contract with Mitsui Oil Exploration Co., Ltd, offshore Hokkaido, Japan. Under the contract, announced in September 2020, the rig was to drill one firm well, over an 80-day period.

News item E

The White County Sheriff's Office says an employee of Consolidated Drilling Services was killed in an oilfield accident south of Carmi, Illinois, late Monday night. White County 911 initially received a call around 10:50 p.m. that day. The caller said the incident happened after they had been drilling an oil well south of Carmi. According to the caller, the crew was loading oilfield pipes into tubs when the elevator latch came undone, causing a pipe to strike the employee, Joseph Musgrave.

Questions 11-15

Read the news items A—E above and match the following summaries to them.

This news item

11. describes an accident in an oilfield, which led to the death of an employee. _____
12. reports that a new well which sets new records was discovered in a country. _____
13. tells that a drilling rig of a company reached a milestone of no reported incident over a 3-year period. _____
14. indicates that some companies are working together to begin drilling a promising well. _____
15. states that some offshore rigs returned to service this week after a hurricane. _____

Questions 16-20

Read the news items again and decide whether the following statements are **True** or **False**.

16. The oil and gas rig count in the US increased 3 in the week ending September 24th.
17. The Buffalo-10 well is expected to be drilled in early November.
18. The test oil column of the newly-discovered well in the Tarim Basin is 8,500 feet.
19. The Hakuryu-11 drilling rig began its first drilling operation in 2021.
20. The death in the oilfield south of Carmi was caused by a problem with the elevator latch.

Option Two

Read the following five news items and answer Questions 11-20.

News item A

India state refiners are set to invest 2 trillion rupees ($26.96 billion) to boost oil refining capacity by 20% in Asia's third-largest economy by 2025, junior oil minister, Rameswar Teli, told lawmakers on Wednesday. The country's top refiner, Indian Oil Corp, in its latest annual report said it would boost its annual oil refining capacity to 87.55 million tonnes by 2024/25 from the current 70.05 million tonnes to meet growing demand for petroleum products.

News item B

As a result of several US refinery closures in 2020, US operable atmospheric crude oil distillation capacity, the primary measure of refinery capacity in the US, dropped 4.5% to a total of 18.1 million bpd at the start of 2021. According to the data in EIA's annual "Refinery Capacity Report", the beginning of 2021 marks the lowest annual capacity figure to start the year since 2015. Based on information reported to us in our recent update, US refining capacity will not expand significantly during 2021.

News item C

Haldor Topsoe and Yanchang have formed a joint venture and have built methanol catalyst facility in China. The joint venture will produce methanol synthesis catalysts for the Chinese market. "Yanchang is well-positioned in the oil and gas value chain and a very experienced methanol producer. With this joint venture we combine Topsoe's world-leading methanol catalyst technology and Yanchang's outstanding production capabilities to produce our high-performance methanol

synthesis catalysts that Topsoe will sell directly to our Chinese customers." says Amy Hebert, Chief Commercial Officer at Topsoe.

News item D

Clariant's MegaMax catalyst has successfully passed a qualification test in the methanol demonstration unit of Air Liquide's Innovation Campus Frankfurt in Germany. The tests demonstrated a high conversion ratio, with a per-pass CO_2 conversion rate of up to 30-40% using H_2/CO_2 feed. By-product formation was also low and the process achieved high selectivity. Additionally, the catalyst has shown improved stability and low deactivation, permitting an expected long product lifetime. With the high energy efficiency and excellent performance, Clariant's MegaMax is officially qualified for future use in commercial CO_2-based methanol plants.

News item E

Mexican national oil company Pemex said on Tuesday that its Salina Cruz oil refinery, the country's largest, was offline after a fire broke out that badly injured at least one worker following a major earthquake that struck nearby. The fire, which ignited where power generators and a boiler are located, was quickly extinguished, but the facility on the coast of the southern state of Oaxaca has been temporarily shut down as a precaution. Pemex said on Twitter that all other company installations were operating normally.

Questions 11-15

Read the news items A—E above and match the following summaries to them.

This news item

11. suggests that a new kind of catalyst has passed its quality test and is ready for future use. _____
12. indicates that there will be a significant increase in a country's oil refining capacity by 2025. _____
13. describes a fire breaking out in a refinery which led to the refinery's temporary closure as well as some injuries. _____
14. reports that the refinery capacity of a country has dropped and will stay low due to the closure of some refineries. _____
15. demonstrates a collaboration of two outstanding enterprises, which will produce and sell a kind of catalyst to a large market. _____

Questions 16-20

Read the news items again and decide whether the following statements are **True** or **False**.

16. The current annual oil refining capacity of the top Indian refiner is 70.05 million tonnes.
17. The annual capacity of the US oil refining industry at the beginning of 2021 is the lowest for the past ten years.
18. Haldor Topsoe is a world-leading methanol producer.
19. Clariant's MegaMax catalyst can extend the length of products' lives.

20. The fire of Salina Cruz oil refinery broke out a long distance away from its power generators.

Option Three

Read the following five news items and answer Questions 11-20.

News item A

Oil prices shed as much as $4 a barrel on Monday, extending last week's decline as diplomatic efforts to end the war in Ukraine geared up and markets braced for higher US interest rates. Brent crude futures were down by $3.81 or 3.4% at $108.86 a barrel at 0741 GMT on Monday.

"Oil prices might continue moderating this week as investors have been digesting the impact of sanctions on Russia, along with parties showing signs of negotiation towards ceasing fire," said Tina Teng, an analyst at CMC Markets.

News item B

Swiss Re, the world's second biggest reinsurer, said it would no longer insure most new oil and gas projects following mounting pressure on big business to do more to help the world cap global warming.

By 2025, Swiss Re said it wanted half of its overall oil and gas premiums to come from companies aligned with a net-zero by 2050 plan, and by 2030 all its clients in the sector should have done so.

News item C

Greenfield investments in Uganda will play an increasing role in expanding Africa's oil and gas exploration and production.

Uganda has approximately 6.5 billion barrels of oil reserves — of which 1.4 billion barrels are economically recoverable — and 500 billion standard cubic feet of estimated gas reserves. The government seeks to leverage these resources to ensure reliable oil and gas supply to meet local demand and across Africa, as production in legacy projects in leading producers including Nigeria and Libya declines through to 2025.

News item D

OPEC Secretary General, HE Mohammad Sanusi Barkindo, participated virtually in the 2022 edition of the Nigeria International Energy Summit (NIES), which was held in Abuja between February 27th and March 3rd. He delivered a goodwill message at the opening ceremony and took part in a panel session titled "Revitalizing the industry, future fuels and energy transition."

This prestigious event sees the participation of many ministers and senior officials, dignitaries, heads of international organizations, CEOs of national and international oil companies, industry experts and journalists.

News item E

Energean announced a positive step in the continued development of its Israeli natural gas operations, signing a supply agreement with the Israel Electric Company, the largest Israeli buyer of natural gas.

This is the first agreement of its kind for Energean and represents a significant step in the development of the company's position in the Israeli gas market. The agreement will optimize Energean's gas sales portfolio and ensure full utilization of its FPSO capacity.

Questions 11-15

Read the news items A—E above and match the following summaries to them.

This news item

11. reports a high-level conference that many prestigious officials participated in. _____
12. states that oil prices kept declining and the situation may mitigate in the coming week. _____
13. suggests that an influential reinsurer will stop insuring most new oil and gas projects due to environmental reasons. _____
14. demonstrates that an African country will play an increasing role in the continent's gas supply. _____
15. reports that a company signed an agreement which will promote its role in a country's gas market. _____

Questions 16-20

Read the news items again and decide whether the following statements are **True** or **False**.

16. The oil prices on Monday decreased by $3.4 a barrel.
17. Swiss Re suggested that all its clients in the oil and gas sector should reach the net-zero target by 2030.
18. Oil production in Uganda, Nigeria and Libya will increase through to 2025.
19. HE Mohammad Sanusi Barkindo expressed his goodwill at the opening ceremony of NIES.
20. Energean is the largest buyer of natural gas in Israel.

Part Two

Section One

Read the following passage and answer Questions 21-25.

What Determines Oil Prices?

Paragraph 1

The use of oil in fuels continues to be the primary factor in making it a high-demand commodity around the globe, but how are prices determined?

Paragraph 2

One primary factor that impacts the price of oil is supply and demand. This concept is fairly straightforward. As demand increases (or supply decreases) the price should go up. As demand decreases (or supply increases) the price should go down. Sounds simple?

Paragraph 3

Not quite. The price of oil as we know it is actually set in the oil futures market. An oil futures contract is an agreement. It gives one the right to purchase oil by the barrel at a preset price on a preset date in the future. Under a futures contract, both the buyer and the seller are obliged to fulfill their side of the transaction on the specified date.

Paragraph 4

Another key factor in determining oil prices is sentiment. If people believe that oil demand will increase dramatically at some point in the future, there will be a dramatic increase in oil prices in the present. Of course, the opposite is also true. If people believe that oil demand will decrease at some point in the future, then there will be a dramatic decrease in prices in the present as oil futures contracts are sold.

Paragraph 5

Then there's the problem of cartels. Probably the single biggest influencer of oil prices is OPEC, which controls 40% of the world's supply of oil. Although the organization's charter doesn't explicitly state this, OPEC was founded to — put it roughly — fix oil and gas prices. By restricting production, OPEC could force prices to rise, and thereby theoretically enjoy greater profits.

Paragraph 6

To quote P. J. O'Rourke, "Certain people enter cartels because of greed; then, because of greed, they try to get out of the cartels." According to the US Energy Information Administration, OPEC member countries often sell a few million extra barrels, knowing that they can't really be stopped from doing so. With Canada, China, Russia, and the United States as non-members — and increasing their own output — OPEC is becoming limited in its ability to, as its mission euphemistically states, "ensure the stabilization of oil markets in order to secure an efficient, economic and regular supply of petroleum to consumers."

Paragraph 7

Regardless of how the price is ultimately determined, based on its use in fuels and countless consumer goods, it appears that oil will continue to be in high demand for the foreseeable future.

21. How do supply and demand impact oil price?
    A. A decrease in supply leads to a decrease in oil price.
    B. An increase in supply leads to an increase in oil price.
    C. A decrease in demand leads to an increase in oil price.
    D. An increase in demand leads to an increase in oil price.

22. How does an oil futures contract work?
    A. The buyer buys at a predetermined price.
    B. The seller can sell at any time in the future.
    C. Either side has the right to break the contract.
    D. Neither side knows at which price they are going to trade.

23. What does the underlined word “sentiment” in Paragraph 4 refer to?
    A. Traders’ trust in their business partners.
    B. Traders’ anxiety over their investments.
    C. Traders’ expectation of future oil prices.
    D. Traders’ regret over the decrease in demand.

24. How do cartels influence their members?
    A. They bind members closely together.
    B. They make members abandon their greed.
    C. They stop members from selling extra barrels.
    D. They ensure members a relatively high profit margin.

25. What is the author’s attitude towards OPEC’s mission?
    A. Ironic.
    B. Neutral.
    C. Indifferent.
    D. Optimistic.

Section Two

Choose one from the following three tasks marked **Option One**, **Option Two** and **Option Three** and answer Questions 26-30.

Option One

Read the following passage and answer Questions 26-30.

AI Is Key for Targeting Sustainability

Paragraph 1

Surviving the current downturn will require oil and gas companies to adapt. While the pandemic will die down, sustainability pressures will not. Oil and gas companies know they must invest; most oil majors are targeting carbon-neutrality by 2050 or earlier. AI can help oil and gas companies become more sustainable. GlobalData’s new report, Thematic Research: AI in Oil & Gas, details several ways AI can help companies be more sustainable.

Paragraph 2

If production is more efficient, less of it needs to be done. By analyzing seismic and subsurface data, AI can improve site discovery. Saudi Aramco invested in Earth Science Analytics, whose software predicts rock and fluid properties in the subsurface. Various drilling-assistance tools improve drilling efficiency. Shell, for example, automates its drilling systems by training them on historical data with reinforcement learning. AI tools can also make drilling faster, reducing economic and environmental costs by saving time. Rosneft’s automated drilling management system improved the mechanical penetration speed by 15%, reducing mechanical well drilling time by a day. Considering all these opportunities together, it is clear that AI can significantly boost production efficiency. Better efficiency on each well means fewer wells are needed.

Paragraph 3

For oil and gas companies, leakages are disastrous, from both a sustainability and a public relations perspective. AI can pre-empt and contain leakages. British Petroleum (BP) was an early adopter. In 2017 it saw that methane leaks contributed significantly to total greenhouse gas emissions. It partnered with Kelvin, a US-based software provider which specializes in automating physical systems using AI. A vast number of sensors were installed at the Wamsutter gas wells. The sensors transmitted real-time field data to Kelvin's AI system, which combined it with historical site data to inform optimization simulations. The simulations were able to predict leakages and alert BP engineers to the need for maintenance before the leak occurred. Six months after implementation, methane leaks from the wells had been reduced by 74%. Production volumes were up by 20%, and operating costs were down by 22%. After the success, BP sought to install similar sensors at all its wells.

Paragraph 4

Additionally, some predictive maintenance products, such as SparkCognition's SparkPredict, allow users to set control variables in accordance with their targets. Oil and gas users could set the model to maximize production while minimizing emissions.

Paragraph 5

Dangerous as rig work is, AI can automate dangerous manual tasks to remove the need for personnel to put themselves at risk. Smart robots can perform some maintenance tasks. At one refinery, BP trialed the Spot robot, which gathered data, detected abnormalities and removed workers from hazardous spaces. Additionally, AI can analyze accident records and unfold the historic causes, thereby helping avoid future accidents.

Paragraph 6

Ethical concerns will always linger about fossil fuels. With sustainability pressures growing, the AI capabilities mentioned represent a fortunate and unmissable opportunity for the oil and gas industry. All companies should invest.

26. How will the introduction of AI change oil and gas production?
    A. More wells will be needed.
    B. Drilling time will be saved by half.
    C. Drilling efficiency will be enhanced.
    D. Traditional drilling machines will no longer be needed.

27. What did British Petroleum do to reduce leakages?
    A. It automated its physical drilling system.
    B. It trained its engineers on how to contain leakages.
    C. It installed sensors to help with predicting leakages.
    D. It worked with another company to optimize its AI system.

28. What is the underlined word "contain" in Paragraph 3 closest in meaning to?
    A. Adopt.
    B. Control.
    C. Maintain.

D. Contribute.

29. How can AI improve the safety of working staff?
    A. It can free workers of rig work.
    B. It can root out future accidents.
    C. It can perceive disorders that may endanger workers.
    D. It can quickly detect when workers are not feeling well.

30. What will the future of oil and gas companies most probably be like?
    A. They will invest more in AI.
    B. There will be fewer oil and gas companies.
    C. There will be no ethical concern from the public.
    D. They will experience less sustainability pressure.

Option Two

Read the following passage and answer Questions 26-30.

Improving Refineries' Operations Through IoT-based Monitoring Solutions

Paragraph 1

Even though they play an essential role in the oil market, oil refineries are subjected to various risks and inefficiencies. As a sensitive industry that deals with fire hazards on a regular basis, the threat of oil-burning into fumes and possibilities of collateral damage are always high. IoT (Internet of Things), with its smart refinery monitoring systems, is helping refineries to get rid of their inefficiencies.

Paragraph 2

In refineries, physical telemetry devices such as sensors, meters, gateways, etc. can be installed on assets, machines, or any type of equipment to collect data from them. This data can be oil level measurements from tanks, parametric information from machines, energy consumption readings, or fuel availability in tank farms. By analysing data collected over a period of time, refineries can make intelligent decisions to improve their processes and boost overall efficiency. Such an end-to-end IoT-powered refinery monitoring system can allow refineries to leverage a myriad range of benefits.

Paragraph 3

IoT database stores and maintains the data from past experiences. By processing this historical data, it becomes <u>viable</u> for refineries to pinpoint the location of failures and precisely predict the time range during which their machines or equipment might fail. Hence, refineries can schedule their inspection and maintenance tasks just before when the probability of malfunction is high.

Paragraph 4

For example, the refinery process monitoring can estimate the time period in which a motor will break down based on the past information about its subsequent failures. This gives operators ample time to take quick actions to repair or replace a broken component to ensure that their units keep on running without any unwanted interruption.

Paragraph 5

Oil refineries have huge oil tank farms that can comprise a multiple number of tanks. The tanks are used to store and supply crude oil, petrol, diesel, and other by-products. Hence tank farms are a very crucial part of any refinery's supply chain. However, to keep track of fuel stored in these tanks, a large portion of the workforce is employed to take manual measurements.

Paragraph 6

Through an IoT-powered refinery monitoring system, refineries can keep live track of liquid levels in tanks without any manual efforts. Hence, the workforce can be used for more productive operations and response time can also be optimized using remote real-time monitoring.

Paragraph 7

Refinery process monitoring is a combination of various IoT solutions that allow companies to improve their overall efficiency and achieve operational excellence. Solutions like level monitoring and smart metering allow the refinery to facilitate the stock and logistics of crude oil and its petroleum products in and out of their facilities. Also, energy monitoring and machine monitoring solutions allow companies to manage their energy consumption and ensure that their machines are running seamlessly. Therefore, all the solutions work as a simple system and help an oil refinery to keep a keen eye on all of its processes. This improves asset utilization and also boosts productivity.

26. Which of the following is one of the functions of a telemetry device in refineries?
    A. It can protect refineries from fires.
    B. It can reduce the errors of monitoring systems.
    C. It can collect parametric information from machines.
    D. It can increase energy consumption efficiency in tank farms.

27. What is the underlined word "viable" in Paragraph 3 closest in meaning to?
    A. Vital.
    B. Urgent.
    C. Possible.
    D. Beneficial.

28. How can an IoT-based monitoring system improve maintenance checks?
    A. By completing inspection tasks.
    B. By repairing broken components.
    C. By interrupting malfunctioning machines.
    D. By predicting the probable time period of failures.

29. What is the advantage of employing IoT monitoring systems in tank farms?
    A. Ensuring the oil supply.
    B. Improving the oil quality.
    C. Optimizing the response time.
    D. Increasing the storage capacity.

30. What solutions can improve the logistics of crude oil and its by-products?
    A. Smart metering and level monitoring.

B. Machine monitoring and smart metering.
C. Level monitoring and energy monitoring.
D. Machine monitoring and energy monitoring.

Option Three

Read the following passage and answer Questions 26-30.

A New Reality for Oil and Gas Procurement and Supply Chains

Paragraph 1

Unprecedented times call for unprecedented measures. Oil and gas operators are suffering from the effects of the pandemic as well as collapsing oil prices. In addition, worldwide lockdowns are hampering the ability of oilfield services and equipment (OFSE) suppliers to deliver on time and on budget.

Paragraph 2

Many OFSE companies are entering this crisis weaker than they have ever been. Despite this, oil and gas operators are demanding that suppliers cut prices and are reducing both operating and capital expenditures. Such traditional measures could cause supply companies to fail, decimating vital industry capabilities and hurting the ability of oil and gas operators to maintain production.

Paragraph 3

Operators must adopt a radical dual approach. In the short term, they need to take steps to protect OFSE companies and enable industry supply chains to continue functioning. At the same time, oil and gas operators should view the crisis as an opportunity to transform commercial relationships for a forthcoming lower-for-longer oil price environment.

Paragraph 4

In the current crisis, operators need a more forward-looking understanding of their suppliers' financial health in order to anticipate and react quickly to potential problems. Typically, most operators assess supplier risk by looking at a variety of financial metrics that are at least three months out of date. While these metrics were sufficient prior to the pandemic, they are no longer effective in today's dual-shock crisis. We need a model to monitor the health of individual OFSE companies that starts with this information but then goes further.

Paragraph 5

With the new model, after assessing historical financial data, the next step is to get a better understanding of suppliers' financial outlooks in light of industry dynamics. For example, by examining how oil price changes have impacted demand for various supplier services in the past, we can analyze the vulnerability of individual suppliers' revenues in the current crisis. Then the final step involves modeling the ability of OFSE companies to respond to changing conditions. For this, we look at the following metrics: cash and cash equivalents, the proportion of variable to fixed costs and a company's debt ratios. Armed with this information, operators can more effectively prevent potential supply chain problems.

Paragraph 6

Besides adopting a new model, operators and OFSE companies also need to create a new type of relationship that enables players to survive in a low-price environment where margins are compressed. The idea of strategic partnerships is not new; consider, for example, the automotive industry. Focusing on value and not just costs, car makers worldwide have improved quality, reduced expenses, and achieved technological breakthroughs by closely coordinating manufacturing with their suppliers and carrying out joint R&D. We believe that oil and gas companies must learn vital lessons about supplier partnerships from other industries and apply them to their own partnerships. Oil and gas strategic partnerships can create value in several ways.

26. What is the influence of the crisis on OFSE suppliers?
    A. They lose some operators.
    B. They fail to maintain production.
    C. They increase their service prices.
    D. They find it hard to deliver on time.

27. What is the underlined word "decimating" in Paragraph 2 closest in meaning to?
    A. Enhancing.
    B. Destroying.
    C. Possessing.
    D. Demonstrating.

28. What is the dual approach in Paragraph 3 about?
    A. Oil production and oil prices.
    B. Oil production and supply chains.
    C. Oil prices and commercial relationships.
    D. Supply chains and commercial relationships.

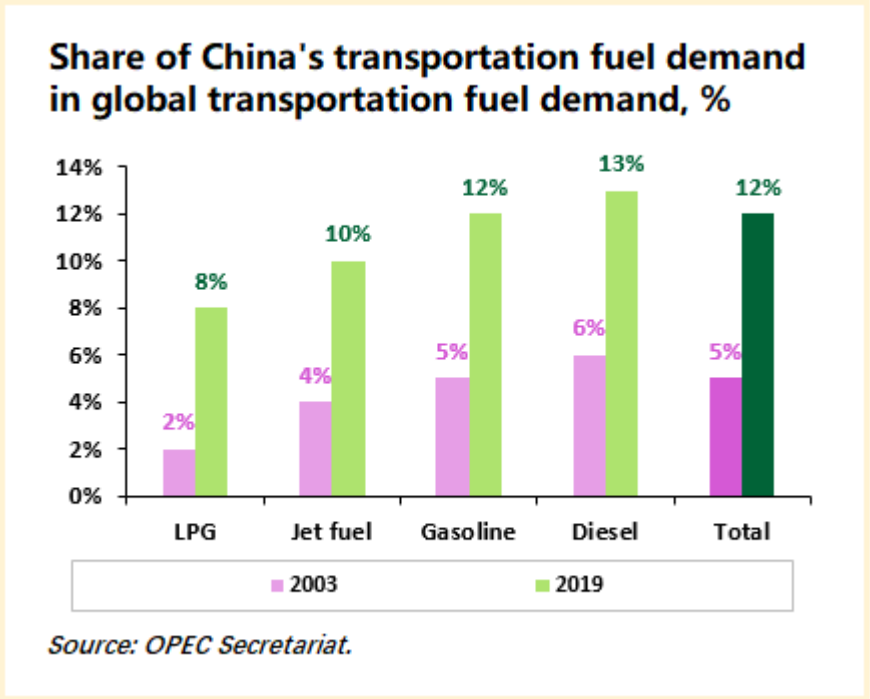
29. Which is a way for operators to effectively cope with today's dual-shock crisis?
    A. Examining the financial outlooks of suppliers.
    B. Analyzing the vulnerability of their own revenues.
    C. Modeling the changing conditions of the current crisis.
    D. Assessing suppliers' financial data from three months ago.

30. Why is it necessary for operators to build strategic partnerships with OFSE companies?
    A. The profit margins are narrowing.
    B. The market competition is fierce.
    C. Operators have put more focus on expenses.
    D. OFSE companies have rich experience in R&D.

IV. Writing

Part One

The chart below shows the share of China's transportation fuel demand in global transportation fuel demand. Using the information from the chart, complete the following **REPORT** by choosing from A to G for each blank. There are **TWO EXTRA** statements that you do not need to use.



The bar chart illustrates the share of China's transportation fuel demand in global transportation fuel demand, expressed as a percentage, over the period from 2003 to 2019.

It is obvious that over the 16 years, [1] _____, from 5% to 12% of the global demand.

Taking a closer look at the breakdown of the fuels, it is worth noting that since 2003, [2] _____, standing at 8% in 2019. The other three types of fuel show similar patterns, with increases by 2 to 2.5 times. The share of jet fuel demand has increased from 4% to 10%, [3] _____, and diesel from 6% to 13%. Overall, [4] _____.

The ranking of the four major fuel types remains unchanged over the years. Among them, [5] _____, closely followed by gasoline, then jet fuel, and finally LPG.

A. gasoline from 5% to 12%
B. diesel still takes the biggest percentage
C. jet fuel demand takes the biggest share
D. the share of LPG demand has quadrupled
E. the share of LPG demand has witnessed relatively slow growth
F. the share of the country's total demand has increased dramatically
G. the growth of the share of each fuel demand is in line with that of the total

Part Two

You are Zhang Lei，a project manager at Shinta Oil Company in China. Your company has recently launched a new joint project in Kazakhstan. You have been asked to lead a group of Chinese workers there to start the project next month. Write an **EMAIL** to Alihan Kudaibergen, your counterpart in Kazakhstan to:

- tell him about your plan for the trip;

- ask him to arrange accommodation for your team;
- propose a meeting after your arrival.

You should write about **120** words.

V. Translation

Choose one from the following three tasks marked **Option One**, **Option Two** and **Option Three** and translate the Chinese extract into English.

Option One

Translate the following Chinese extract from a report into English.

塔里木油田是我国陆上第三大油气田和西气东输主力气源地，是 120 多座大中型城市供气的主力军。1 月 20 日以来，塔里木油田积极应对低温严寒天气，多举措加大天然气生产力度，日产量保持在 1.0122 亿立方米高位运行，创历年同期最高，为北京冬奥会期间天然气安全平稳供应贡献了力量。

Option Two

Translate the following Chinese extract from a report into English.

我国油品标准用较短时间走过了欧美近 20 年的升级道路。但是，我国原油性质决定了炼油装置结构不同于欧美，汽柴油结构也不同于欧美。为满足经济快速升级、节约石油资源、适应催化裂化汽柴油比例高的实际要求，我国油品升级必须自主开发更复杂的技术，困难程度加倍。

Option Three

Translate the following Chinese extract from a report into English.

中国石油和化学工业经过几代人的艰苦奋斗，开拓创新，取得了举世瞩目的辉煌成就，支撑了全面建成小康社会的历史进程，为人民群众的美好生活打下了物质基础，改变了世界石化行业的发展格局。面对将要到来的低碳时代，石化行业的绿色低碳发展一定会走在整个工业部门的最前列。

Scripts

Part One

Section One

Listen to five short conversations. Each conversation is followed by a statement. Decide whether the statements are **True** or **False**. You will hear the conversations and statements only **ONCE**.

Conversation 1

W: Do you know when our safety meeting begins?
M: Er, not until 9:30 p.m.
Statement: The safety meeting will begin before 9:30 p.m.

Conversation 2

W: The Rig Manager is in his office now. I can take you there.
M: That'll be great! Thanks very much.
Statement: They'll go to the office together to find the Rig Manager.

Conversation 3

W: Good news. We've made five times more profit than this time last year.
M: That's excellent. But I heard Lanka Petroleum Corporation's profit has increased by ten times.
Statement: The speakers' company has made greater progress than Lanka.

Conversation 4

W: Sam, this is the shipping order of your oil products. Please have a check.
M: Let me see… No problem. Let me discharge the oil from the tank truck.
Statement: Sam will go to discharge the oil from the tank truck.

Conversation 5

W: How accurate are the detection devices?
M: They can detect an intrusion within 30 meters.
Statement: The devices have a detection distance of 50 meters.

Section Two

Listen to two conversations and answer the questions by choosing A, B, or C. You will hear each conversation **TWICE**.

Conversation 1

W: Paul, welcome to the crew!
M: Thank you. So how long should we work in a day?
W: There are two shifts, day and night. Each is 12 hours.
M: When does a shift begin?
W: 8 a.m. for the day shift and 8 p.m. for the night shift.
M: OK. Can we choose which shift to take?
W: No. You take turns. In the following 4 weeks you will take the day shift.
M: I see. But I don't have any experience. I'm afraid…
W: Don't worry. I remember I was also nervous on my first day of work.

M: Oh, really?
W: Yeah. You will gradually learn everything.
M: Many thanks. I'm very glad to hear that.

Conversation 2
W: How deep are the wells in this region?
M: Most are deep wells. The depth is usually over 4,000m.
W: What about the design depth of this well?
M: It is 4,800m.
W: That's really deep. When is it expected to be completed?
M: I estimate 4 months will be needed if everything goes as planned.
W: I see. How about the rate of penetration?
M: It's just so-so.
W: Is it because of the high pressure?
M: Not quite. Actually there are lot of faults in this area, and the main problem is that the drillability here is poor.
W: I see.
M: By the way, can you put 3 cement bases beside the control system?
W: Sure. What are they for?
M: They'll be the base for 3 water tanks.
W: OK. Should they be parallel to each other?
M: Yes, and the space between them should be 1.5m.
W: No problem.

Part Two
Listen to a speech about oil spills. Complete the notes below. Write only **ONE WORD** for each blank. You will hear the speech **TWICE**.

Oil spill is a term usually given to marine oil spills, where oil is released into the ocean or coastal waters. Oil spills can happen for various reasons, from careless mistakes or equipment breaking drown, to natural disasters like hurricanes.

After a spill, oil will float on the surface of the water, since it is less dense than water. Usually the oil will rapidly spread out over the surface of the water until it becomes a thin layer of oil, known as an oil slick. Then it keeps spreading out until it forms a super thin layer called a sheen, which can be a big problem.

When covered in oil, mammals, like the sea otter, will lose their ability to insulate themselves. Without proper insulation, they may end up dying from low body temperature. Adult fish, when exposed to oil, can experience fin erosion, as well as reduced growth rates and enlarged livers. Their reproduction will also be hindered. Even if they can successfully make eggs, the oil can negatively impact egg survival. What's worse, these kinds of impacts can last long.

So, what can we do to reduce oil spills… (*fading out*)

Keys

I. Terms

1. C	2. A	3. D	4. E	5. B
6. E	7. A	8. D	9. B	10. C
11. D	12. C	13. E	14. A	15. B
16. B	17. E	18. D	19. C	20. A

II. Listening

Part One

1. F	2. T	3. F	4. T	5. F
6. A	7. B	8. C	9. B	10. B

Part Two

11. disasters
12. surface
13. low
14. growth
15. reproduction

III. Reading

Part One

1. D	2. C	3. E	4. F	5. B

6. mid-January
7. the Christmas Village
8. ice chess game
9. 16th/sixteenth
10. 50 kilometers

Option One

11. E	12. C	13. D	14. B	15. A
16. F	17. T	18. F	19. F	20. T

Option Two

11. D	12. A	13. E	14. B	15. C
16. T	17. F	18. F	19. T	20. F

Option Three

11. D	12. A	13. B	14. C	15. E
16. F	17. T	18. F	19. T	20. F

Part Two

21. D	22. A	23. C	24. D	25. A

Option One

26. C 27. C 28. B 29. C 30. A

Option Two

26. C 27. C 28. D 29. C 30. A

Option Three

26. D 27. B 28. D 29. A 30. A

IV. Writing

Part One

1. F 2. D 3. A 4. G 5. B

Part Two

Dear Mr. Kudaibergen,

I am very excited to learn that we will work on the new project together. Since the project starts next month, I, together with my 10 colleagues, will fly to Kazakhstan on July 17th. I was wondering if you could arrange accommodation for us. It would be best if you could find us a house with 6-7 rooms, so that we can live together and cook some meals if time allows.

We will arrive on the morning of the next day, and after a day of rest, on July 19th we can have a meeting about the plan of our future work.

If you have any questions, please feel free to contact me.

Sincerely,
Zhang Lei
Project Manager
Shinta Oil Company

V. Translation

Option One

Tarim Oilfield is the third largest onshore oil and gas field and the main gas source of west-to-east gas transmission in China. It is the main gas supplier to more than 120 large and medium-sized cities. Since January 20th, Tarim Oilfield has actively responded to the severe cold weather and has taken many measures to increase natural gas production. The daily output has remained at a high level of 101.22 million cubic meters, the highest compared to the same period in previous years, contributing to the safe and stable supply of natural gas during the Beijing Winter Olympic Games.

Option Two

In a short time, China’s oil standards have gone through the upgrading process which took Europe and the United States nearly 20 years. However, the nature of China’s crude oil determines that the structure of oil refining units and the gasoline and diesel structure are different from those in Europe and America. In order to meet the expected demand of rapid economic upgrading, saving oil resources and adapting to the high proportion of FCC (fluid catalytic cracking) gasoline and diesel, more complex technologies must be developed independently for the upgrading of China’s

oil standards, and the degree of difficulty is doubled.

Option Three

After several generations of hard work and innovation, China's petroleum and chemical industries have made remarkable achievements, supported the historical process of building a moderately prosperous society in all respects, laid the material foundation for the better life of the people, and changed the development pattern of the world petrochemical industry. In the face of the coming low-carbon era, the green and low-carbon development of the petrochemical industry will definitely be at the forefront of the entire industrial sector.